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**BILL OF COMPLAINT.**

Filed December 27, 1919.

# In Chancery of New Jersey

*To the Honorable Edwin Robert Walker, Chancellor of the State of New Jersey:*

Mitford C. Massie, owning one share of the preferred capital stock of The Asbestos Brake Company, a New Jersey corporation, and holding in trust for The Brake Liners Company, a corporation of the State of Delaware, the legal title of four shares of said preferred stock and of fifteen shares of the common capital stock of said The Asbestos Brake Company, and said The Brake Liners Company, the beneficial owner of said four shares of preferred and fifteen shares of common stock of said The Asbestos Brake Company, for the benefit of themselves, and of such other stockholders of said The Asbestos Brake Company as may come in and contribute to the prosecution of this suit, exhibit this bill against said The Asbestos Brake Company, the H. W. Johns-Manville Company, a corporation of the State of New York, licensed to carry on business within this State and maintaining an agent within this State upon whom process against it may be served, and the Thermoid Rubber Company, a corporation of this State, the defendants herein; and your orators, complaining say:—

1. In the month of September, 1910, one Conrad Hubert, of the City and State of New York, the H. W. Johns-Manville Company, and the Thermoid Rubber Company, were respectively the owners of divers applications for Letters Patent of the United States for asbestos brake-bands, or linings, and friction members, between which applications for patents, or some of them, interferences had been declared by the Commissioner of Patents.

2. That in order that each of said parties might participate in the benefit of such patent or patents as might in such interference proceedings, be found grantable to the first inventor or inventors of the subject matter thereof, the said Conrad Hubert, H. W. Johns-Manville Company, and Thermoid Rubber Company, by a sealed instrument in writing, bearing date September 22, 1910, agreed with each other to form a corporation under the laws of the State of New Jersey to be known as The Asbestos Brake Company, to procure the said interference proceedings in the Patent Office to be prosecuted in good faith to conclusion, to severally assign each of the applications for patents aforesaid, and all patents which might issue thereon, to said The Asbestos Brake Company; that each such assignment of inventions, application for patent, and patent, should have annexed to it a license agreement similar in form to a form of license agreement which was annexed to said agreement and referred to therein, that the consideration for such assignments of inventions, applications for patents, and patents, should be the capital stock of said corporation, of which 17½ per centum of the common capital stock of said company should be received by the said Conrad Hubert, and 82½ per centum of the said common stock should be received by the said H. W. Johns-Manville Company and the said Thermoid Rubber Company; and that 7 shares of the preferred capital stock of the company should be received by each of said parties, but that 20 of said shares of preferred stock should be paid for in cash by said parties in proportion to their said respective allotments of said common stock.

That the 4th paragraph of said agreement is worded, in part, as follows:—

> "Fourth: The parties hereto, personally or by their representatives or officers as directors of The Asbestos Brake Company, will vote for and

direct the carrying out of the provisions of this agreement in all particulars and the granting of licenses pursuant to the conditions of the aforesaid assignments immediately after the delivery of the said assignments, and the said Conrad Hubert undertakes that the Auto Improvement Company will accept such license, and the other parties hereto will accept such licenses; and will vote and direct the expenditures of a portion of the royalties received by The Asbestos Brake Company in advertising asbestos brake-bands or linings, the publicity to be equal among and for the licensees of The Asbestos Brake Company."

3. Annexed to said agreement, and intended to form a part thereof, were a form of condition to be embodied in each assignment of an application for a patent or a patent by any of the parties to the said agreement, to the said proposed corporation, a form for the intended license agreements to be made by the said corporation with its licensees, an agreed form of certificate of incorporation of said intended corporation, and a form of by-laws to be adopted by such corporation when organized, for the government of its affairs.

The form of said condition agreed to be embodied in each assignment of a patent to The Asbestos Brake Company reads as follows:—

"Subject, however, to the condition that the said The Asbestos Brake Company shall immediately grant licenses under said inventions and letters patent and all other inventions and letters patent owned or controlled or hereafter owned or controlled by the said The Asbestos Brake Company, to Auto Improvement Company and H. W. Johns-Manville Company, New York corporations, and Thermoid Rubber Company, a New Jersey corporation, and thereafter to such other persons as may

be ordered by the votes of a majority of all of the directors of the said The Asbestos Brake Company, in the form annexed hereto and entitled "License Agreement," unless such form shall be changed by the votes of all of the said directors; and no such license which shall be so granted shall be changed, altered, revoked or annulled except by the votes of all of the said directors."

By paragraph 1 of the said adopted form of license agreement annexed to said instrument, it was provided that such licenses should be granted under such patents and applications for patents as the said The Asbestos Brake Company might own at the time of the granting of such licenses and also under such patents and applications for patents as said company might thereafter own or control, and that they should remain in force throughout the terms or lives of the patents under which they should be granted.

By paragraph II of said form of license agreement it was provided that the said The Asbestos Brake Company should "enforce the monopoly conferred by its patents against all infringers thereof to the best of its ability."

By paragraph IV of said adopted form of license agreement it was provided that each licensee should report periodically to The Asbestos Brake Company in writing under oath, its sales of goods made under such license agreements, the persons to whom the same were sold, the selling prices thereof, and the discounts allowed on such selling prices; and, within a specified limited time thereafter, should "pay to the Patentee royalties of ten per-centum (10%) of the selling prices, less discounts, on each and all of the said asbestos brake bands or linings so sold or invoiced, except such as may have been sold or invoiced to other licensees of the Patentee."

By the form of certificate of incorporation so as aforesaid agreed upon and adopted for said The Asbestos

Brake Company, it was, among other things, provided that said corporation should have power to acquire inventions, patents and applications for patents, and to grant licenses to others to practise such inventions; that it should have an authorized capital stock of $42,100.00, divided into 421 shares of a par value of $100.00 each, of which shares 21 were to be preferred shares and 400 common shares; that the preferred shares were to have voting power and that the common shares should have no voting power; and a provision was made therein that the said preferred shares should be entitled to receive out of the surplus or net earnings of the corporation "a non-cumulative dividend at the rate of, but not exceeding, six per centum per annum, payable yearly, half-yearly or quarterly, before any dividend shall be set apart or paid on the common stock."

And it was further provided by the last paragraph of said certificate of incorporation so agreed upon, that

> "No change in or amendment of any of the provisions of these articles of incorporation shall be made or effected without the consent of the holders of at least four-fifths in interest of the preferred stock of the company issued and outstanding."

By the so, as aforesaid, agreed form of by-laws to be adopted by the said The Asbestos Brake Company, it was, among other things, provided that at stockholders' meetings of said corporation a quorum should consist of persons holding "a majority in amount of the preferred capital stock" of the company; that any preferred stockholder might, at any election of directors, cumulate his vote on his preferred shares for one or more directors; that the business of the company should be managed by a board of three directors, each of whom, to be eligible as a director, must hold at least one share of the preferred stock of the company; that a meeting of the directors should be held immediately after the annual stockholders'

meeting for the election of directors; and that other meetings of the directors should be held at such times and places as might be designated by the president, or upon the written request of two directors; and that a quorum at a meeting of the directors should consist of a majority of the directors.

By the Fifth by-law it was provided as follows:—

> "(5) *Votes.* At all meetings of the Board of Directors each director shall have but one vote. The votes of all of the directors shall be required to adopt and amend the prices and discounts at which goods shall be sold by the company or its licensees, the sale, assignment, transfer, mortgage or encumbrance of inventions or letters patent or rights thereunder and the expenses incurred by the company in advertising, procuring patents, litigation for the enforcement of its patents and expenses for the purchase of inventions and letters patent or rights thereunder."

By Article IX of said form of by-laws it was provided as follows:—

> "These by-laws may be altered, amended or repealed only by the vote of three-fourths in interest of the holders of preferred stock of the company at a meeting of stockholders, regular or special, on thirty days' notice of the proposed change therein given in writing to each stockholder by the Secretary of the company."

All which things will more fully appear by a true copy of said instrument in writing and under seal and the aforesaid papers appended thereto and intended to form a part thereof, to which, for greater certainty, reference is hereby made, the same being annexed hereto and marked Exhibit A.

4. At the time of the making of the aforesaid agreement your orator, The Brake Liners Company was the owner of divers other applications for United States Letters Patent covering inventions in asbestos brake bands, liners, and friction members; and the said Conrad Hubert, H. W. Johns-Manville Company and Thermoid Rubber Company becoming cognizant of that fact, entered into negotiations with your said orator for the purpose of procuring it to join with them in the incorporation and organization of said The Asbestos Brake Company and assigning to said corporation your said orator's said inventions, applications for patents, and the patents which should issue thereon. Said negotiations resulted in an agreement between your said orator and said Conrad Hubert, H. W. Johns-Manville Company and Thermoid Rubber Company, by which your said orator The Brake Liners Company became a party to the formation of said The Asbestos Brake Company; and the before mentioned agreement, made between the said Conrad Hubert, H. W. Johns-Manville Company, and Thermoid Rubber Company, was modified in the following particulars, that is to say: The authorized preferred stock of the proposed company was limited to 20 shares, of which 5 shares were to be allotted to each party to the modified agreement, so that the voting powers of said parties should be equalized, the number of directors was to be four instead of three, and the common stock was to be so divided that the said Conrad Hubert should receive 15 per centum thereof, your orator The Brake Liners Company should receive other 15 per centum thereof, and the remaining 70 per centum thereof should be divided between the said H. W. Johns-Manville Company and the said Thermoid Rubber Company in proportions not mentioned in said agreement and then and now unknown to your said orator. The said agreement was also modified to provide that your said orator or its nominee should receive a license from said The Asbestos Brake Company under its patents

similar in its terms to the licenses agreed to be given to the other parties to said agreements. All of which will more fully appear by a true copy of said agreement of modification, hereto annexed and marked Exhibit B, to which, for greater certainty, reference is hereby made.

In all respects, not hereinbefore mentioned as modified, the said first mentioned agreement remained and remains in form and effect as its terms are quoted or described in the second and third paragraphs of this bill, although, by mutual consent of the said parties, the authorized common capital stock of said The Asbestos Brake Company was limited by the terms of its charter to $10,000.00, divided into 100 shares of the par value of $100.00 each.

5. Pursuant to the terms of said agreement, as modified as aforesaid, The Asbestos Brake Company was duly incorporated under the laws of the State of New Jersey, with the provisions hereinbefore quoted or mentioned, and without any provision qualifying or annulling the same.

6. Shortly after the incorporation of said company it was duly organized by the adoption of the aforesaid by-laws and the election of temporary directors and officers, who, at the request of the said parties in interest, the parties to said agreements, duly authorized the grant of said licenses to the H. W. Johns-Manville Company, Thermoid Rubber Company, Auto Improvement Company, and your orator The Brake Liners Company, to make, use and vend goods embodying the improvements described and claimed in and by such applications for patents as had been assigned to The Asbestos Brake Company, or which it might thereafter obtain, and such patents as might issue upon such applications for patents, filed or to be filed, the several parties to said agreements having assigned their said several applications and patents to said corporation during the month of April, 1911. And, by instruments in writing, executed by the then president and secretary of The Asbestos Brake Company, and re-

spectively dated May 2, 1911, such authorized license agreements were made with the said H. W. Johns-Manville Company and Thermoid Rubber Company, true copies whereof are hereto annexed and marked, respectively, Exhibit C and Exhibit D, to which, for greater certainty, reference is hereby made.

Similar license agreements were tendered to the said Conrad Hubert, for the said Auto Improvement Company, and to your orator the Brake Liners Company, but your said orator believes that the said Auto Improvement Company never operated under its said license agreement, while your said orator, being without capital or facilities for the manufacture and sale of the goods referred to in said license agreements, was unable itself to take advantage of the terms of said license and never nominated to said The Asbestos Brake Company any licensee to take the same.

7. Shortly after the meeting of the directors of The Asbestos Brake Company, referred to in paragraph 6, the officers and directors aforesaid resigned; and in their places were chosen as directors of The Asbestos Brake Company the said Conrad Hubert, T. Frank Manville, then and now the president of the said H. W. Johns-Manville Company, Joseph O. Stokes, the president of the Thermoid Rubber Company, a large stockholder therein and, with his brother, William J. B. Stokes, controlling said company, and your orator Mitford C. Massie, a stockholder and director of your orator The Brake Liners Company. And at their first meeting said directors elected as president of said The Asbestos Brake Company the said Joseph O. Stokes, as treasurer thereof, the said T. Frank Manville, and as secretary thereof your orator Mitford C. Massie.

7½. At or about the time of the election of the officers and directors of The Asbestos Brake Company, mentioned in paragraph 7, the entire authorized capital stock

of said company was issued in pursuance of the terms of said modified precorporate agreement, the said Conrad Hubert receiving 15 shares of common stock and 5 shares of the preferred stock of said company, the said H. W. Johns-Manville and Thermoid Rubber Companies receiving 70 shares of said common stock and each receiving 5 shares of said preferred stock, of which 1 or more shares of said preferred stock so allotted to said last mentioned companies, were issued or transferred to the said T. Frank Manville and Joseph O. Stokes, while, at the request of your orator The Brake Liners Company, 15 shares of said common stock and 5 shares of said preferred stock allotted to it, were issued to and in the name of your orator Mitford C. Massie, who at all times has held and now holds 4 of said preferred shares and said 15 shares of common stock in trust for the sole benefit and behoof of your said orator The Brake Liners Company.

8. Pursuant to the terms of the said written agreement mentioned in paragraphs 2 and 3 of this bill, the interference proceedings in the United States Patent Office between the said patent applications, owned respectively by the said Conrad Hubert, H. W. Johns-Manville Company, and Thermoid Rubber Company, were conducted to determinations in the names of the applicants for said patents; and said proceedings resulted in the granting to the persons ascertained to be the first inventors of the inventions involved in said interference proceedings, and their assigns, divers patents covering asbestos brake bands or liners. One of the patents so granted to the first inventor of the subject matter thereof is Patent Number 993,031, issued on the application of one Clyde J. Coleman on May 23, 1911, and was owned by the said Conrad Hubert and was assigned by him to said The Asbestos Brake Company. Said patent is what is known as a "basic" or "pioneer patent" and its claims cover practically all brake bands or liners of which asbestos forms a component part or element. Divers other patents for

more or less specific inventions in asbestos brake bands or liners and friction elements were, from time to time, issued upon the other applications for patents owned, respectively, by the parties so joining in the formation of The Asbestos Brake Company, and became the sole property of said corporation by the aforementioned assignments, among them being a number of patents granted on the applications owned by your orator The Brake Liners Company, the said patent Number 993,031 and said other patents and applications for patents and said license agreements with said H. W. Johns-Manville Company and Thermoid Rubber Company constitute an exceedingly valuable property and the only assets of said The Asbestos Brake Company.

9. The public quickly appreciated the great value of brake bands or linings and friction members made as described and claimed in said Patent Number 993,031 and in several others of the patents and patent applications owned by The Asbestos Brake Company; and within a few years after the issuance of said Patent Number 993,-031, brake bands or linings and friction members made as described and claimed in one or more of said instruments, went into practically universal use for the brakes of all motor vehicles, and other purposes, in this country, and as well into very large use in foreign countries; and an enormous and exceedingly profitable business of making and selling such products had been built up and enjoyed by the said H. W. Johns-Manville Company and Thermoid Rubber Company under the protection of said patents and licences to make and sell the same, granted to them, respectively, by said The Asbestos Brake Company. And your orators are credibly informed, believe, and aver, that since the granting of said licenses to them, the said H. W. Johns-Manville Company and Thermoid Rubber Company have, respectively, made and sold such patented and licensed products to the value of many millions of dollars; and that each of said corporations is today mak-

ing very large gains and profits by the manufacture and sale of said licensed patented goods, and will continue to do so in the future, while their businesses in such goods is so large as to have outstripped their facilities for the production thereof and they have been procuring and now do procure large quantities thereof to be made for them by other manufacturers.

10. And your orators state that the said H. W. Johns-Manville Company and the said Thermoid Rubber Company, through and by and with the aid and connivance of their respective officers or agents and their respective representatives on the board of directors of said The Asbestos Brake Company, the said T. Frank Manville and Joseph O. Stokes, conspiring to injure and defraud your orators and other stockholders of said The Asbestos Brake Company, have at all times in the past failed and refused to account to said corporation for the royalties which have become due from them, respectively, to said company; and have at all times in the past failed and refused to pay to said licensor company any of the moneys so due from them, respectively, as royalties fixed by said license agreements as consideration for the privileges thereby accorded to them; and still fail and refuse to so account and pay. That, although the other directors and stockholders of said The Asbestos Brake Company have been willing and desirous to suppress all infringements of the aforesaid letters patent, the said H. W. Johns-Manville Company and said Thermoid Rubber Company have, for reasons unknown to your orators, been unwilling to have proper suits and actions instituted and prosecuted in the courts to enjoin such infringements; and, through their respective representatives, the said T. Frank Manville and Joseph O. Stokes, directors as aforesaid, have prevented the taking of any action by said The Asbestos Brake Company to suppress such infringements, although they have been advised by counsel learned in the patent

laws that their said patents would be effective to suppress the unlicensed making, using, or selling, in the United States, of brake bands or linings and friction members having asbestos as a component element. That owing to such action by The Asbestos Brake Company, many companies, firms and persons throughout the United States are, and for several years past, have been making, using and selling such asbestos brake bands or linings, and friction members, without being licensed thereunto, and in defiance of the exclusive rights of said The Asbestos Brake Company in the premises.

11. That said directors of The Asbestos Brake Company have granted no other licenses under said patents than those hereinbefore mentioned; and for that reason, and because of the failure of said H. W. Johns-Manville Company and Thermoid Rubber Company to account for and pay to said licensor company any of the royalties so as aforesaid due to it from them, respectively, said The Asbestos Brake Company is, and at all times in the past, has been unable to pay to its stockholders in lawful dividends, the large sums of money which otherwise would have been received by them.

12. That since the first meeting of the stockholders of The Asbestos Brake Company no meeting of the stockholders has been had or called. That for years past no lawful meeting of the directors has been held, no report of the condition and affairs of the company has been made by the president or treasurer to the directors or stockholders; nor has any other proper or necessary action been taken by said officers or directors, except the payment of the annual franchise taxes due from the company to the State of New Jersey. That said T. Frank Manville and Joseph O. Stokes, representing and conniving with said H. W. Johns-Manville Company and Thermoid Rubber Company, as aforesaid, have disregarded the request of your orator Mitford C. Massie,

that said licensees perform the conditions of their said license agreements, while they have wilfully permitted the very extensive and grevious infringement aforesaid of said patents of The Asbestos Brake Company and have thereby brought about a state of affairs resulting in the reduction of the business done under the patents of and the licenses thereunder granted by The Asbestos Brake Company to a competitive basis, whereby a great and unnecessary reduction of the prices at which the patented goods have been sold has been compelled, and a consequent huge loss in royalties which should have been earned and paid by said licensees to The Asbestos Brake Company has been incurred by said company, for which said licensees and their said representatives, directors of The Asbestos Brake Company, are liable to said company in damages over and above all moneys payable to said corporation by way of royalties and interest for their unlawful detention.

13. That the said Joseph O. Stokes, president of The Asbestos Brake Company, some time since, obtained from your orator Mitford C. Massie, secretary of the company, the possession of the record of minutes of the meetings of stockholders and directors of the company, and still retains possession thereof, contrary to the provisions of the by-laws of the company.

14. That while the said conspiring H. W. Johns-Manville Company and Thermoid Rubber Company, and their said representatives and co-conspirators T. Frank Manville and Joseph O. Stokes, do not own or control a majority of the shares of stock of said The Asbestos Brake Company having voting power, they do, nevertheless, control and own one-half of all such shares which said company has issued and is authorized to issue; and your orators, together with all other stockholders of said company, cannot in any manner obtain control of a majority of such shares having voting power, wherewith to compel

affirmative action of said The Asbestos Brake Company to compel the accounting for and payment of the royalties aforesaid by said H. W. Johns-Manville Company and Thermoid Rubber Company, the recovery of damages from said confederates for their maladministration of the affairs of said company, the granting of licenses to others under said patents, the suppression of infringements of said patents and collection of damages and profits from said infringers, and the payment of dividends to the stockholders of The Asbestos Brake Company from the moneys to be received in said ways, against the will of said conspiring stockholders and officers. That the said T. Frank Manville and Joseph O. Stokes remain directors, and, respectively, treasurer and president of said corporation at this time, and that it is impossible for the stockholders of said corporation, other than said conspirators, to elect a majority of directors for said corporation from stockholders who can be depended upon to perform their lawful duties as such directors. That any application now made to the Board of Directors of said company to institute this suit for and on behalf of The Asbestos Brake Company would be futile, or, if acceded to, such suit would probably be so conducted as to defraud your orators and the stockholders of said company other than the said H. W. Johns-Manville Company and Thermoid Rubber Company.

Your orators, being without remedy at the common law, and adequately relievable only in a court of equity, therefore pray:

1. That the said H. W. Johns-Manville Company and the said Thermoid Rubber Company be decreed to account to said The Asbestos Brake Company for all sales heretofore made by them, respectively, of brake bands and liners and all other goods described and claimed in all and any applications for patents and patents mentioned in or referred to and intended by said license agreements

and now, or at any time, owned by The Asbestos Brake Company, in legal or equitable title, the prices at which such goods have been sold, and the discounts allowed to the purchasers thereof, if any:

2. That the said H. W. Johns-Manville Company and Thermoid Rubber Company be decreed to pay to said The Asbestos Brake Company all such moneys as shall, on such accounting, be found to be due to said The Asbestos Brake Company, together with lawful interest thereon, running from the times when such moneys, respectively, became due to said The Asbestos Brake Company by the terms of said license agreements to the date of payment thereof to said The Asbestos Brake Company.

3. That said The Asbestos Brake Company be decreed, upon the receipt of such moneys, to pay thereout without delay one six per centum dividend upon the preferred shares of stock of said company, issued and outstanding; and to pay the residue of said moneys in a dividend to the holders of the common stock of said company, in proportion to their respective holdings thereof:

4. That said The Asbestos Brake Company and the H. W. Johns-Manville Company and Thermoid Rubber Company be decreed to specifically perform their respective parts of the aforesaid license agreements, made by and between them, during and throughout the remainder of the term of the said agreements:

5. That such other and general relief be decreed to your orators as may be agreeable to equity and good conscience:

6. That a writ or writs of subpoena may issue, commanding said defendants, The Asbestos Brake Company, H. W. Johns-Manville Company, and Thermoid Rubber Company, to answer this bill of complaint without oath

and to abide by and perform such decree at this court may make in the premises.

FRANCIS C. LOWTHORP,
*Sol'r and Counsel of complts.*

ROBERT H. McCARTER,
*Of Counsel.*

## EXHIBIT A.

AGREEMENT made and entered into this 22nd day of September, 1910, by and between CONRAD HUBERT, of New York City, of the first part, THERMOID RUBBER COMPANY, a corporation of the State of New Jersey, of the second part, and H. W. JOHNS-MANVILLE COMPANY, a corporation of the State of New York, of the third part, parties hereto, WITNESSETH: that

WHEREAS, the parties hereto are the owners of certain applications for Letters Patent on asbestos brake bands or linings, and are involved in interferences in the United States Patent Office thereon and are desirous of settling the said interferences so far as the parties hereto are concerned to their mutual advantage; such applications being as follows:

Application of Clyde J. Coleman, filed November 1, 1907, Serial No. 400,208, owned by the said Conrad Hubert.

Application of William T. Bonner, filed January 20, 1908, Serial No. 411,599, owned by the said Thermoid Rubber Company.

Application of Louis R. Hoff, filed July 28, 1908, Serial Number 445,716, owned by the said H. W. Johns-Manville Company.

Application of Cutting & Jewett, filed June 30, 1908, Serial No. 441,207, owned by the said H. W. Johns-Manville Company.

Application of Louis R. Hoff, filed November 5, 1909, Serial Number 526,432, owned by the said Johns-Manville Company.

NOW, THEREFORE, the parties hereto have agreed together, as follows:

FIRST: They will cause a corporation to be organized under the laws of the State of New Jersey, to be known as THE ASBESTOS BRAKE COMPANY, with a Certificate of Incorporation and By Laws in the form hereto annexed and so entitled.

SECOND: That the pending interferences, in which the parties hereto are alone involved, shall be prosecuted in good faith by the respective parties to decisions by the Examiner of Interferences, but without further appeal unless the attorneys for all of the parties hereto agree that there is error in a decision which should be corrected by appeal, in which event, appeals shall not be prosecuted further than shall be agreed by the attorneys for all of said parties.

THIRD: That as promptly as possible after the organization of The Asbestos Brake Company each of the parties hereto shall make, execute and deliver an assignment to said The Asbestos Brake Company of the whole right, title and interest in and to each of the said inventions and of the Letters Patent to be obtained therefor, each such assignment to be in the form hereto annexed and marked "Assignment" and to have annexed thereto a form of license agreement such as is hereto annexed and marked "License Agreement," the consideration for such assignments to be the capital stock of The Asbestos Brake Company, of which seventeen and one-half (17½%) per cent. of the common capital stock shall be received by the said Conrad Hubert and eighty-two and one-half (82½%) per cent. of the common capital stock shall be received by the said Thermoid Rubber Company and the

said H. W. Johns-Manville Company, and seven shares of the preferred capital stock shall be received by each of the parties hereto, except that twenty shares of the said common capital stock shall be paid in cash by the parties hereto in the proportion of their ultimate holdings of said common capital stock, such payments to be made as called for by The Asbestos Brake Company.

FOURTH: The parties hereto, personally or by their representatives or officers as directors of The Asbestos Brake Company, will vote for and direct the carrying out of the provisions of this agreement in all particulars and the granting of licenses pursuant to the conditions of the aforesaid assignments immediately after the delivery of said assignments, and the said Conrad Hubert undertakes that the Auto Improvement Company will accept such license, and the other parties hereto will accept such licenses; and will vote and direct the expenditure of a portion of the royalties received by The Asbestos Brake Company in advertising asbestos brake bands or linings, the publicity to be equal among and for the licensees of The Asbestos Brake Company, and will vote and direct a Schedule of Prices to be observed by the licensees of The Asbestos Brake Company, including a trade classification as follows:

"Brake Manufacturers"

To include Transmission, Emergency, Clutches, Cone or Discs.

"Car Builders"

To include the manufacturers of large or small cars and Motor Cycles, whether or not they manufacture their own brakes.

"Jobbers"

To include all concerns commonly listed as jobbers, official list to be furnished by The Asbestos Brake Company.

*Bill of Complaint—Exhibit A.*

"Dealers"

To include retail stores and garages handling such goods.

"Consumers"

To include car owners, drivers, or in other words, the general public not mentioned above.

Brake linings in larger sizes than 4" x ¼" to be sold at prices equaling those to Brake Manufacturers.

It is further agreed by and between the parties hereto that the Auto Improvement Company or its successor in interest as licensee, is to have the privilege of buying such goods as are manufactured by Thermoid Rubber Company, and H. W. Johns-Manville Company under license from the Asbestos Brake Company, at a discount of fifteen per cent. (15%) below the lowest net price to any others, and of selling the same under the trade mark of the manufacturer, no royalties to be paid by the manufacturer on such goods so sold; provided, however, that such discount of fifteen per cent. (15%) is computed upon present prices and shall be increased in the same ratio as the increase in price.

SIGNED, SEALED, AND DELIVERED by the parties hereto the day and year first above written.

CONRAD HUBERT (Seal)

THERMOID RUBBER CO.

*Jos. O. Stokes, Prest.*

(Seal)

Attest:

FRANCIS C. LOWTHORP,
*Secretary.*

H. W. JOHNS-MANVILLE CO.

(Seal) *T. F. Manville, Pres't.*

*Bill of Complaint—Exhibit A.*

CONDITION TO BE INCLUDED IN EACH ASSIGNMENT.

Subject, however, to the conditions that the said The Asbestos Brake Company shall immediately grant licenses under said invention and letters patent and all other inventions and letters patent owned or controlled or hereafter owned or controlled by the said The Asbestos Brake Company, to Auto Improvement Company and H. W. Johns-Manville Company, New York corporations, and Thermoid Rubber Company, a New Jersey corporation, and thereafter to such other persons as may be ordered by the votes of a majority of all of the directors of the said The Asbestos Brake Company, in the form annexed hereto and entitled "License Agreement," unless such form shall be changed by the votes of all of the said directors; and no such license which shall be so granted shall be changed, altered, revoked or annulled except by the votes of all of the said directors.

LICENSE AGREEMENT.

THIS AGREEMENT made in duplicate this
day of 1910, by and between THE ASBESTOS BRAKE COMPANY, a corporation organized and existing under the laws of the State of New Jersey, hereinafter called the Patentee, and
hereinafter called the Licensee, parties hereto, WITNESSETH: that

WHEREAS, the Patentee is the owner of certain letters Patent as follows (here insert a description of all letters Patent issued to or owned by the Patentee) and of certain inventions for which applications for Letters Patent have been filed (here insert a description of all pending applications for Letters Patent owned by the Patentee), all of said patents and inventions relating to asbestos brakes (should any patents and inventions be not owned, but controlled by the Patentee, they are to be described in and included in this agreement); and

WHEREAS, the Licensee is desirous of acquiring a license thereunder;

NOW THEREFORE, for and in consideration of the sum of one dollar by each party to the other in hand paid at or before the ensealing and delivery of these presents, the receipt of which is hereby acknowledged, and of the covenants of this agreement, the parties hereto have covenanted and agreed, and do hereby covenant and agree, as follows:

1. The Patentee hereby grants to the Licensee a non-exclusive license to manufacture, sell and use asbestos brake bands or linings embodying or containing the inventions shown, described and claimed in said Letters Patent, or other Letters Patent which may hereafter be acquired or controlled by the Patentee, or the inventions of the said applications for Letters Patent, or other applications for Letters Patent which may hereafter be acquired or controlled by the Patentee, and to sell and use any such asbestos brake bands or linings made by or purchased from any other Licensee licensed under said Letters Patent, within and throughout the United States, to the full end of the term or terms for which the said Letters Patent have been or may be granted, reissued or extended. This license is personal, non-assignable and non-transferable, except to successors to substantially the entire good will and business of the Licensee.

II. The Patentee shall enforce the monopoly conferred by its patents against all infringers thereof, to the best of its ability.

III. All asbestos brake bands or linings embodying or containing the said inventions, except such as shall be sold to other licensees of the Patentee, shall be sold at prices now or hereafter established by the Patentee, which prices are set forth in the "Schedule of Prices" attached to and made a part hereof, or may be set forth in other and amended Schedules of Prices, issued by the Patentee and delivered to the Licensee.

IV. The Licensee shall on or about the 20th day of July, October, January and April of each year during the term of this agreement render unto the Patentee a sworn statement in writing showing the number of asbestos brake bands or linings embodying or containing said inventions, or any of them, sold and invoiced during the past quarter, and the persons to whom such asbestos brake bands or linings have been sold or invoiced, and the selling prices and discounts at which the said asbestos brake bands or linings have been sold and invoiced, and shall within ten days after said 20th day of July, October, January and April pay to the Patentee royalties of ten per centum (10%) of the selling prices, less discounts, on each and all of the said asbestos brake bands, or linings so sold or invoiced, except such as may have been sold or invoiced to other licensees of the Patentee. The Licensee shall keep separate accounts of said asbestos brake bands or linings and these accounts shall be open to the inspection of the Patentee, or its accredited representative, at all times during business hours. The Licensee shall send daily to the Patentee copies of all bills or invoices rendered to customers or to branch stores, a consignment to a branch store to be considered a sale and to be billed at jobbers prices, less such commission as is paid to said branch stores, not to exceed ten per centum (10%): the royalties payable on such consignments to be computed at such jobbers prices, less such commissions. No rebates, drawbacks or other concessions of any kind shall be granted or made by the Licensee without the consent in writing of the Patentee first had and obtained.

V. Should the Licensee violate any of the covenants of this agreement as to prices, discounts, commissions, rebates, drawbacks or other concessions to customers, the Licensee shall pay to the Patentee, not as a penalty but as liquidated damages, a sum equal to three times the price reduction, commission, rebate, drawback or other

concession proved to have been made by the Licensee, and also, in addition thereto, all legal expenses, costs and counsel fees incurred by the Patentee in enforcing this clause of this agreement, if such litigation is necessary to so enforce it; provided, that no such payment of damages shall become due until the Licensee has first been served with written notice of the alleged violation of this licensee and a written statement of the facts on which the charge of such violation is based, and has had thirty days in which to make answer and submit affidavits and arguments in defense or denial of such charge. For repeated violations, such as are referred to in the present clause of this agreement, or for repeated failures of the Licensee to keep, observe and perform any or all of the other covenants of this agreement, this agreement may be cancelled by the Patentee by written notice sent by registered mail to the last known address of the Licensee; provided, however, that such cancellation of this agreement shall not relieve the Licensee from the payment of all or any unpaid royalties due at the time of the cancellation of this agreement.

VI. The Licensee shall affix to or mark upon each of said asbestos brake bands or linings a patent mark, in compliance with the statutes, including all Letters Patent included in this agreement, the inventions of which are embodied or contained in each of said asbestos brake bands or linings.

SIGNED, SEALED AND DELIVERED by the parties hereto the day and year first above written.

*Bill of Complaint—Exhibit A.*

## CERTIFICATE OF INCORPORATION OF THE ASBESTOS BRAKE COMPANY.

This is to certify that the undersigned do hereby associate themselves into a corporation under and by virtue of the provisions of an act of the Legislature of the State of New Jersey, entitled "An Act concerning corporations (Revision of 1896)", and the several supplements thereto and acts amendatory thereof, and do severally agree to take the number of shares of capital stock set opposite their respective names.

*First:* The name of the corporation is

THE ASBESTOS BRAKE COMPANY.

*Second:* The location of the principal office in this State is at No. Fifteen Exchange Place, in the City of Jersey City, County of Hudson.

The name of the agent therein and in charge thereof, upon whom process against this corporation may be served, is George R. Beach.

*Third:* The objects for which this corporation is formed are to purchase, acquire, hold, own, mortgage and assign Letters Patent of the United States and all foreign countries covering inventions in brakes, blocks, linings and other appliances, adjustments, and elements of brake mechanisms suitable for use in connection with vehicles, engines, motors and machines of any and every kind; to acquire and hold, own, mortgage and assign interests in and territorial rights and licenses under such letters patent; to grant licenses and territorial rights to others under such letters patent, for the manufacture, sale and use of such patented inventions or things embodying said inventions; to purchase or acquire brakes, blocks, linings and other appliances, attachments and elements of braking mechanisms useful in connection with vehicles, engines, motors and machines of any and every kind, and

to use and sell the same; to procure, own and hold secret processes and formulas, trade-marks, trade-names and distinctive marks for wares and merchandise, and to use the same; to purchase, hold and re-issue the shares of its capital stock; and to do all lawful things necessary or convenient in and about the carrying on of said objects. To conduct business, to have one or more offices, and to purchase, mortgage, lease and convey real and personal property wheresoever situate, in the State of New Jersey as well as in all other states and in all foreign countries.

*Fourth:* The total authorized capital stock of this corporation is forty-two thousand one hundred dollars, divided into four hundred and twenty-one shares of the par value of one hundred dollars each; of said capital stock twenty-one shares are to be preferred stock, and four hundred shares are to be common stock.

The holders of the preferred stock shall be entitled to receive out of the surplus or net earnings, and the corporation shall be bound to pay thereon, as and when declared by the Board of Directors, a non-cumulative dividend at the rate of, but not exceeding, six per centum per annum, payable yearly, half-yearly or quarterly, before any dividend shall be set apart or paid on the common stock.

*Fifth:* The names and post-office addresses of the incorporators, and the number of shares subscribed for by each, the aggregate of such subscription being the amount of capital stock with which the company will commence business, are as follows:

| Name | Post Office Address | Number of Shares | |
|---|---|---|---|
| | | Preferred | Common |
| | | 7 | 6 |
| | | 7 | 6 |
| | | 7 | 8 |
| | | — | — |
| | | 21 | 20 |

*Sixth:* The preferred stock of the company shall have voting power. The common stock of the company shall have no voting power.

The Board of Directors of the company shall consist of three stockholders, who shall be elected annually to serve for one year, and until their successors shall be chosen and qualified.

At all elections of directors each stockholder shall be entitled to as many votes as shall equal the number of his shares of preferred stock multiplied by the number of directors to be elected, and he may cast all of such votes for a single director, or may distribute them among the number to be voted for, or any two or more of them, as he may see fit.

In the furtherance, and not in limitation of the powers conferred by statute, the Board of Directors are specially authorized to hold their meetings, to have one or more offices, and to keep the books of the company within or without the State of New Jersey at such place or places as may, from time to time, be designated by them; but the company shall always keep at its registered office in the State of New Jersey a transfer book in which transfers of stock can be made, entered and registered, and also a stock book containing the names and addresses of the stockholders and the number of shares held by them respectively, which shall be at all times during business hours open to inspection of the registered stockholders in person.

The Board of Directors shall have power also, from time to time, to determine whether, and, if allowed, under what conditions and regulations, the accounts and books of the company (Other than the stock and transfer books, or any of them) shall be open to the inspection of the stockholders, and the stockholders' rights in this respect are and shall be restricted and limited accordingly.

No change in or amendment of any of the provisions of these articles of incorporation shall be made or effected without the consent of the holders of at least three-fourths in interest of the preferred stock of the company issued and outstanding.

In Witness Whereof we have hereunto subscribed our names and affixed our seals this day of , nineteen hundred and ten.

Signed, sealed and delivered
in the presence of

## THE ASBESTOS BRAKE COMPANY.

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## BY-LAWS.

### Article I. Meetings of Stockholders.

Section I. *Annual Meetings.* (1) When and where held.

The annual meeting of the stockholders shall be held on the day of in each year, at the principal office of the company in this state, at twelve o'clock noon.

(2) *Notice.* The secretary shall serve personally or send through the Post-Office, postage prepaid, at least ten days before said meeting, a notice thereof, addressed to each stockholder at his, her or its post-office address as it appears on the books of the company.

(3) *Quorum.* At all meetings of stockholders it shall be necessary that stockholders representing a majority in amount of the preferred capital stock issued and outstanding be present in person or by proxy to constitute a quorum, and a quorum shall be so constituted. A quorum failing attendance at any meeting, the meeting

may be adjourned by such stockholder or stockholders as may be present or represented to some future time, not less than two nor more than thirty days later.

(4) *Notice of Adjourned Meeting.* The Secretary shall serve notice of adjourned meetings as hereinabove provided, as seasonably as may be practicable in the circumstances, when a meeting shall be adjourned for a shorter period than ten days.

(5) Should a day appointed for holding a meeting of stockhloders fall upon a legal holiday, then such meeting shall be held upon the first day thereafter not a legal holiday, at the same hour and place designated, without further notice.

SECTION II. *Special Meetings.*

(1) *How called.* Special meetings of the stockholders may be called at any time by a majority of the Directors, or by the President. And the Board of Directors shall call a special meeting of the stockholders whenever so requested in writing by stockholders of record representing not less than twenty per cent. in amount of the capital stock, preferred and common, issued and outstanding.

(2) *When and where held.* If such special meeting shall be requested by stockholders holding twenty per cent. of stock of the company, as above provided, it shall be called within fifteen days from the time of the receipt of such request by the President or other director or officer of the company, and if otherwise called for it shall be held at such time as the Board of Directors, or the President, shall determine, within thirty days after the receipt of such demand by an officer or director of the company. Such meetings shall be held at the principal office of the company in the State of New Jersey.

(3) *Notice.* Notice of such special meetings shall be given in the manner prescribed for notice of the annual meetings of stockholders, and the same regulation as to quorum shall apply.

SECTION III. *Voting.* (1) At all meetings of stockholders all questions shall be determined by a plurality vote of the preferred stockholders present in person or by proxy, except that any qualified preferred stockholder present in person or by proxy at any stockholders meeting may demand a stock vote, in which case it shall be immediately taken, and each qualified preferred stockholder present in person or by proxy shall be entitled to one vote for each share of preferred stock held by him upon the books of the company for twenty days next preceeding such meeting.

(2) All voting shall be viva voce except that elections shall be by ballot, and each ballot shall state the name of the preferred stockholder voting it, and the number of preferred shares voted by him, and if cast by a proxy shall state the name of the proxy voting it.

(3) At any election each preferred stockholder shall be entitled to as many votes as shall equal the number of his shares of preferred stock multiplied by the number of directors to be elected, and he may cast all of such votes for a single director, or may distribute them among the number to be voted for, or any two or more of them, as he may see fit.

(4) The holders of common stock shall not be entitled to any vote at any stockholders meeting, or otherwise.

(5) Every pledgor of preferred stock standing in his name on the books of the company shall be deemed the owner thereof for the purpose of voting, unless in the transfer to the pledgee upon the books of the company he shall have expressly empowered the pledgee to vote thereon, in which case only the pledgee or his proxy may represent said stock and vote thereon.

(6) Every person holding preferred stock in any representative or fiduciary capacity may represent the same and vote thereon, personally or by proxy, as a preferred stockholder at all meetings of stockholders.

(7) No stock shall be voted at any meeting which stock shall have been transferred on the books of the company within twenty days next preceeding such meeting.

(8) Every proxy must be executed in writing by the stockholder or by his duly authorized attorney.

(9) No proxy shall be voted on after three years from its date.

(10) *Right to vote.* If questioned, the right to vote any share of preferred stock shall be determined by the stock transfer book of the company.

SECTION IV. *Order of Business.*

At all meetings of stockholders the following order of business shall be observed so far as consistent with the purposes of the meeting, viz:

1. Roll call.
2. Report of proper notice of meeting.
3. Reading minutes of preceding meeting, and action taken thereon.
4. Report of President.
5. Report of Secretary.
6. Report of Treasurer.
7. Report of Committees, if any.
8. Election of Directors.
9. Unfinished business.
10. New business.

ARTICLE II. DIRECTORS.

SECTION I. (1) *Number.* The property and business of the company shall be managed by a Board of Directors who shall be three in number, one of whom must be a resident of the State of New Jersey.

(2) *Qualification.* No person shall be a Director unless he shall be at the time of his election a bona fide holder of at least one share of the preferred capital stock

of the company. Upon ceasing to hold at least one share of such preferred stock he shall cease to be a Director.

SECTION II. (1) *How elected.* At the annual meeting of stockholders, the stockholders receiving a plurality of the votes of the preferred stockholders voting at such election, either in person or by proxy, shall be directors for the ensuing year, and until their successors shall be chosen and qualified. The vote shall be by ballot.

(3) If the election of Directors shall not be held on the day designated in these By-Laws, the Directors shall cause the same to be held as soon thereafter as conveniently may be, and cause notice of such holding to be given as hereinbefore prescribed, for the regular meeting of the stockholders.

SECTION III. *Term of Office.* Each director shall hold office for one year, and until his successors shall be chosen and qualified in his place.

SECTION IV. *Directors Meetings.* (1) When held.

Meetings of the Board of Directors shall be held at such time and place as may be designated by the president on five days' notice in writing.

(2) A special meeting of the Board of Directors may be called by the President at any time. The President, Vice-President or Secretary, must, upon the written request of two Directors, call a special meeting to be held within ten days after the receipt of said request. The annual meeting shall be held immediately after the annual meeting of stockholders.

(3) The Secretary shall serve personally or send through the post-office, postage prepaid, at least five days before each meeting, regular or special, a notice thereof, addressed to each Director at his Post-Office address, as it appears upon the books of the company.

(4) *Quorum.* A majority of the Directors shall constitute a quorum, at all meetings of the Board, but in the

absence of a quorum a less number may adjourn the meeting to some future time not more than ten days later.

(5) *Votes.* At all meetings of the Board of Directors each Director shall have but one vote. The votes of all of the Directors shall be required to adopt and amend the prices and discounts at which goods shall be sold by the company or its licensees, for the cancelling of licenses, the sale, assignment, transfer, mortgage or incumbrance of inventions or letters patent or rights thereunder and the expenses incurred by the company in advertising, procuring patents, litigation for the enforcement of its patents and expenses for the purchase of inventions and letters patent or rights thereunder.

(6) *Order of business.* The order of business at each Director's meeting shall be the same as the order of business hereinbefore prescribed for the stockholders' meetings, so far as applicable.

(7) *Place of Meeting.* The Board of Directors shall have power to hold its meetings outside of the State of New Jersey.

(8) *Vacancies.* Any vacancy occurring in the Board of Directors shall be filled by the preferred stockholders at a meeting to be called for that purpose as soon after the occuring of such vacancy as notice of such meeting can be given under these By-Laws. But the votes of three-fourths in interest of the holders of preferred stock shall be necessary for such election. During such vacancy no action shall be taken by the Directors upon any matter requiring the votes of all Directors.

(9) *Compensation.* Directors as such shall not receive any stated salary for their services, nor any compensation except for such special services as may be rendered by request of the Board, and which may be fairly compensated by vote of all of the Directors. The expenses of Directors properly incurred in attending meetings of the Board or in carrying out its lawful directions

shall be paid by the company when duly certified to the Board of Directors and approved by it.

ARTICLE III.

The Board of Directors shall have power to have one or more offices and to keep the books of the company (except the stock and transfer books) outside of the State of New Jersey, and at such place or places as may be designated by it.

ARTICLE IV. OFFICERS.

SECTION I. (1) *Officers and qualifications.*

The officers of the company shall be a President, Vice-President, a Secretary and a Treasurer. The office of Secretary and Treasurer may be held by the same person. The President and Vice-President shall be directors of the company.

(2) *Election of Officers.* The officers of the company shall be chosen by the Directors by ballot at the first meeting of the Board held after the annual meeting of stockholders. A majority vote shall elect.

(3) *Terms of Office.* Each officer shall hold office for one year, and until his successors shall be chosen and qualified in his stead.

(4) *Vacancies.* In case of a vacancy in any of the offices of the company the Board shall appoint a successor to hold such office during the remainder of the unexpired term.

(5) The President and Vice-President as such shall receive no salary or other compensation. The Secretary and Treasurer may be paid such reasonable compensation as may, from time to time, be determined by the votes of all of the directors.

SECTION III. The President. The President shall:

(a) Preside at all meetings of the Board of Directors.

(b) Call to order and act as Chairman at all meetings of the stockholders.

(c) Present at each annual meeting a report of the condition of the business of the Company; and oftener, if required by the Board of Directors.

(d) Order regular and special meetings of the stockholders and Directors in accordance with these By-Laws.

(e) Appoint and remove, employ and discharge all servants, agents, employees and clerks of the company, other than the Vice-President, Secretary and Treasurer, and fix their compensation.

(f) Sign all certificates of stock of the company.

(g) Enforce these By-Laws.

(h) He shall have the general management of the affairs of the corporation and perform all the duties incident to the position and office.

(i) Report promptly to the Board of Directors all matters within his knowledge which the interests of the company require to be brought to their notice.

SECTION IV. *Vice-President.* The Vice-President shall, during the absence and inability of the President, subject, however, to the approval of the Board of Directors, do and perform all the duties of the President as set forth in these by-laws, or in the acts under which this company is organized, and when so acting shall have all the powers and be subjected to all the responsibilities hereby given or imposed upon the President.

SECTION V. *The Treasurer.* The Treasurer shall:

(a) Have the care and custody of and shall be responsible for all the funds and securities of the company and deposit all funds and securities in the name and to the credit of the company, in such depositories as the Board of Directors may designate.

(b) Sign all checks, drafts and orders for the payment of money, and pay out and dispose of same under the direction of the President or the Board of Directors, taking proper vouchers therefor.

(c) Exhibit at all reasonable times his books and accounts to any Director of the Company upon application at the office of the company during business hours.

(d) Countersign all certificates of stock signed by the President.

(e) Render a statement of the condition of the finances of the company at each regular or special meeting of the Board of Directors (if called upon so to do), and a full and official report at the annual meeting of stockholders.

(f) Make no payment for a greater sum than ten dollars, except by check of the company.

(g) Do and perform all duties appertaining to the office of Treasurer.

(h) Keep full and accurate accounts of receipts and disbursements and such other matters usually kept by Treasurers in books belonging to the company and such other books of account as the Board of Directors may require.

SECTION VI. *Temporary Treasurer.* In the absence of or disability of the Treasurer, a majority of the Board of Directors may appoint a Treasurer *pro tem,* who shall have such powers, during the absence of the Treasurer as shall be given him by the Board of Directors.

SECTION VII. *Secretary.*

The Secretary shall:

(a) Keep the minutes of the meetings of the Board of Directors and of the stockholders in books belonging to the company.

(b) Give and serve all notices of the company.

(c) Be custodian of the records and corporate seal, and to affix the latter when required.

(d) See that the books, reports, statements and certificates required by the statutes under which this company is organized are properly kept, made and filed according to law.

(e) Keep the stock and transfer books in such manner as to show at any time the amount of capital stock, the manner and the time the same was paid for, the names of the owners thereof alphabetically arranged and their respective place of residence and post-office address, the number of shares owned by each, and the time each person became owner thereof, and the amount paid thereon. Such stock and transfer books shall be kept at the principal office of the company in the State of New Jersey, and shall be open daily during business hours, subject to the inspection of any stockholder of the company.

(f) Lay before the Board of Directors at their stated meetings all communications addressed to him by the President or any officer or share holder, or by any other person.

(g) Report all matters within his knowledge which the interest of the company may require to be brought to the attention of the Board of Directors, and perform all duties incident to the office of secretary.

SECTION VIII. *Temporary Secretary.*

In the absence or disability of the Secretary the Directors may appoint a Secretary *pro tem,* who shall have the powers and be subject to the responsibilities of the Secretary, for such time as the Board may direct.

ARTICLE V. *Capital Stock.*

SECTION I. *Subscription.*

The Directors may, from time to time, make assessments upon the share of stock subscribed for, not exceed-

ing in the whole the par value thereof, and the sum so assessed shall be payable to the Treasurer at such times and places as the Board of Directors shall fix. Notice of such assessment and of the time and place of payment shall be given in the manner prescribed by law.

SECTION II. (1) *Transfer.*

The stock of the company shall be assignable and transferrable on the books of the company by the holder thereof, in person, or by duly authorized attorney, upon surrender of the certificate properly endorsed. In case of transfer by power of attorney not endorsed upon the certificate the power of attorney duly executed and acknowledged, shall be deposited with the Secretary. In all cases of transfer the former certificate must be surrendered and cancelled before a new certificate will issue.

(2) No transfers shall be made upon the books of the company within twenty days next preceding the annual meeting of the stockholders.

ARTICLE VI. *Audit Committee.*

The Board of Directors shall appoint annually two of its members as an audit committee, whose duty shall be to audit the accounts of the Treasurer previous to the annual meeting, and at such times as the Board of Directors shall authorized.

ARTICLE VII. *Corporate Seal.*

*The Seal.* The seal of the corporation shall be as follows:

THE ASBESTOS BRAKE COMPANY
INCORPORATED 1910
NEW JERSEY.

ARTICLE VIII.

(1) No debt shall be contracted or liability incurred, or contract made and entered into by and in behalf of the company, or any officer of this company, unless the same be authorized and directed by resolution of the Board of Directors, and the resolution shall be entered in the minutes of the said directors. All contracts involving the payment of or a liability greater than one thousand dollars shall be reduced to writing and signed by the President or Vice-President and Secretary, and shall be under the seal of the company.

(2) No officer shall have any power to sign, issue or deliver any accomodation paper.

ARTICLE IX. *Amendment.*

These By-Laws may be altered, amended or repealed only by the vote of three-fourths in interest of the holders of preferred stock of the company at a meeting of stockholders, regular or special, on thirty days' notice of the proposed change therein given in writing to each stockholder by the Secretary of the company.

## EXHIBIT B.

THE UNDERSIGNED, being all of the parties to an agreement entered into September 22nd, 1910, hereby consent and agree that the same may be modified to the following effect, to wit,—

That the number of shares of Preferred stock of the Corporation proposed therein be changed from twenty-one to twenty; that five shares of said Preferred stock be alloted to each of the parties to said contract and that the remaining five shares be alloted to the Brake Liners Company, of Wilmington, Delaware, or its nominee, which

Corporation is now to become a party to said contract and subject to its terms.

The Common Stock is to be alloted, fifteen per cent. to Conrad Hubert, fifteen per cent. to said Brakers Liners Company, and the balance, seventy per cent., to Thermoid Rubber Company and H. W. Johns-Manville Company to be disposed of between them; and the number of Directors is to be four instead of three.

The certificate of proposed corporation and the By-Laws shall be modified to conform to this agreement.

All this subject to the assignment to said Corporation by the said Brake Liners Company of all patents and applications owned or to be owned by it.

It is further understood that a license is to be issued by the Corporation to be organized to the Brake Liners Company, or its nominee, similar in terms to any license issued to the other parties hereto, or their nominees.

New York, March 6, 1911.

H. W. Johns-Manville Co.,
T. F. Manville, *Prest.*

Thermoid Rubber Co.,
Jos. O. Stokes, *Prest.*

Conrad Hubert,

The Brake Liners Co.,
By Mitford C. Massie,
*Attorney-in-Fact.*

The Brake Liners Co.,
By William T. Bonner,
*Presdt.*

## EXHIBIT C.

### License Agreement.

This Agreement, made in duplicate this second day of May, 1911, by and between the Asbestos Brake Company, a corporation organized and existing under the laws of the State of New Jersey, hereinafter called the Patentee, and H. W. Johns-Manville Company, a corporation organized and existing under the laws of the State of New York, hereinafter called the Licensee, parties hereto, Witnesseth: that

Whereas, the Patentee is the owner of certain letters Patent as follows:— United States Letters Patent No. 903,049 dated November 3, 1908, for Friction Member; No. 931,988, dated August 24, 1909, for Friction Member, and No. 980,481 dated January 3, 1911, for Brakes and Brake Lining; and of certain inventions for which applications for Letters Patent of the United States have been filed, as follows:—Serial No. 400,208, filed November 1st, 1907, for Brake Lining: Serial No. 411,599, filed January 20th, 1908, for Improvement in Brakes and Linings Therefor; Serial No. 441,207, filed June 30th, 1908, for Brake Blocks; Serial No. 445,716, filed July 28th, 1908, for Brake Bands; Serial No. 503,625, filed June 22nd, 1909, for Brakes and Brake Linings; Serial No. 509,880, filed July 27th, 1909, for Brakes and Brake Lining; Serial No. 517,705, filed September 14th, 1909, for Brake Band Linings; and Serial No. 526,432, filed November 5th, 1909, for Asbestos Brake Bands; and

Whereas, the Licensee is desirous of acquiring a license thereunder:

Now, Therefore, for and in consideration of the sum of one dollar by each party to the other paid at or before the ensealing and delivery of these presents the receipt of which is hereby acknowledged, and of the covenants of

this agreement, the parties hereto have covenanted and agreed, and do hereby covenant and agree, as follows:

I. The Patentee hereby grants to the Licensee a non-exclusive license to manufacture, sell and use asbestos brake bands or linings or frictions members embodying or containing the inventions shown, described and claimed in said Letters Patent, and other Letters Patent which may hereafter be acquired or controlled by the Patentee, and the inventions of the said applications for Letters Patent, and other applications for Letters Patent which may hereafter be acquired or controlled by the Patentee, and to sell and use any such asbestos brake bands or linings or frictions members made by or purchased from any other Licensee licensed under said Letters Patent, within and throughout the United States, to the full and of the term or terms for which the said Letters Patent have been or may be granted, reissued or extended. This license is personal, non-assignable and non-transferable, except to successors to substantially the entire goodwill and business of the Licensee.

II. The Patentee shall enforce the monopoly conferred by its patents against all infringers thereof, to the best of its ability.

III. All sales of asbestos brake bands or linings or frictions members embodying or containing the said inventions, except such as are made to other licensees of the Patentee, shall be at prices now or hereafter established by the Patentee, which prices are set forth in the "Schedule of Prices" attached to and made a part hereof, or may be set forth in other and amended Schedules of Prices issued by the Patentee and delivered to the Licensee.

IV. The Licensee shall on or about the first day of each month during the term of this agreement render unto the Patentee a sworn statement in writing showing the number of feet of asbestos brake bands or linings or frictions mem-

bers embodying or containing said inventions, or any of them, sold and invoiced during the then last preceding month, and the persons to whom such asbestos brake bands or linings or friction members have been sold or invoiced, and the selling prices, and discounts at which the said asbestos brake bands or linings or frictions members have been sold or invoiced, and shall, within ten days after said first day of each month, pay to the patentee royalties of ten per centum (10%) of the selling prices, less discount, on each and all of the said asbestos brake bands or linings or frictions members so sold or invoiced, except such as may have been sold or invoiced to other licensees of the Patentee. The licensee shall keep separate accounts of said asbestos brake bands or linings or frictions members, and these accounts shall be open to the inspection of the Patentee, or its accredited representative, at all times during business hours. The Licensee shall send daily to the Patentee copies of all bills or invoices rendered to customers or to branch-stores, a consignment to a branch-store to be considered a sale, and to be billed at jobbers' prices, less such commission as is paid to said branch-store, not to exceed ten per centum (10%); the royalties payable on such consignments to be computed at such jobbers' prices, less such commissions. No rebates, drawbacks, or other concessions of any kind shall be granted or made by the Licensee without the consent in writing of the Patentee first had and obtained.

V. Should the licensee violate any of the covenants of this agreement as to prices, discounts, commissions, rebates, drawbacks or other concessions to customers, the Licensee shall pay to the Patentee, not as a penalty, but as liquidated damages, a sum equal to three times the price reduction, commission, rebate, drawback or other concession proved to have been made by the Licensee, and also, in addition thereto, all legal expenses, costs and counsel fees incurred by the Patentee in enforcing this

clause of this agreement, if such litigation is necessary to so enforce it; provided, that no such payment of damages shall become due until the Licensee has first been served with written notice of the alleged violation of this license, and a written statement of the facts on which the charge of such violations is based, and has had thirty days in which to make answer, and submit affidavits and arguments in defense or denial of such charge. For repeated violations, such as are referred to in the present clause of this agreement, or for repeated failures of the Licensee to keep, observe and perform any or all of the other covenants of this agreement, this agreement may be cancelled by the Patentee by written notice sent by registered mail to the last known address of the Licensee; provided, however, that such cancellation of this agreement shall not relieve the Licensee from the payment of all or any unpaid royalties due at the time of the cancellation of this agreement.

VI. The Licensee shall affix to or mark upon each of said asbestos brake bands or linings or frictions members, a Patent mark, in compliance with the statutes, including all Letters Patent included in this agreement, the inventions of which are embodied or contained in each of said asbestos brake bands or linings or friction members.

SIGNED, SEALED AND DELIVERED by the parties hereto the day and year above written.

THE ASBESTOS BRAKE CO.,
Harry R. Wilson,
*President.*

Attest:
FRANCIS C. LOWTHORP,
*Secretary.*

H. W. JOHNS-MANVILLE CO., (SEAL)
T. F. Manville, *Prest.*

Attest:
H. E. MANVILLE, (SEAL)
*Sec'y.*

*Bill of Complaint—Exhibit C.*

## SCHEDULE OF PRICES.

### Brake Lining.

| | Widths 1/8" per ft. | 5/32" per ft. | Thickness 3/16" per ft. | 1/4" per ft. |
|---|---|---|---|---|
| 1" | $0.40 | $0.45 | $0.50 | $0.70 |
| 1¼" | .50 | .55 | .60 | .80 |
| 1½" | .60 | .65 | .70 | .90 |
| 1¾" | .70 | .75 | .80 | 1.00 |
| 2" | .80 | .85 | .90 | 1.20 |
| 2¼" | .90 | .95 | 1.00 | 1.30 |
| 2½" | 1.00 | 1.05 | 1.10 | 1.50 |
| 2¾" | 1.10 | 1.15 | 1.20 | 1.60 |
| 3" | 1.20 | 1.25 | 1.30 | 1.70 |
| 4" | 1.40 | 1.55 | 1.70 | 2.20 |

Discounts on foregoing prices.

| | | |
|---|---|---|
| To Brake Manufacturers who shall be designated from time to time, by the Board of Directors of the Patentee, | 80% | 2% 10 days; 30 days net. |
| To Car Builders | 75% | 2% 10 days; 30 days net. |
| To Jobbers | 50% | 2% 10 days; 30 days net. |
| To Dealers | 33 1/3% | |

Freight allowed to all points east of the Mississippi River.

Mississippi River freight allowance on all points west.

Express-Charged.

## EXHIBIT D.

### License Agreement.

This Agreement, made in duplicate this second day of May, 1911, by and between The Asbestos Brake Company, a corporation organized and existing under the laws of the State of New Jersey, hereinafter called the Patentee, and Thermoid Rubber Company, a corporation organized and existing under the laws of the State of New Jersey, hereinafter called the Licensee, parties hereto, Witnesseth: that

Whereas, the Patentee is the owner of certain Letters Patent as follows:—United States Letters Patent No. 903,049, dated November 3, 1908, for Friction Member; No. 931,988, dated August 24, 1909, for Friction Member, and No. 930,481, dated January 3, 1911, for Brakes and Brake Lining; and of certain inventions for which applications for Letters Patent of the United States have been filed, as follows:—Serial No. 400,208, filed November 1st, 1907, for Brake Lining; Serial No. 411,599 filed January 20th, 1908, For Improvement in Brakes and Lining Therefor; Serial No. 441,207, filed June 30th, 1908, for Brake Blocks; Serial No. 445,716, filed July 28th, 1908, for Brake Bands; Serial No. 503,625, filed June 22nd, 1909, for Brakes and Brake Linings; Serial No. 509,890, filed July 27th, 1909, for Brakes and Brake Lining; Serial No. 517,705, filed September 14th, 1909, for Brake Band Linings; and Serial No. 526,432, filed November 5th, 1909, for Asbestos Brake Bands; and

Whereas, the Licensee is desirous of acquiring a license thereunder;

Now, Therefore, for and in consideration of the sum of one dollar by each party to the other paid at or before the ensealing and delivery of these presents, the receipt of which is hereby acknowledged, and of the covenants of this

agreement, the parties hereto have covenanted and agreed, and do hereby covenant and agree, as follows:

I. The Patentee hereby grants to the Licensee a non-exclusive license to manufacture, sell and use asbestos brake bands or linings or friction members embodying or containing the inventions shown, described and claimed in said Letters Patent, and other Letters Patent which may hereafter be acquired or controlled by the Patentee, and the inventions of the said applications for Letters Patent, and other applications for Letters Patent which may hereafter be acquired or controlled by the Patentee, and to sell and use any such asbestos brake bands or linings or frictions members made by or purchased from any other Licensee licensed under said Letters Patent, within and throughout the United States to the full end of the term or terms for which the said Letters Patent have been or may be granted, reissued or extended. This license is personal, non-assignable and non-transferable, except to successors to substantially the entire goodwill and business of the licensee.

II. The Patentee shall enforce the monopoly conferred by its patents against all infringers thereof, to the best of its ability.

III. All sales of asbestos brake bands or linings or friction members embodying or containing the said inventions, except such as are made to other licensees of the Patentee, shall be at prices now or hereafter established by the Patentee, which prices are set forth in the "Schedule of Prices" attached to and made a part hereof, or may be set forth in other and amended Schedules of Prices issued by the Patentee and delivered to the Licensee.

IV. The Licensee shall on or about the first day of each month during the term of this agreement render unto the Patentee a sworn statement in writing showing the number of feet of asbestos brake bands or linings or fric-

tions members embodying or containing said inventions, or any of them sold and invoiced, during the then last preceding month, and the persons to whom such asbestos brake bands or linings or frictions members have been sold or invoiced, and the selling prices and discounts at which the said asbestos brake bands or linings or frictions members have been sold or invoiced, and shall, within ten days after said first day of each month, pay to the Patentee royalties of ten percentum (10%) of the selling prices, less discount, on each and all of the said asbestos brake bands or linings or frictions members so sold or invoiced, except such as may have been sold or invoiced to other licensees of the Patentee. The Licensee shall keep separate accounts of said asbestos brake bands or linings or frictions members, and these accounts shall be open to the inspection of the Patentee, or its accredited representative, at all times during business hours. The Licensee shall send daily to the Patentee copies of all bills or invoices rendered to customers or to branch-stores, a consignment to a branch store to be considered a sale, and to be billed at jobbers' prices, less such commission as is paid to said branch-store, not to exceed ten per centum (10%); the royalties payable on such consignments to be computed at such jobbers' prices less such commissions. No rebates, drawbacks, or other concessions of any kind shall be granted or made by the Licensee without the consent in writing of the Patentee first had and obtained.

V. Should the Licensee violate any of the covenants of this agreement as to prices, discounts, commissions, rebates, drawbacks or other concessions to customers, the Licensee shall pay to the Patentee, not as a penalty, but as liquidated damages, a sum equal to three times the price reduction, commission, rebate, drawback or other concession proved to have been made by the licensee, and also in addition thereto, all legal expenses, costs and counsel fees incurred by the Patentee in enforcing this

clause of this agreement, if such litigation is necessary to so enforce it; provided that no such payment of damages shall become due until the Licensee has first been served with written notice of the alleged violation of this license, and a written statement of the facts on which the charge of such violations is based, and has had thirty days in which to make answer, and submit affidavits and arguments in defense or denial of such charge. For repeated violations, such as referred to in the present clause of this agreement, or for repeated failures of the Licensee to keep, observe and perform any or all of the other covenants of this agreement, this agreement may be cancelled by the Patentee by written notice sent by registered mail to the last known address of the Licensee; provided, however that such cancellation of this agreement shall not relieve the Licensee from the payment of all or any unpaid royalties due at the time of the cancellation of this agreement.

VI. The Licensee shall affix to or mark upon each of said asbestos brake bands or linings or frictions members, a Patent mark, in compliance with the statutes, including all Letters Patent included in this agreement, the inventions of which are embodied or contained in each of said asbestos brake bands, or linings or frictions members.

SIGNED, SEALED AND DELIVERED by the parties hereto the day and year first above written.

THE ASBESTOS BRAKE CO.,
Harry R. Wilson, (SEAL)
*President.*

Attest:
FRANCIS C. LOWTHORP,
*Secretary.*

THERMOID RUBBER CO.,
Jos. O. Stokes, (SEAL)
*Prest.*

Attest:
ROBERT J. STOKES,
*Sec.*

*Bill of Complaint—Exhibit D.*

## SCHEDULE OF PRICES.

### Brake Linings.

| | Widths | Thickness | | |
|---|---|---|---|---|
| | 1/8″ per ft. | 5/32″ per ft. | 3/16″ per ft. | 1/4″ per ft. |
| 1″ | $0.40 | $0.45 | $0.50 | $0.70 |
| 1¼″ | .50 | .55 | .60 | .80 |
| 1½″ | .60 | .65 | .70 | .90 |
| 1¾″ | .70 | .75 | .80 | 1.00 |
| 2″ | .80 | .85 | .90 | 1.20 |
| 2¼″ | .90 | .95 | 1.00 | 1.30 |
| 2½″ | 1.00 | 1.05 | 1.10 | 1.50 |
| 2¾″ | 1.10 | 1.15 | 1.20 | 1.60 |
| 3″ | 1.20 | 1.25 | 1.30 | 1.70 |
| 4″ | 1.40 | 1.55 | 1.70 | 2.20 |

Discounts on foregoing prices.

| | | |
|---|---|---|
| To Brake Manufacturers who shall be designated, from time to time, by the Board of Directors, of the Patentee, | 80% | 2% 10 days, 30 days net. |
| To Car Builders | 75% | 2% 10 days, 30 days net. |
| To Jobbers | 50% | 2% 10 days, 30 days net. |
| To Dealers | 33 1/3% | |

Freight allowed to all points east of the Mississippi River.

Mississippi River freight allowance on all points west.

Express-Charged.

## ANSWER OF H. W. JOHNS-MANVILLE COMPANY.

Filed February 19, 1920.

The answer of H. W. Johns-Manville Company, defendant, to the bill of complaint of Mitford C. Massie and The Brake Liners Company, complainants.

1. This defendant admits the allegations of paragraph 1 of the bill of complaint.

2. This defendant admits the making of the agreement between Conrad Hubert, this defendant and Thermoid Rubber Company, bearing date September 22, 1910, presumably referred to in paragraph 2 of the bill of complaint, and prays reference to the said contract for the contents thereof.

3. This defendant admits that there were annexed to said agreement and intended to form a part thereof forms for license agreements, certificate of incorporation and by-laws, as alleged in paragraph 3 of the said bill of complaint, and prays reference to the originals thereof for the contents thereof.

4. This defendant admits that at the time of the making of the aforesaid agreement the said complainant, The Brake Liners Company, was the owner of divers other applications for United States letters patent covering inventions in asbestos brake bands, linings and friction members, and that negotiations resulted in an agreement between the said The Brake Liners Company, Conrad Hubert, this defendant and the Thermoid Rubber Company by which the said complainant, The Brake Liners Company, became a party to the formation of the said The Asbestos Brake Company, substantially as set forth in paragraph 4 of the said bill of complaint, but this defendant shows that said negotiations were opened by the said complainant, The Brake Liners Company, or in its behalf, and this defendant prays reference to the said

agreement resulting from such negotiations for the terms thereof. This defendant admits that the original agreement between the said Conrad Hubert, this defendant and Thermoid Rubber Company remained in form and effect except as modified by the agreement between the said complainant, The Brake Liners Company, and said Conrad Hubert, this defendant and the Thermoid Rubber Company, and further admits that by mutual consent of the parties the authorized capital common stock of the said The Asbestos Brake Company was limited to $10,000, divided into 100 shares of the par value of $100 each.

5. This defendant admits the allegations of paragraph 5, but prays reference to the charter of the said The Asbestos Brake Company for greater certainty as to the contents thereof.

6. This defendant admits that shortly after the incorporation of said The Asbestos Brake Company it was duly organized by the adoption of by-laws (reference to which for certainty as to the contents thereof this defendant prays reference) and by the election of temporary directors and officers who, at the request of the said parties in interest, duly authorized the grant of licenses to this defendant, Thermoid Rubber Company, Auto Improvement Company and The Brake Liners Company, as designed by said agreement, the several parties thereto having assigned their said applications for patents to the said The Asbestos Brake Company during the month of April, 1911. This defendant admits that by instruments in writing, executed by the then secretary and president of the said The Asbestos Brake Company, license agreements were made as authorized with this defendant and the Thermoid Rubber Company, and this defendant prays reference to such license agreements for the contents thereof. This defendant shows, however, that the authorizing of said license agreements and the making thereof with this defendant and the said Thermoid Rubber

Company were part of the plan contemplated by said agreement and were upon the express understanding between the parties thereto that they were to become finally effective only in the event that the conditions contemplated by the plan should be brought about, and such license agreements between the said The Asbestos Brake Company and this defendant and the Thermoid Rubber Company were not intended to and did not become binding upon the licensees because of the failure of the said plan, and subsequently the royalties mentioned in said license agreements were, with the concurrence of the parties to the plan, definitely suspended, as will hereinafter more particularly appear. This defendant believes it to be true that similar license agreements were tendered to the said Conrad Hubert, for the Auto Improvement Company, and to the complainant The Brake Liners Company, and this defendant admits that the said complainant, The Brake Liners Company, was without capital or facilities for the manufacture and sale of the goods referred to in said license agreements and never nominated to the said The Asbestos Brake Company any licensee to take such license. This defendant further says that the said complainant, The Brake Liners Company, was not at any time engaged in the manufacture and sale of goods referred to in said license agreements, but was merely the holder of certain patents which were, in pursuance of the plan aforesaid, transferred to the said The Asbestos Brake Company, and, so far as this defendant knows, it was never expected by any party to the said plan that the said complainant, The Brake Liners Company, should itself engage in the manufacture and sale of goods referred to in said license agreements.

7. This defendant admits the allegations of paragraph 7 of the said bill of complaint.

7½. This defendant admits the allegations of paragraph 7½ of the said bill of complaint.

8. This defendant admits that interference proceedings in the United States Patent Office were conducted to determination, and that such proceedings resulted in the granting to the persons first ascertained to be the inventors of the inventions involved of divers patents covering asbestos brake bands and liners, as alleged in paragraph 8 of said bill of complaint. This defendant further admits that one of the patents so granted was patent No. 993031, issued on the application of one Clyde J. Coleman, on May 23, 1911, and was owned by said Conrad Hubert and assigned by him to said The Asbestos Brake Company. This defendant admits that the claims under said patent were very broad, covering practically all brake bands or liners of which woven asbestos forms a component part or element. This defendant shows that the validity of said patent was never beyond question. This defendant admits that other patents for more or less specific inventions for asbestos brake bands and linings and friction members were from time to time issued upon the other applications for patents owned respectively by the parties joined in the formation of The Asbestos Brake Company and became the sole property of the said The Asbestos Brake Company, among them being a number of patents granted on applications owned by the said complainant, The Brake Liners Company, and also the said patent No. 993031, and other patents and applications for patents, but this defendant denies that the said patents and license agreements with this defendant and the said Thermoid Rubber Company constituted an exceedingly valuable property. This defendant admits that such patents and contracts are the only assets of the said The Asbestos Brake Company.

9. Answering the allegations of paragraph 9 of the said bill of complaint this defendant says that brake bands and linings and friction members, made as described and claimed in patent No. 993031 and in several other of the

patents and patent applications assigned to the said The Asbestos Brake Company, were in universal use when the said The Asbestos Brake Company was organized and that at that time this defendant, the Thermoid Rubber Company and many other concerns were engaged in the business of making and selling such products in active competition one with another, which competition the parties to the said agreement for the organization of the said The Asbestos Brake Company hoped to curb and control, for the benefit of the parties to said agreement, through the enforcement of the patents owned by the parties to the said agreement and assigned by them to the said The Asbestos Brake Company, thus forcing competitors to take out licenses with royalties substantially as established in the license agreements contemplated by the original agreement and illustrated by the recent agreements with this defendant and the Thermoid Rubber Company, but it was never contemplated by the parties to said agreement or intended that this defendant or the Thermoid Rubber Company should be subject to the terms of said license agreements and the royalties to be imposed thereby except under the conditions contemplated by the parties to said agreement. Defendant further answering says that, by reason of the failure of the said plan as hereinafter more particularly set forth, this defendant and the Thermoid Rubber Company have continued to manufacture and sell brake bands, linings and friction members in active competition with each other and with other competitors, in entire disregard of the royalties prescribed by the said license agreements and without expectation on the part of any of the parties to the said plan for the organization of the said The Asbestos Brake Company that royalties should be paid and under express waiver thereof, with the consent of all of said parties, as hereinafter more particularly set forth. This defendant shows that both this defendant and the Thermoid Rubber Company

have continued a considerable business in the manufacture and sale of brake bands and linings and friction members as they did before the making of the said agreement, but this defendant denies that such business was in any respect due to the patents in the license agreements described and further denies that such business since the making of the said agreement has been subject to the terms thereof or subject to the royalties mentioned in the aforesaid license agreements between this defendant and the Thermoid Rubber Company and the said The Asbestos Brake Company. This defendant denies the allegations of paragraph 9 of said bill of complaint except as herein admitted or explained.

10. This defendant denies the allegations of paragraph 10 of the bill of complaint, except that this defendant admits that it has not accounted to the said The Asbestos Brake Company for royalties under the said pretended license agreement.

This defendant shows that the formation of the said The Asbestos Brake Company was for the purpose of having that Company own and hold all patents for the making of asbestos brake bands and other brake bands and linings and friction members, and licensing manufacturers thereof, under the patents to be owned and controlled by the said The Asbestos Brake Company, and that said proposed license agreement should also fix the prices at which the licensees should sell the said brake bands, linings and friction members; that the manufacturers who refused to obtain and operate under proposed license agreements from said The Asbestos Brake Company be prosecuted for infringement of said patents; that by this method prices of said brake bands, linings and friction members would be maintained and a monopoly of the business would be procured; that the royalties provided for in the said proposed license agreement were based upon the ability of the parties interested to

maintain in the market the prices appended to said license agreements; that said prices were only tentative, as same could not be sustained in the competitive market; that soon after the decision to form said The Asbestos Brake Company, for the purposes aforesaid, a British patent, No. 7900, taken out in the year 1896 by one Hutchings, was discovered; that said British patent, which provided for the use of asbestos in the woven tape form, was so broad in its disclosures that it raised a question as to the validity of the broad claims for which the parties interested in the formation of The Asbestos Brake Company were contending in the pending applications for patents, particularly No. 993031; that before and in the meantime many persons and corporations had engaged in the manufacture of brake bands, linings and friction members, and the sale thereof had been established upon a competitive basis; that The Asbestos Brake Company was unable to prevail upon outside competitors to acknowledge the validity of its patents and enter into license agreements with it in the form of the proposed license agreement ostensibly made with this defendant and the proposed license agreement ostensibly made with the Thermoid Rubber Company; that the patent attorneys of The Asbestos Brake Company urged that Company to put its patent claims to the test of suit against an infringer but The Asbestos Brake Company had no money with which to institute any infringement suits and its stockholders never came to an agreement to contribute money for this purpose; that the directors were doubtful as to the outcome of patent litigation and believed that there was little, if any, chance of establishing the monopoly planned by organizing said The Asbestos Brake Company; that during the period immediately succeeding the organization of The Asbestos Brake Company doubts had arisen as to whether the plan of uniform prices under said patents and said proposed license agreements, includ-

ing as they did the agreement to maintain prices, were not violative of the statute of the United States of America known as the Sherman Anti-Trust Act, and illegal and void; that it was apparent that the licensees could not pay the license fees or royalties provided in said proposed license agreements in view of the competitive conditions existing at the time of the making of the said agreements, and that the tentative prices annexed to said agreements could not and would not be put in effect until outside companies had either accepted licenses or the market could be controlled by enforcement of the patents; that in view of said situation a directors' meeting of The Asbestos Brake Company was called for October 14, 1911, and the parties interested, including the representative of the complainants, met in New York City on said date and, after full discussion of the situation, rescinded the provisions of the license agreement issued to this defendant and agreed that until the conditions contemplated by the parties to the said agreement for the organization of the said The Asbestos Brake Company should be realized no royalties should be paid; that the said complainant, The Brake Liners Company, participated in and concurred in the rescission of the said license agreements and the suspension of all royalties thereunder and from that time until the filing of the bill of complaint in this cause neither the said complainant, The Brake Liners Company, nor the said complainant, Mitford C. Massie, have, nor has either of them, made any suggestion of dissent from the action then taken, or in any way made any claim that either this defendant or the Thermoid Rubber Company were subject, in the conduct of their business, to the royalties prescribed by the aforesaid license agreements.

11. This defendant admits that the said The Asbestos Brake Company has granted no other licenses than to this defendant and the said Thermoid Rubber Company. This defendant denies that for that reason, or because of any

failure of this defendant or of the Thermoid Rubber Company to pay royalties, the said The Asbestos Brake Company has been unable to pay dividends to its stockholders. This defendant shows the truth to be that the said plan under which the said The Asbestos Brake Company was organized has failed and has been abandoned by the parties thereto, including the said complainants.

12. This defendant admits that since the first meeting of the stockholders of the said The Asbestos Brake Company no meeting of such stockholders has been had or called. This defendant further admits that for years past no meeting of the directors has been held and that no report of the condition and affairs of the Company has been made by the president or treasurer to the directors or stockholders; that no action has been taken by the officers or directors except the payment of the annual franchise tax due the State of New Jersey. This defendant denies the remaining allegations of paragraph 12 of the said bill of complaint. This defendant shows the truth to be that by common agreement of the parties interested in the organization of the said The Asbestos Brake Company, including the said complainants, there has been complete abandonment of the said plan and a rescission of the license agreements and a suspension of all royalties required thereby. This defendant shows that no request has ever been made by the said complainant, Mitford C. Massie, on this defendant, or, so far as it knows, upon the said defendant Thermoid Rubber Company to perform the conditions of said license agreements, or to undertake the enforcement of the patents assigned, pursuant to the said plan, to the said The Asbestos Brake Company against manufacturers of brake bands, linings and friction members covered by said patents. On the contrary this defendant shows that the effort made shortly after the organization of the said The Asbestos Brake Company to induce manufacturers of brake bands, linings

and friction members, in competition with this defendant and the said Thermoid Rubber Company, to take out licenses under said patents assigned pursuant to the plan to the said The Asbestos Brake Company failed, and by common consent of all persons interested in the said The Asbestos Brake Company, including the said complainants, such competitive manufacturers have been permitted, without institution by the said The Asbestos Brake Company of patent infringement cases, to continue their competition as before, and the whole business of manufacturing brake bands, linings and friction members has been conducted by this defendant, the Thermoid Rubber Company and their competitors as it was before said plan was set on foot, in wide open competition and without regard to the said plan or to the commercial monopoly intended to be secured thereby, or to the high and uniform prices which were to be forced upon all manufacturers with accompanying royalty payments for the benefit of those interested in the said The Asbestos Brake Company.

13. This defendant has no information as to the time when the president of the said The Asbestos Brake Company obtained from the said complainant, Mitford C. Massie, secretary of said Company, the possession of the minutes of stockholders and directors, but this defendant shows that the said complainant, Mitford C. Massie, secretary of the Company, is a non-resident of this State and that the keeping of the minute book of said Company by the president at the office of the said Company is not in contravention of the by-laws of the Company, but in accordance with the laws of this State.

14. This defendant denies that this defendant has at any time conspired with the said Thermoid Rubber Company, or with T. Frank Manville and Joseph O. Stokes, or anybody else. This defendant admits that this defendant and the said Thermoid Rubber Company together own one-half of the preferred stock of said Company in

equal parts. This defendant shows that the other half of the preferred stock of said Company is owned, one-half by the said complainant, The Brake Liners Company, and one-half by said Conrad Hubert, and that such division of the ownership of the preferred stock and of the voting power belonging thereto is in accordance with the plan aforesaid and as agreed upon by all the parties in interest. This defendant shows that, because of the failure of the plan and its abandonment by agreement of the partes in interest, there has been a suspension for about eight years of the corporate activities and that without protest or complaint from any party interested in the said The Asbestos Brake Company. This defendant denies that any application has been made to the board of directors of said Company, or to any officer or stockholder of said Company, to institute this suit, and further denies that such a suit, if it had been instituted by the said directors, would be so conducted as to defraud any stockholder of said Company.

15. This defendant further answering shows that the said complainants originally participated in the rescission of the license agreements, the suspension of royalties, and the abandonment of the plan under which the said The Asbestos Brake Company was organized, and that for nearly eight years said complainants have acquiesced in such abandonment without protest of any kind, and have at no time given any notice of any intention on their part or on the part of anyone interested in the said complainant, The Brake Liners Company, to assert any claim by reason of the said plan or of the license agreements, or of the royalties therein mentioned, against this defendant or against the said Thermoid Rubber Company, arising out of the manufacture and sale by this defendant or by the said Thermoid Rubber Company of brake bands, linings and friction members, and have permitted this defendant and the said Thermoid Rubber Company to con-

tinue their business of manufacturing and selling the brake bands, linings and friction members as before, in competition with each other and with all the world, without notice of adverse claim of any kind whatsoever until the filing of the bill herein. This defendant is advised and alleges that said complainants are, under said circumstances, equitably estopped to now assert, and cannot in equity and good conscience assert, the claims set forth in said bill of complaint.

16. This defendant further answering says that the said complainants have by their long silence, with reference to the claims set forth in the said bill of complaint against this defendant and the said Thermoid Rubber Company, thereby permitting this defendant and the said Thermoid Rubber Company to continue their business of manufacturing and selling brake bands, linings and friction members in competition with each other and with all the world, and by their failure to assert any claim to impose the payment of royalties, as now attempted by their bill of complaint, during a period of about eight years, following agreement on their part with this defendant and said Thermoid Rubber Company to rescind the license agreements aforesaid and to suspend all royalties thereunder, been guilty of laches and may not now ask of a court of equity the relief prayed for by the bill of complaint.

17. This defendant further shows that it is now advised that the original plan for the merging of the ownership of the patents covering the manufacture and sale of brake bands, linings and friction members, as disclosed by the original agreement between the said Hubert, this defendant and the Thermoid Rubber Company, and the subsequent agreement taking in the said complainant, The Brake Liners Company, to be consummated by the organization of the said The Asbestos Brake Company and the assignment of patents to it and the license agree-

ments to be made by it for the accomplishment of a commercial monopoly through the enforcement of said patents and the maintenance of uniform prices by all manufacturers, was violative of the statute of the United States of America known as the Sherman Anti-Trust Act and was illegal and void, and this defendant is advised that no party to said agreement can enforce in this Court any rights thereunder or by reason of the organization of the said The Asbestos Brake Company or the assignment to or ownership or patents by that Company within the scope of the original plan, and that the said complainants are not entitled to, by reason of such illegality and their original and continued participation therein, any accounting or other relief prayed for by them in this cause.

18. This defendant denies that the said complainants are entitled to the relief prayed for by them in their said bill of complaint, or any of it, and prays that it may be hence dismissed, with its costs and charges in this behalf most wrongfully sustained.

PITNEY, HARDIN & SKINNER,
*Solicitors and of Counsel for Defendant*
*H. W. Johns-Manville Company.*

## ANSWER OF THE DEFENDANT, THERMOID RUBBER COMPANY.

Filed February 19, 1920.

The defendant, Thermoid Rubber Company, for answer to the bill of complaint of the complainants, says:

1. It admits the allegations of the first paragraph of the bill of complaint.

2. It admits the allegations of the second paragraph of the bill of complaint, but calls for the production of the contract therein referred to, for greater accuracy as to the terms thereof.

3. It admits the allegations of the third paragraph of the bill of complaint, and prays reference to the originals of the agreements, documents and papers therein referred to for greater certainty as to the terms thereof.

4. It admits the allegations of the fourth paragraph of the bill of complaint, except the statement therein made that Conrad Hubert, H. W. Johns-Manville Company and this defendant entered into the negotiations referred to in said paragraph with the Brake Liners Company, and avers that said negotiations were opened by the said Brake Liners Company.

5. It admits the allegations of the fifth paragraph of the bill of complaint.

6. It admits the allegations of the sixth paragraph of the bill of complaint, but avers that the license agreement referred to therein as having been made between the Asbestos Brake Company and this defendant was only a part of a plan, hereinafter set forth at length, and that it was the express understanding that said license agreement was to become effective only in the event of the consummation of said plan, and that subsequently said plan failed and said license agreement never became effective, as will more fully hereinafter appear.

7. It admits the allegations of the seventh paragraph of the bill of complaint.

7½. It admits the allegations of the paragraph numbered seven and one-half in the bill of complaint.

8. It admits that interference proceedings in the United States Patent Office between the said patent applications, owned respectively by Conrad Hubert, H. W. Johns-Manville Company were conducted to determination in the names of the applicants for said patents; and that said proceedings resulted in the granting to the persons ascertained to have been the first inventors of the inventions involved in said interference proceedings and their assigns, divers patents covering asbestos brake bands or liners.

It admits the allegations contained in the eighth paragraph of the bill of complaint with reference to the issue of patent number 993,031, and the assignment thereof to the Asbestos Brake Company.

It admits that the claims of said patent cover practically all brake bands or liners of which woven asbestos forms a component part or element.

It avers that the validity of said patent was always in question.

It admits that divers other patents for more or less specific inventions in asbestos brake bands or liners and friction elements, were, from time to time, issued upon the other applications for patents owned, respectively, by the parties so joining in the formation of the Asbestos Brake Company and became the sole property of said corporation by assignments.

It admits that the said patents and applications for patents and the purported license agreements with the H. W. Johns-Manville Company and this defendant constituted the only assets of said Asbestos Brake Company, but denies that they make an exceedingly valuable property.

9. It denies the allegations contained in the ninth paragraph of the bill of complaint to the effect that the public quickly appreciated the great value of brake bands or linings and friction members made as described in said patent number 993,031, and in several others of the patents and patent applications owned by the Asbestos Brake Company, and says that before the said Asbestos Brake Company was incorporated brake bands, linings and friction members made as described in patent No. 993,031 and in several other patents and patent applications afterwards assigned to said Asbestos Brake Company were in general use and were being made by this defendant and others in active competition, and the formation of the Asbestos Brake Company was for the purpose of stopping said competition and through enforcement of said patents compel manufacturers to take out license agreements and agree to maintain high prices for said brake bands, linings and friction members, in contravention of the statutes of the United States and the State of New Jersey.

It denies the allegations made in said ninth paragraph that an enormous and exceedingly profitable business of making and selling such products has been built up and enjoyed by this defendant under the protection of said patents and purported licenses to make and sell said products granted to it by said Asbestos Brake Company.

This defendant avers that such business as this defendant has created in the manufacture and sale of brake bands, linings, and friction members was obtained under competitive conditions and without assistance from the patents and patent applications mentioned and referred to in the said ninth paragraph of the bill of complaint.

10. It denies the allegations of paragraph ten of the bill of complaint, except that this defendant admits that it has not accounted to the Asbestos Brake Company for royalties under the said pretended license agreement. This

defendant avers as its reasons for such action, that the purpose of the incorporation of said Asbestos Brake Company was to have the said Asbestos Brake Company own and hold all patents for the making of asbestos brake bands and other brake bands and linings and friction members and license manufacturers thereof under the patents to be owned and controlled by the said Asbestos Brake Company; that said proposed license agreement should also fix the prices at which the licensee should sell the said brake bands, linings and friction members; that manufacturers who refused to obtain and operate under the proposed license agreements should be prosecuted for infringement of said patents; that by this method prices of said brake bands, linings and friction members would be maintained and a monopoly of the business would be procured; that the royalties provided for in the said proposed license agreements were based upon the ability of the parties interested to maintain in the market the prices appended to said license agreements by the methods and practices above outlined; that said prices appended to said license agreements were only tentative, as said prices could not be sustained in a competitive market; that soon after the decision to form said Asbestos Brake Company, for the purposes aforesaid was made, a British patent, No. 7900, taken out in the year 1896 by one Hutchings, was discovered; that said British patent, which provided for the use of asbestos in the woven tape form, was so broad in its disclosures that it raised a question as to the validity of the broad claims for which the parties interested in the formation of the Asbestos Brake Company were contending in the pending applications for patents, particularly No. 993031; that before and in the meantime many persons and corporations had engaged in the manufacture of brake bands, linings and friction members, and the sale thereof had been established upon a competitive basis; that the Asbestos Brake Company was unable to prevail upon outside com-

petitors to acknowledge the validity of its patents and enter into license agreements with it in the form of the proposed license agreement ostensibly made with this defendant and the proposed license agreement ostensibly made with the H. W. Johns-Manville Company; that the patent attorneys of the Asbestos Brake Company urged the Asbestos Brake Company to put the validity of its patents to suit against some alleged infringer; that said Asbestos Brake Company had no money with which to institute any infringement suits; that its stockholders never came to an agreement to contribute money for this purpose; that the directors were doubtful as to the outcome of patent litigation and the majority of them believed that there was little, if any, chance of establishing the monopoly planned by organizing said Asbestos Brake Company; that during the period immediately succeeding the organization of the Asbestos Brake Company doubts had arisen as to whether the plan of uniform prices under said patents (some of which were coordinate patents) and said proposed license agreements, including as they did the agreement to maintain prices, were not violative of the statute of the United States of America known as the Sherman Anti-Trust Act, (Act, Cong. July 2, 1890; U. S. Comp. St. 1901, p. 3200) and illegal and void; that this defendant was advised by its counsel that said plan and purported license agreement were illegal and void; that it was apparent that the licensees could not pay the license fees or royalties provided in said license agreements in view of the competitive conditions existing at the time of the making of the said agreements, and that the tentative prices annexed to said license agreements could and would not be put in effect until outside companies had either accepted licenses or the market could be controlled by enforcement of the patents; that in view of said situation a directors' meeting of the Asbestos Brake Company was called for October 14, 1911, and the parties interested, including the representative of the com-

plainants, met in New York City on said date and, after full discussion of the situation, rescinded the provisions of the license agreement issued to this defendant and agreed that until the conditions contemplated by the parties to the said agreement for the organization of the said The Asbestos Brake Company should be realized no royalties should be paid; that the said complainant, The Brake Liners Company, participated in and concurred in the rescission of the said license agreements and the suspension of all royalties thereunder and from that time until the filing of the bill of complaint in this cause neither the said complainant, The Brake Liners Company, nor the said complainant, Mitford C. Massie, have, nor has either of them, made any suggestion of dissent from the action then taken, or in any way made any claim that either this defendant or the H. W. Johns-Manville Company were subject, in the conduct of their business, to the royalties prescribed by the aforesaid license agreements.

11. It admits that the directors of said Asbestos Brake Company have granted no other licenses under said patents than those mentioned in the bill of complaint. This dedendant denies that for that reason or because of any failure of this defendant or of the H. W. Johns-Manville Company to pay to the said Asbestos Brake Company royalties, the said Asbestos Brake Company has been unable to pay dividends to its stockholders. This defendant avers that the reason for the failure of said Asbestos Brake Company to pay dividends to its stockholders was that the plan for which the said Asbestos Brake Company was organized failed and was abandoned by the parties interested therein, including the said complainants.

12. It denies the allegations of paragraph 12 of the bill of complaint except the allegations therein made that since the first meeting of the stockholders of the Asbestos Brake Company no meeting of the stockholders has been

held or called; that for years past no meetings of the directors has been held, no report of the conditions and affairs of the company has been made by the President or Treasurer to the stockholders of the company; that no action has been taken by the officers and directors of said company except the payment of the annual franchise taxes due from the company to the State of New Jersey. This defendant says that the reason the said Asbestos Brake Company has remained for so many years in the state of desuetude alleged in the twelfth paragraph of the bill of complaint is that by agreement among all of the parties forming the said Asbestos Brake Company there was a complete abandonment of the plan as heretofore outlined, a rescission of the license agreements and a suspension of the payment of royalties provided for therein. This defendant further says that no request has ever been made by the said complainant, Mitford C. Massie, on this defendant or, so far as it knows, upon the said H. W. Johns-Manville Company, to perform the conditions of said license agreement, nor has any request ever been made to the said Asbestos Brake Company or its directors to attempt to enforce the patents against the persons or corporations manufacturing brake bands, linings, and friction members.

This defendant further says that the efforts made by the said Asbestos Brake Company to induce manufacturers of brake bands, linings and friction members to take out licenses under the patents held by the Asbestos Brake Company in accordance with the plan as heretofore outlined failed, and that with the consent of all the parties interested in said Asbestos Brake Company, including the said complainants, all parties manufacturing said brake bands, linings and friction members have continued to manufacture said products in competition, just as they had done before the incorporation of the said Asbestos Brake Company; that the business of manufacturing said

products has been conducted by this defendant, the H. W. Johns-Manville Company and their competitors in free and open competition, exactly as it was conducted before the conception of said plan relative to the formation of the Asbestos Brake Company, the issue of license agreements, the fixing of high and uniform prices and the maintenance of a commercial monopoly upon said products into which all maufacturers of said products were to be driven by suits against them for the infringement of the patents of said Asbestos Brake Company.

13. It admits that the said Joseph O. Stokes, President of the Asbestos Brake Company, obtained from the complainant, Mitford C. Massie, Secretary of the company, the possession of records of the minutes of the stockholders and directors of the company and still retains possession thereof. It denies that said possession is contrary to the provisions of the by-laws of the company. This defendant says that the reason said records are in the possession of said Joseph O. Stokes is that the said complainant, Mitford C. Massie, was a nonresident of this state and that it was thought advisable that the minute book of said Asbestos Brake Company should be kept by the President of said company within this state, in accordance with the laws of this state.

14. It denies the allegations contained in the fourteenth paragraph of the bill of complaint that this defendant has at any time conspired with the said H. W. Johns-Manville Company or with T. Frank Manville and Joseph O. Stokes or anybody else. This defendant admits that together with the said H. W. Johns-Manville Company it owns one-half of the preferred stock of said Asbestos Brake Company in equal parts. This defendant says that the other half of the preferred stock of said Asbestos Brake Company is owned one-half by the said complainant, the Brake Liners Company, and one-half by the said Conrad Hubert, and that such division of the ownership

of the preferred stock and of the voting power belonging thereto is in accordance with the plan agreed upon by all the parties in interest. This defendant further says that because of the failure of the plan and its abandonment by agreement of the parties in interest in the month of October in the year 1911, the Asbestos Brake Company since that date has been inactive; that no protest or complaint from any party interested in the said Asbestos Brake Company has ever been made until the bill of complaint in this cause was filed. This defendant denies that any application has been made to the Board of Directors of said Asbestos Brake Company to institute this suit and further denies that such a suit, if it had been instituted by the directors, would have been so conducted as to defraud any stockholder of said Asbestos Brake Company.

15. This defendant further answering shows that the complainants originally participated in the rescission of the license agreements, the suspension of royalties, and the abandonment of the plan under which the said The Asbestos Brake Company was organized, and that for over eight years said complainants have acquiesced in such abandonment without protest of any kind, and have at no time given any notice of any intention on their part or on the part of anyone interested in the said complainant, The Brake Liners Company, to assert any claim by reason of the said plan or the license agreements, or of the royalties therein mentioned, against this defendant or against the said H. W. Johns-Manville Company, arising out of the manufacture and sale by this defendant or by the said H. W. Johns-Manville Company of brake bands, linings and friction members, and have permitted this defendant and the said H. W. Johns-Manville Company to continue their business of manufacturing and selling the brake bands, linings and friction members as before, in competition with each other and with all the world, without notice of adverse claim of any kind whatsoever until the

filing of the bill herein. This defendant is advised and alleges that said complainants are, under said circumstances, equitably estopped to now assert, and cannot in equity and good conscience assert, the claims set forth in said bill of complaint.

16. This defendant further answering says that the said complainants have by their long silence, with reference to the claims set forth in the said bill of complaint against this defendant and the said H. W. Johns-Manville Company, thereby permitting this defendant and the said H. W. Johns-Manville Company to continue their business of manufacturing and selling brake bands, linings and friction members in competition with each other and with all the world, and by their failure to assert any claim to impose the payment of royalties, as now attempted by their bill of complaint, during a period of about eight years, following agreement on their part with this defendant and the said H. W. Johns-Manville Company to rescind the license agreements aforesaid and to suspend all royalties thereunder, been guilty of laches and may not now ask of a court of equity the relief prayed for by the bill of complaint.

17. This defendant further shows that it was and is now advised that the original plan for the merging of the ownership of the patents covering the manufacture and sale of brake bands, linings and friction members, as disclosed by the original agreement between the said Hubert, this defendant and the H. W. Johns-Manville Company, and the subsequent agreement taking in the said complainant, The Brake Liners Company, to be consummated by the organization of the said The Asbestos Brake Company and the assignment of patents to it and the license agreements to be made by it for the accomplishment of a commercial monopoly through the enforcement of said patents and the maintenance of uniform prices by all manufacturers, was violative of the statute of the United States

of America known as the Sherman Anti-Trust Act and was illegal and void, and this defendant is advised that no party to said agreement can enforce in this court any rights thereunder or by reason of the organization of the said The Asbestos Brake Company or the assignment to or ownership of patents by that Company within the scope of the original plan, and that the said complainants are not entitled to, by reason of such illegality and their original and continued participation therein, any accounting or other relief prayed for by them in this cause.

18. This defendant denies that the said complainants are entitled to the relief prayed for by them in their said bill of complaint, or any of it, and prays that it may be hence dismissed, with its costs and charges in this behalf most wrongfully sustained.

FRANK S. KATZENBACH, JR.,
*Solicitor for and of Counsel with Defendant,*
*Thermoid Rubber Company.*

## REPLICATION.

Filed February 26, 1920.

The complainants join issue on the answers of the defendants H. W. Johns-Manville Company and Thermoid Rubber Company.

FRANCIS C. LOWTHORP,
*Complt's Sol'r.*

*Decree Pro Confesso.*

## DECREE PRO CONFESSO.

Filed February 26, 1920.

This matter being opened to the Court by Francis C. Lowthorp, of counsel with the complainants, and it appearing that process of subpoena has been duly issued and returned served upon the defendant The Asbestos Brake Company and that said defendant has filed no answer to the bill of complaint herein within the time limited by law, but has wholly failed and neglected so to do; It is, on this 26th day of February, 1920, ordered, adjudged and decreed that the said bill be taken as confessed as against said defendant The Asbestos Brake Company.

E. R. WALKER,

*C.*

## PETITION OF CONRAD HUBERT TO BE JOINED AS A COMPLAINANT.

Filed September 13, 1920.

*To the Honorable Edwin Robert Walker, Chancellor of the State of New Jersey:*

Your petitioner, Conrad Hubert, respectfully shows, that he is the person of that name mentioned in the bill of complaint in this cause and that, as stated in the bill and admitted by the answers in this cause, he is the holder and bona fide owner of five of the preferred and fifteen of the common shares of the capital stock of the defendant corporation The Asbestos Brake Company, and has been such since the incorporation and organization of said company by the election of its present directors. That as such stockholder he is interested in the event of said suit. That said suit is brought for the benefit of all stockholders of said The Asbestos Brake Company, except such as are made defendants to the bill, and of which your petitioner is not one, as may become complainants therein and shall contribute to the payment of the expenses of said suit.

And your petitioner further shows that he elects to become a complainant in said suit and is willing, and hereby offers, to bear and pay his proper share of the costs and charges of the conduct of said suit; Wherefore

Your petitioner prays that he may be joined as a party complainant in said cause.

And your petitioner will ever pray, &c.

CONRAD HUBERT.

FRANCIS C. LOWTHORP,
*Solicitor.*

*Petition of Conrad Hubert to be joined, &c.*

STATE OF NEW YORK,
CITY AND COUNTY OF NEW YORK. } *ss.*

Conrad Hubert, the above-named petitioner, Being duly sworn, on his oath says, that he has read the foregoing petition and knows the contents thereof, and that the statements thereof are true.

CONRAD HUBERT.

Sworn to and subscribed before
me this 10 day of September,
1920.

(L. S.) F. F. SMITH JR.
*Notary Public Kings County,*
Kings County Clerks No. 63, Reg. No. 2057
Commission expires March 30th, 1922.

*Order joining Conrad Hubert as party complainant.*

## ORDER JOINING CONRAD HUBERT AS PARTY COMPLAINANT.

Filed September 15, 1920.

On reading the petition of Conrad Hubert; and it appearing that the said Conrad Hubert is the holder and owner of five shares of the preferred stock and fifteen shares of the common stock of The Asbestos Brake Company, a defendant in this cause; and that the bill herein is filed for the benefit of such of the stockholders of said corporation, except the defendants named in the bill, as may join as complainants and contribute to the payment of the expenses of this suit; and that the said Conrad Hubert elects to be joined as a party complainant in this cause and to contribute his proper share in payment of the costs and charges of the conduct of said suit; now, on motion of Francis C. Lowthorp, solicitor of the said petitioner, it is, on this 14th day of September, nineteen hundred and twenty, ORDERED, ADJUDGED AND DECREED that the said Conrad Hubert be, and he hereby is, joined as a party complainant in this cause.

E. R. WALKER,
*C.*

Respectfully advised,

BAYARD STOCKTON,
*A. M.*

*Offer of Documentary Evidence.*

IN CHANCERY OF NEW JERSEY.

| | |
|---|---|
| *Between.* MITFORD C. MASSIE, *et al.*, *Complainants,* *and* H. W. JOHNS-MANVILLE COMPANY, *et al.*, *Defendants.* | *On Bill, &c.* *Testimony.* |

Testimony taken in the above-entitled cause, at the State House, Trenton, New Jersey, on Wednesday, the fourteenth day of July, 1920, at 10:30 A. M.

Before Hon. Malcolm G. Buchanan, Vice-Chancellor.

Appearances:

Francis C. Lowthorp, Esq., and Robert H. McCarter, Esq., for complainants.

Messrs. Pitney, Hardin & Skinner, by Mr. Hardin, for defendant, H. W. Johns-Manville Company.

Edward L. Katzenbach, Esq., for defendant, Thermoid Rubber Company.

*Mr. Lowthorp.* I offer in evidence a certified copy of the charter of the Asbestos Brake Company.

Said paper is marked "Exhibit C. 1."

*Mr. Lowthorp.* I would call on the defendants to produce the original by-laws of the company which are in the minute book.

(Counsel for the defendants hand minute book to counsel for complainants.)

*Mr. Lowthorp.* I offer in evidence the minute book of the Asbestos Brake Company, and I desire to call the at-

tention of the Court specially to pages 10 to, and inclusive of, 22.

Said minute book is marked "Exhibit C. 2."

*Mr. Lowthorp.* I offer in evidence a license agreement referred to in the bill, between the Asbestos Brake Company and H. W. Johns-Manville Company, dated May 2, 1911.

Said agreement is marked "Exhibit C. 3."

*Mr. Lowthorp.* I also offer in evidence license agreement between the Asbestos Brake Company and the Thermoid Rubber Company, being the document mentioned in the bill of complaint, of the same date, May 2, 1911.

Said agreement is marked "Exhibit C. 4."

*Mr. Lowthorp.* I call on the defendants to produce a certain letter, of which notice was given, written by Mitford C. Massie to J. O. Stokes, dated October 5, 1911.

*Mr. Katzenbach.* We have no such letter. We have no letter under that date at all. Have you the wrong date?

MITFORD C. MASSIE, the above-named complainant, being duly sworn on behalf of the complainants, testified as follows:

*Mr. Lowthorp.* The agreement dated September 22, 1910, made between Conrad Hubert, the Thermoid Rubber Company and the H. W. Johns-Manville Company, referred to in the bill—I offer that in evidence.

Said agreement is marked "Exhibit C. 5."

*Mr. Lowthorp.* I offer in evidence the agreement dated March 6, 1911, made by the H. W. Johns-Manville Company, the Thermoid Rubber Company, Conrad Hubert and the Brake Liners Company, modifying the contract of September 22, 1910, which agreement is also mentioned in the bill.

Said agreement is marked "Exhibit C. 6."

*Mitford C. Massie, direct.*

*Direct examination* by Mr. Lowthorp.

Q Mr. Massie, are you Mitford C. Massie, who is named as complainant in this cause, trustee? A I am.

Q Are you the Secretary of the Asbestos Brake Company? A I am.

Q Have you been such secretary from the date of the real and effective organization of the company early in 1911? A Will you please state what you mean by "effective organization?"

Q The present directors. A Yes.

Q Are you a director still of that corporation? A Yes, sir.

Q And were at that time? A I was.

Q Mr. Massie, do you recognize that file of papers which I hand you? (Handing witness file.) A I do.

Q What is it? A It is correspondence, or a correspondence file, I should say, of the correspondence of the Asbestos Brake Company of which I was secretary.

Q Did you keep that file as secretary? A I did.

Q Please look at the buff sheet before you, dated October 5, 1911, and state whether or not you recognize that paper? A I do.

Q What is that? A It is a carbon copy of a letter written by me to Mr. Joseph O. Stokes, who at that time was president of the Asbestos Brake Company. It was in response to a letter of his of the 3rd of October, 1911.

*Mr. Lowthorp.* There is a portion of that letter that I would like to read into the record, and I ask to have it marked.

*By the Court.*

Q That was written by you as secretary of the company? A Yes, sir.

*Mr. Lowthorp.* I offer in evidence this carbon copy.

*Mr. Hardin.* I don't think I am justified in admitting that is a letter to be offered in evidence. It is a letter purporting to be from Mr. Massie to Mr. Stokes, an individual letter. I have no objection to its admission in evidence, but I don't want it to be binding on the stockholder that I represent.

*The Court.* I will admit it.

Said letter is marked "Exhibit C. 7."

*Mr. Lowthorp.* (Reading.) "It seems to me that this is a case of where too many cooks spoil the broth. If our company were to take the position that it would be satisfied if it had most of the brake liner manufacturers under license agreement by the first of the coming year, and was prepared to incur the necessary expenses involved in trips to visit the licensees in different parts of the country, I could feel a reasonable assurance that the most important manufacturers, probably controlling four-fifths of the output of brake liners, would be with us by January 1, 1912. So far as plans are concerned, I understood that they were practically settled at the last meeting, to the effect that the outside manufacturers should be given a license on the same general terms as the licenses already issued to the constituent companies.

There has been great talk about the matter of suing somebody for infringement of our patents. I call your attention to the fact that our company has about $1,700 in the treasury, which would not be a drop in the bucket for a good lawsuit. The present licensees appear to be making no effort whatever to carry out the terms of their licenses in the way of making returns to the company, and this will have to be looked into at an early date. If the royalties due our company from such licensees were promptly paid in, we could probably ac-

cumulate a fund with which we might hope to eventually make a fight on patents, if that became necessary. I have already incurred some expense in connection with what I have done thus far, and about the first of September rendered my bill to the company for a part of this expense such as I thought the company was justly entitled to stand, and also for $25.00 to cover actual lost time. I do not care to keep on indefinitely putting up money for expenses and think that the company should make an appropriation to enable me to visit the New England manufacturers at an early date provided the company desires me to follow this matter up.''

*Cross examination* by Mr. Katzenbach.

Q Mr. Massie, does that file that you have here contain all of the correspondence you had with anyone concerning the Asbestos Brake Company? A It contains all the correspondence which was really the property of the Asbestos Brake Company; there was some other correspondence which really related to the Brake Liners Company, which are contained in there.

Q The Brake Liners Company was the company in which you were primarily interested? A That's it.

Q You say you wrote that letter to Mr. Stokes in answer to a letter which you had received from him; does that file contain the letter which you received from him? A I think so; I haven't looked at it for some time.

Q Did you receive more than one letter from Mr. Stokes on October 3rd, or just prior to your answering that letter on October 5th? A Not that I know of.

Q Have you any personal knowledge that Mr. Stokes ever received that letter? A Merely this, that at a meeting later where he was present, there was a conversation on the general subject of the matter of getting those other manufacturers to take licenses—

Q When was this conversation you are talking about? A That was very much later; I think it was about, probably, some meeting two or three months after that.

Q You never received an acknowledgment—

*The Court.* You interrupted his answer.

A And I judged from the nature of his conversation that he was familiar with the contents of that letter.

Q But the letter contained general matters which had been many times discussed, did it not? A Oh, yes.

Q And that would not imply—because of his familiarity with those matters—that he had received that letter? A Oh, no.

Q Did you personally mail that letter? A Yes; that was a practice of mine.

Q But you never received any statement from Mr. Stokes in any way to the effect that that particular letter ever had been received by him? A I never have.

Q As a matter of fact, that letter was addressed to Chicago, was it not? A I can only say by looking at it; I remember he asked me to address him in Chicago with reference to some matters, but I am not sure without looking at the file, whether that was the case with that particular letter.

Q You refer in that letter to the last meetings of the directors of the Asbestos Brake Company. These same matters were discussed at those meetings, were they not?

*Mr. McCarter.* We object to that; we simply have offered the letter, and what transpired at previous meetings is not cross examination of this witness; he simply has been called to prove the mailing of the letter.

*Mr. Katzenbach.* Reference to these meetings was read into the record.

*Mr. Hardin.* This witness has said he is the author of this letter, and this letter is introduced

to show it was written by himself, and it seems to me it would be competent to develop what he knows in the letter.

*The Court.* The objection is overruled.

Q (Stenographer repeats the question.) A May I refresh my memory by reading that letter, please?

Q Surely? (Handing witness letter.)

*The Court.* I am not going to permit counsel to proceed to make out their case through this witness; I am going to allow this particular question. I am not going to permit you to go ahead and put in your whole case on cross examination anticipatory by this witness.

*Mr. Hardin.* Certainly, we can, it would seem to me, by cross examination on this letter, endeavor to reach the things that he describes and refers to in this letter; we are not going outside of this letter.

*The Court.* You may examine this witness as to this file and as to identification of letters he has referred to, and the things he has referred to in the copy of this letter, but that is all.

This witness testified in answer to questions, that the subject matter of this letter had been discussed by him and Mr. Stokes subsequently. I am going to permit the question and have it answered—whether the subject had not been discussed in the letter.

A It is perfectly clear to me from this letter, that there were such discussions, and I think I have an independent recollection to that effect, particularly as to the modification of license agreements for the admission of other licensees.

Q There were not any other licensees—

New Jersey State Library

*Mitford C. Massie, cross.*

*Mr. McCarter.* Objected to.

*The Court.* Objection sustained.

Q You have said this letter was written by you in answer to one you received from Mr. Stokes; will you turn to that file and see whether you have that letter in the file? A I think I have, right here.

Q You have that letter? A Yes.

Q What is the date of that letter? A 10/3/11.

*Mr. Katzenbach.* I ask that that letter be marked for identification.

*The Court.* Is there any reason why it should not be offered at this time?

*Mr. McCarter.* No, sir.

*Mr. Lowthorp.* Not that I know of, sir.

*The Court.* Let it be offered in evidence.

Said letter is marked "Exhibit D. 1."

Q In the letter which you wrote to Mr. Stokes you refer, do you not, to a bill which you had against the Asbestos Brake Company? A I do.

*Mr. McCarter.* That is objected to.

*The Court.* The objection is sustained; the letter speaks for itself.

*By the Court.*

Q The letter, you say, was mailed by yourself? A Yes, sir.

Q In an envelope postage prepaid, I suppose? A Yes.

Q And addressed to Mr. Joseph Stokes at the address which is at the head of the letter? A Yes.

Q And that was an address which you had been given by Mr. Stokes? A By his prior letter of October 3, 1911.

*Mr. Lowthorp.* We rest.

*The Court.* I call your attention to the fact that there is an issue of fact raised in the pleadings as to the party who commenced the negotiations leading up to the entry of the Brake Liners Company into this agreement and plan, one side alleging it was commenced by the Brake Liners Company, and the other that it was commenced by an original party to this plan. It does not seem to me it is material, but I am calling your attention to it.

*Mr. Lowthorp.* I don't think so, your Honor.

LOUIS R. HOFF, a witness produced on behalf of the defendants, being duly sworn, testified as follows:

*Direct examination* by Mr. Hardin.

Q Mr. Hoff, where do you live? A Paterson, New Jersey.

Q What is your occupation? A Sales Manager for the H. W. Johns-Manville Company.

Q How long have you been such? A About eight years.

Q How long have you been connected with that company? A Twenty years.

Q Do you recall when the attention of that company was first directed to the making of brake liners? A Sometime in 1906, to the best of my recollection.

Q And through what channel?

*Mr. McCarter.* Is that material?

*The Court.* Not if the complainant admits there was a manufacture of brake liners by the Johns-Manville Company and others prior to the inception of this agreement; otherwise, I will permit the question. Is there such admission? Does the complainant make such an admission?

*Mr. McCarter.* Do you mean in reference to the original matter of the brake liners?

*The Court.* The answer of these two defendants set up, that the arising of the manufacture of asbestos brake liners was not the result of the patents which were the subject of this original contract agreement, but allege that there was a large business in the manufacture of brake liners of this character prior to the granting of the particular patent in question, and prior to the contract agreement; that there had at that time grown up quite a trade in the manufacture of brake linings. That is put in issue by you. If you admit that is a fact, then your objection as to the materiality of this question I will sustain.

*Mr. McCarter.* We don't make such an admission.

*The Court.* I will permit the question.

Q (Stenographer repeats the question.) A By the visit of a representative of the Royal Equipment Company, I believe, of Bridgeport, Connecticut, at which time we first discussed the use of asbestos, to my recollection, for brake liners, and pursuant to which test samples were made and working samples, and a marketable product prepared—

*Mr. Lowthorp.* I move to strike that out. The situation is this—the ground of my motion is this: it is absolutely irrelevant and absolutely incompetent evidence. We are seeking here to enforce the contracts which have been put in evidence here for the manufacture and sale of certain brake liners which are covered by the claims of the letters patent—

*The Court.* I understand your theory, and also the theory which has been put forward by the defendant; I am not in a position to judge the case at the present time, and if I should come to the

conclusion that the theories advanced by the defendants were proper and should exclude- this evidence, I would have nothing to base my decision on later, if it should develop that my conclusion was wrong. The objection will be overruled.

Q Did you continue from that time forward to do a business in the marketable product? A Yes, sir.

*Mr. McCarter.* Now, that is objected to; they can't go behind the patent and the license. What their intention was before the patent was issued, how can it be relevant upon the issue?

*The Court.* The same ruling will be made as upon the previous question. I am going to receive this line of testimony subject to your objection, and pass upon it afterwards.

Q Mr. Hoff, did you later consider the patentability of the product of brake linings you were actually manufacturing and selling? A I did.

*Mr. McCarter.* We will not have to repeat the objection, your Honor?

*The Court.* No, that is understood.

Q Was an application for a patent made? A It was.

Q In your name, was it not? A Yes, sir.

Q Did you at first sell brake liners in form for use, or the material from which the brake liners were to be made? A The first product we sold was for material from which the brake lining was to be made.

Q And how soon thereafter did you get to the making of brake liners—what did you call this, what was the trade name of it?

*The Court.* Of what?

*Mr. Hardin.* Of the product.

A At the time the first sample was made we simply called it "asbestos tape."

Q And later? A Brake lining.

Q How soon after this first inquiry you have mentioned did you begin the manufacturing of the brake liner itself? A Within a year or so, to the best of my recollection.

Q Can you remember what you styled the patentable article which you sought to patent when you made your application for a patent?

*Mr. McCarter.* Can that be material under any phase, your Honor?

*The Court.* What is the purpose of it?

*Mr. Hardin.* I desire to identify the patent applications, and that there was first production of material which was sold to other people and used by them in the production of brake bands and—

*The Court.* It is admitted by the pleadings that there were several applications for patents by each of the parties.

*Mr. Hardin.* I want to identify one group of the patents referred to in the contract as originating from this witness.

*The Court.* For what purpose?

*Mr. Hardin.* If your Honor permits us to try to establish the defense of abandonment or inequitable conduct by the other parties, or on the theory of the illegality of this corporation, your Honor is obliged to hear a good deal of testimony concerning these patents, as to their origin or nature, or whether they infringe the Sherman Act. If your Honor is going to take our defense, I think your Honor will have to hear considerable testimony—

*The Court.* If I have to, I will have to, but I will exclude this at the present time. If it later

seems necessary to go into this, you may renew your application to go into it.

Q Do you remember when the Asbestos Brake Company was organized, about what time? A Yes, I do.

Q And did the manufacture of brake bands by your company continue down to that time? A Yes, sir.

Q And were there other concerns prior to that time engaged in the manufacture of asbestos brake bands? A There were.

Q Name some of them. A As I recall, the Thermoid Rubber Company, the Raybestos Company, the Keasby and Mattison Company.

Q Was the Empire Rubber so engaged? A I don't recall.

Q The United States Company? A I believe the United States Asbestos Company were engaged at that time.

Q The Thermoid was the company in which Mr. Stokes was interested? A Yes, sir.

Q And where was the Raybestos Company located? A I believe at Bridgeport.

Q And where was the Keasby Company? A Ambler, Pennsylvania.

Q These concerns you have mentioned engaged in the manufacture of brake bands, were in active competition in the market with each other? A Yes, sir.

*Cross examination* by Mr. Lowthorp.

Q Do you know a man by the name of Clyde J. Coleman? A Yes.

Q Do you recall when you first met him? A Not the date.

Q You took part in an interference proceeding in the Patent Office under your application for a patent of this asbestos brake liner, didn't you, in which Clyde J. Cole-

man was another party and William T. Bonner another? A I believe the company did.

Q You were a witness in that proceeding, weren't you? A I presume so; I don't recall.

Q I show you a printed record here, entitled, "In the United States Patent Office, Interference Number 30395, Louis R. Hoff vs. William T. Bonner vs. Clyde J. Coleman, before the Examiner of Interferences, Proofs on behalf of Louis R. Hoff;" I show you page 31 of that, and ask you to pay attention to the cross-question 41, and your answer thereto.

*Mr. Hardin.* I suppose this opens the subject upon which your Honor has ruled.

*The Court.* There has no question been asked; I don't know what the question in the book is.

Q Do you recognize that as your answer? A I don't recall it; I presume it is correct.

Q Does that matter that you read there, doesn't that refresh your memory so that you recall now that your first knowledge of the use of asbestos in brakes was brought to your attention by Clyde J. Coleman? A It has always been my recollection, that the first time the use of asbestos in brakes was brought to my attention, was at the time the Royal Equipment Company representative talked about that material.

Q Do you recall the date? A I do not.

Q You don't recall Clyde Coleman before that having brought to your attention the proposed use of asbestos in brake liners prior to that time? A I do not.

Q You don't recall that? A No, sir.

*Re-direct examination* by Mr. Hardin.

Q Will you look at that letter, please, and see if that refreshes your memory as to when the inquiry came from the Royal Equipment Company?

*The Court.* His testimony stands as originally given. How is that necessary?

*Mr. Hardin.* I thought I could fix the date.

*The Court.* Is there any necessity of fixing the date definitely?

*Mr. Hardin.* I think not.

*The Court.* If the attempt was to affect the credibility of the witness, the attempt was unsuccessful.

MITFORD C. MASSIE, being recalled on behalf of the defendants, testified as follows:

*Direct examination* by Mr. Hardin.

Q You have already told us you were secretary of the company and had been from an early day and continued so to the present time? A Yes.

Q The minute book that I now hand you and which was produced some time ago, contains all the minutes of the company, so far as you know? A I wouldn't want to say positively that these are all the minutes of the meetings; it seems to me, as a matter of memory, that there was some meeting between August 29th and November 14th.

Q What year? A 1911.

Q What is the date of the last meeting you find minutes of in that book? A January 17, 1912.

Q And, so far as you know, have there been meetings of the Board of Directors since that time? A I think not.

Q And the book was in your custody for considerable time after January, 1912? A Yes.

Q And when you parted with it, you parted with it to Mr. Stokes, the president of the company? A I did.

Q Do you recall about when that was? A I would be guessing at it—two or three years ago.

Q I notice that sometimes the minutes are signed "M. C. Massie," and sometimes "Mitford C. Massie;" in either case that is your signature? A In either case, yes.

Q Can you tell me who Mr. Bonner is, referred to on page 45 of this minute book, in a minute, it is true, which is not signed by you, but which is in your book? A That is Mr. Bonner, W. T. Bonner, I think his initials are.

Q And with what company is he associated? What is his interest in the Asbestos Brake Company? A He is not directly connected with the Asbestos Brake Company; he was connected with the Brake Liners Company.

Q He and you, then, were in the same interests? A Yes, sir.

Q Did he hold an office in the Asbestos Brake Liners Company? A The Asbestos Brake Company is that one that those minutes relate to; the other is the Brake Liners Company of Delaware; he was an official of the Brake Liners Company of Delaware.

Q Was he president of that company? A That's my recollection.

Q And that is the company for which you state in the bill of complaint that you are trustee? A Yes.

Q That company being the beneficial owner, the Brake Liners Company? A Correct.

Q Mr. Bonner holds a controlling interest in the Brake Liners Company, does he?

*Mr. McCarter.* That is objected to.

*The Court.* Objection overruled.

A As a matter of fact, I don't recall that; I don't know whether Mr. Bonner owns the controlling interest or Mr. Carl McElroy; I know Mr. Bonner is a large holder in it.

Q And do you not know, also, that at times Mr. Bonner has participated in discussions with the others interested in the Asbestos Brake Company and— A Yes.

*Mr. McCarter.* That is objected to; what Mr. Bonner, who was apparently not connected with the Asbestos Brake Company, has discussed or said or heard, can hardly be material in this controversy.

*The Court* Objection overruled.

Q I call your attention to the minutes of the meeting of the directors held on August 29, 1911, beginning on page 43 of the minute book, and I read this particular minute: "The secretary reported the results of his correspondence with the various manufacturers of brake linings, and also of an oral interview with the representatives of the United States Asbestos Company and the Woven Steel Hose and Rubber Company at Philadelphia, Pennsylvania"; has that correspondence been preserved? A Yes.

Q Is that in this file? A I might say, with the exception, perhaps, that one of the letters was sent to Mr. Stokes, and that may not be in that file.

Q And you reported the result of your oral interview with the United States Asbestos Company and the character of the letter put in evidence this morning was the subject— A I think that is a fair resume of the various companies.

Q Do you recall having received notice as a director of a proposed meeting to be held at the company's office on November 14, 1911? A I have a recollection of the notice being for October 1st, and as I remember it now, it was delayed, and there was some subsequent correspondence, and it was held in November.

Q Did you hear about that meeting promptly after it took place—of November 14, 1911?

*Mr. McCarter.* We object to that as immaterial and irrelevant, because the minutes indicate that it was not a legal meeting and there was no quorum present.

*The Court.* I will accept it, subject to your objection.

A Not promptly. I knew there had been a meeting, because I knew there was going to be one; and I think that subsequent to that we had another meeting, and then that was the first I knew of the details of that.

Q And at that subsequent meeting the minutes of this meeting of November 14th were read or, in some way, brought to the attention of the Board of Directors at the later meeting? A No; what happened was this: after we had finished the meeting, or sometime near the end of the meeting, Mr. Manville handed me a piece of paper which he had his secretary prepare as the minutes of the preceding meeting, for me to enter in the minute book, and this is my entry.

Q Was the meeting held in January which appears on the following page of the minute book? A I don't think so; that is the reason I think there is some intermediate minutes that are missing.

Q What was discussed at the intermediate meeting or a possible intermediate meeting, which makes you think that there was such a meeting? A It would be very difficult for me to say exactly what was discussed, but the reason why I feel sure there was an intermediate meeting, is because Mr. Joseph O. Stokes was not present, but his brother was sent there, and it struck me as peculiar that they should substitute a director; and at that meeting there was a general discussion of the situation.

Q I call your attention to the minutes of the meeting of January 17, 1912, on page 47, signed by M. C. Massie, secretary, on which it appears that all members are present. Did you mean Mr. Stokes, the director, was or was not present? A Mr. Stokes, the director, was present at this meeting of January 17, 1912, but what I say is, there was an intermediate meeting where I remember his brother was acting, and it struck me as peculiar.

*Mitford C. Massie, direct.*

Q Might that not have been the meeting of November 14, 1911? A That I don't know, because I wasn't at that meeting.

Q Are you referring to the directors' meeting at which Mr. Stokes who was not a director, was present? A Yes, sir.

Q You and Mr. Stokes had discussed about these matters at different times, not in directors' meetings—the Asbestos Brake Company matters? A I think that is so as to one or two occurrences; Mr. Stokes generally only met me at the meetings, but on one or two occasions I think we met outside specially.

Q Which Mr. Stokes do you mean? A Mr. Joseph Stokes.

Q Did you ever meet the other Mr. Stokes? A Only at that one meeting where I find no entry.

Q You didn't meet him on any other occasion except a directors' meeting? A Never did.

Q Is there anything in this book as to any break in the continuity of the paging to indicate that there was any thought on your part that there was a meeting between the meeting of November and the meeting of January, or anything about the book which suggests there is something which should be recorded and was left out? A The paging is all right; I can't say.

Q You intended as secretary to record all the meetings? A Certainly, I did.

Q I show you a letter, which I think is signed by you, addressed to Mr. J. L. Stokes; doesn't that specifically refresh your memory that you did have to do with the notices for the meeting of November 14th? A Yes.

*Mr. Hardin.* I offer that in evidence.

Said letter by M. C. Massie to J. O. Stokes, dated November 4, 1911, is marked "Exhibit D. 2."

Q I notice in that minute in the book of the meeting of November 14th, reference is made to a bill of Mr.

M. C. Massie for $52.60; was that bill paid in pursuance of the action taken at that meeting? A It was.

Q And shortly thereafter? A Yes, sir.

*Mr. Hardin.* I want to offer this minute book; it is already in evidence.

*The Court.* It is in evidence. If you desire to call attention to certain pages, you may make that notation on the record, if you like.

*Mr. Hardin.* The minute of the meeting of November 14th, which I have been calling the witness' attention to, is the meeting referred to by Mr. McCarter, the validity of which is challenged by reason of the absence of a quorum.

*The Court.* What pages do you desire to direct attention to?

*Mr. Hardin.* They are on pages 45 and 47, and I also call attention to the minutes on page 43.

Q As secretary of the company, did you participate in the execution of these license agreements, or were they executed before you became secretary? A I think they were executed before I became secretary.

Q Do you know, as secretary of the company, whether there were any more licenses executed except to the Manville Company and the Thermoid Company? A I remember there was an offer of one to a nominee of the Brake Liners Company, but it was not accepted.

Q That was what company? A The Empire Rubber Company; and also, my recollection is, that there was either an offer or a license to Mr. Conrad Hubert, or, perhaps, the execution of one.

*By the Court.*

Q Mr. Hubert or the company? A I am not sure about it.

*Mitford C. Massie, direct.*

Q In your files in your records have you any agreements, license agreements, which you regard in effect, except the two to the Manville Company and the Thermoid Company?

*Mr. McCarter.* I suppose the papers speak for themselves; he can't be the judge as to whether the licenses are in effect.

*The Court.* Objection overruled.

A Only the two that were in my custody; that's all I knew.

Q It is not your claim, as a complainant in this case, that there are any other license agreements in effect except those two? A No, sir.

Q My attention is directed to a minute which will refresh your memory, perhaps, about this Empire matter, on page 39 of the minute book: "Mr. Massie moved that the license heretofore directed by the Board to be issued to Empire Rubber Company, be delivered to him (Mr. Massie) in escrow. The motion, being duly seconded, was carried." That is the one you spoke of as not accepted? A That is it.

Q As secretary of the company have you ever called any meeting or sent out any notices of any meeting of the Board of Directors since the last meeting, as appears in that book? A I have not.

Q Have you ever, as secretary of the company, sent out notices of any meeting since the last stockholders' meeting referred to there? A I have not.

Q Have you been requested by any other stockholder of the company to send out any such notice? A I have not.

Q For either a directors' or stockholders' meeting? A I have not. I usually get my instructions from Mr. Stokes or Mr. Manville, and then issue the notices.

Q You have had no instructions or request from anybody during all this period of time? A I never have.

Q My question refers to meetings of directors or stockholders—both classes of meetings? A No, sir.

Q Have you ever performed any act as secretary of the company that you can recall since this meeting in January, 1912? A I can't recall anything at this time. Will you let me correct that?

Q Yes. A Of course, I made a report to the Brake Liners Company after that meeting—it might have been a day or two.

Q That was back in 1912? A Yes.

Q I mean the period since that time? A No.

Q When you are making your statement you are referring now to your duties to the Brake Liners Company and not that involving your duty as secretary of the Asbestos Brake Company? A That is true.

Q Referring to the minutes of the meeting of January 17, 1912, on page 47 of this minute book, I call your attention to this resolution, that it was resolved that if suits were brought "and the costs of the same should be greater than the funds of the company at that time on hand, the common stock of the company should be assessed as might be necessary to pay the actual expenses of such litigation beyond the amount of funds on hand, and it was agreed that the Brake Liners Company of Washington, D. C., one of the stockholders of this company, should be allowed to deposit its stock in this company as collateral security for the payment of its assessment the amount of which should be advanced by the other members of the company, such advanced moneys to be repaid from any dividends accredited to the stock of the said Brake Liners Company." That Brake Liners Company is your company? A Yes.

Q Was there any call made upon the stockholders of the company, that you recall, for contributions for ex-

penses by way of assessment on the stock as referred to in that minute? A No.

Q And no proffer on your part of an assessment? A No.

Q Or of any action of any kind whatever? A None whatever.

Q Your Brake Liners' Company was not engaged in manufacturing? A No, sir.

Q And never was in active manufacturing before or after the organization of the Asbestos Brake Company? A Never.

Q Was Mr. Hubert's company in active manufacturing? A That I don't know.

Q Do you know the name of his company? A Only as suggested by his Honor, the Auto Improvement Company.

Q Were you representing the Brake Liners Company's interest prior to the formation of the Asbestos Brake Company? A I was.

Q And in patent litigation? A I want to state that I was representing it wholly in patent litigation, and at that time my recollection is, the company had not been formed, but I was representing it up to the formation of the company and then afterwards.

Q The same interests? A Mr Bonner's inventions.

Q Which he later turned over to the Brake Liners Company as a holding company? A And then later assigned to the—

Q Yes, but the same patents involved in this suit? A Yes.

Q How long before the organization of the Asbestos Brake Company had you been representing the Bonner interests? A I can't remember the dates, but it was about the time that the first interference was declared between Mr. Bonner's first application and the other application. Prior to that, that case had been represented by Mr. K. P. McElroy, in Washington.

Q What do you mean by a later application? A Mr. Bonner had a later application which was assigned to the Thermoid Rubber Company, and also one that had not been assigned, and there was some conflict between Mr. Stokes' company and Mr. Bonner, and Mr. McElroy was the patent attorney representing Mr. Bonner.

Q Was Mr. McElroy in partnership with you? A Just an office partnership; then he asked me to take hold of the matter, and I got into it about the time the interferences were declared.

Q At first all the applications of Bonner and Coleman and everybody else were thrown out by the examiner? A I think that is true, as I remember it now.

Q Do you remember about what time that was with reference to the organization of the Asbestos Brake Company? A Before that.

Q How long before? A I am simply guessing now, I don't remember exactly when they started with their proceedings for the formation of the Asbestos Brake Company. They did that before we were connected with it, and the fight had been going on for some time.

Q You mean a controversy over the patents in the Patent Office? A Yes.

Q Was testimony being taken under these interferences? A At the time the testimony was taken that I knew about personally, that is, in the case I was interested in, I think they had taken steps for the formation of the Asbestos Brake Company.

Q What, in the bill of complaint, is referred to as the original agreement, the three-part agreement, that had been made when you appeared upon the scene as the patent representative? A Prior to it or about that time, I am not sure which.

Q That original Bonner application which is assigned to the Thermoid, is that what you refer to as the basic patent? A His main application.

*Cross examination* by Mr. McCarter.

Q You are a lawyer, are you not? A I am an attorney at law.

Q Well, we will allow you to make the distinction. How many directors were there of the Asbestos Brake Company on November 14, 1911? A Four, as I recollect.

Q Who were they? A Mr. Joseph O. Stokes, Mr. T. Manville, Mr. Conrad Hubert and myself.

Q Do you recall the following provision found on page 15 of this minute book, under the head of Sections 4, subdivision 5, "*Votes.*" At all meetings of the Board of Directors each director shall have but one vote. The affirmative votes of all of the directors shall be required to adopt and amend the prices and discounts at which goods shall be sold by the company or its licensees, for the cancelling of licenses, the sale, assignment, transfer, mortgage or incumbrance of inventions or letters patent or rights thereunder, and for the expenses incurred by the company in advertising, procuring patents, litigation for the enforcement of its patents and expenses for the purchase of inventions and letters patent or rights thereunder." Were you aware of that? A I knew there was such a provision as that.

Q Now, your attention has been directed by Mr. Hardin to the fact that after this alleged meeting of November 14, 1911, a manuscript or stenographic paper was handed to you which you copied into the minute book as purporting to be the minutes of the meeting. At that time had you observed that the only persons alleged to be present at this time were Messrs. Stokes, Manville and Bonner, Mr. Stokes acting as chairman and Mr. Bonner as secretary; was your attention called to that when you first had any knowledge of this alleged meeting of November 14th? A I can't say right at that time; I was handed a paper, and in the discussion I didn't stop to read or study the paper,

and it wasn't until later that I had it written into the minute book that I noticed the fact.

Q As an individual and as a lawyer, what effect did you attribute at that time to those alleged minutes of that alleged meeting?

*Mr. Katzenbach.* That is objected to on the ground that we are asking an opinion of the witness as secretary of the company. It was apparently entirely a ministerial act. The opinion is for the Court.

*The Court.* I don't understand that the question is propounded for the purpose you indicate. Of course, this witness' opinion cannot alter that action, but this witness' idea at the time of a certain action may be of importance as casting light upon that which he did or did not do in respect thereto; the objection is overruled.

Q (Stenographer repeats the question.) A It was my view that it was absolutely illegal and a violation of the by-laws.

Q Was Mr. Bonner a director at that time? A He was not.

Q Was he a stockholder? A No.

*By the Court.*

Q You have said that he was president of the Brake Liners Company; was he president of the company at the time of this meeting of November 14th? A He was.

Q You have stated that the minute book, "Exhibit C. 2," was surrendered by you; when and under what circumstances? A I can't remember definitely when, except that it was some time ago, some years ago, that Mr. Stokes wrote me a letter; I got a letter purporting to come from him, asking me to please send up the minute

books, and giving some reason which I can't recall exactly, but to the effect that they wanted to make a report to the Secretary of State, and they needed the minute book, and I sent it to him.

Q It never was returned to you? A It never was returned to me.

Q And you have not seen it since? A I have not.

*Re-direct examination* by Mr. Hardin.

Q After you discovered that these minutes of the meeting of November 14th disclosed the fact that there was not a quorum present and that action had been taken contrary to the by-laws, did you bring it to the attention of the company? A I did not.

Q Or to any officer? A I did not.

Q Or to any director of the company other than yourself? A I did not.

Q Did you take any action of any kind whatsoever, either by way of protest or notice, that in your opinion the action was illegal? A I did not.

Q And the subject discussed at the meeting of November 14th, was re-discussed at the meeting of January, was it not? A The subject of these license agreements?

Q Yes, the subject of the license agreements. A I have no recollection of it being re-discussed.

*Re-cross examination* by Mr. Katzenbach.

Q Did you ever, as secretary of the company, take any steps toward the preventing of infringement of the patents by persons who were manufacturing asbestos brake lining and other alleged patented materials?

*Mr. McCarter.* That is objected to as immaterial. It is not the function of the secretary to take such a course.

*The Court.* Objection overruled.

A Only as I was directed by the other officers of the company. I met these manufacturers, and, of course, at that meeting I called their attention to the fact that we had patents, and that they were infringing the patents.

Q That was prior to January, 1912? A That's right; all prior to January, 1912.

Q All the action you took in your official capacity was to call upon various people and say that you had patents, that your company had patents, and request them to take licenses under the patents? A I went further than that; I called attention to the fact that we had a patent we thought we could sustain, and I used the strongest argument I could to induce them to come in.

Q That was prior to January, 1912? A All prior to that.

Q Did anyone come in? A Some indicated they would come in if we reduced the royalties; they said they were too high and they couldn't compete; but they indicated that if the company would cut down the royalties they would come in.

Q No one did come in? A It wasn't followed up.

Q And the people you approached were manufacturing these brake linings? A They were.

Q And had been for a long time before? A I don't think for a long time before.

Q For some months before? A Oh, yes.

Q For a year before? A Possibly for a year before.

Q And the company still continued this manufacturing? A They were, as far as I knew.

Q And no act was done or steps taken to prevent any infringement of these patents which you claim you had? A No act.

JOSEPH O. STOKES, a witness produced on behalf of the defendants, being duly sworn, testified as follows:

*Direct examination* by Mr. Katzenbach.

Q Mr. Stokes, you are a resident of Trenton, are you not? A 19 West State street.

Q And have been for a number of years last past? A Yes, sir.

Q And prior to the year 1910? A I think so, yes. I was at the Trenton Club, which I had a room in for a few years, then moved to Hildebrecht's.

Q You are President of the Thermoid Rubber Company? A I am.

Q Do you remember in the year 1910 any discussion which was had with respect to the formation of the Asbestos Brake Company? A I do.

Q Did the discussion with respect to the formation of that company start in the year 1909? A Yes, I think it did, in 1909.

Q At that time was the Thermoid Company, in which you were interested, manufacturing asbestos brake linings? A About that time, I understand, Mr. Bonner and my brother manufactured brake linings for the Mercer Car people, and Mr. Bonner took out an application for a patent on that particular method of manufacturing asbestos brake lining.

Q Do you know when it was that Mr. Bonner took out that application? A I am not sure; I think it was about 1908 or 1909; I am not sure of it; it may be a little previous to that, it may be 1907.

Q You are not absolutely certain as to that date? A No, I didn't take a very active part at that time.

Q The patent to which you refer, that Mr. Bonner applied for and assigned his application to the Thermoid Company was, as a matter of fact, refused, was it not? A Absolutely.

Q Had you not manufactured asbestos brake linings prior to the time that Mr. Bonner was in your employ? A No, sir.

Q It was, then, at the time that Mr. Bonner was in your employ, that you began the manufacture of these asbestos brake linings? A Yes.

Q And that was at least a year prior to 1909? A Yes.

Q In 1909 were there other people who were likewise interested in the manufacture of asbestos brake linings? A A great many.

Q Can you name some of those persons or corporations? A The Johns-Manville Company, the Raybestos, the Royal Equipment, Keasby and Mattison, and numerous other people; the Trenton Woven Hose Company, too, I believe.

Q Do you know whether the Empire Rubber— A Yes, sir.

Q Do you know whether the Globe Tire Company— A I know they did a short time after that; I am not sure when they started.

Q In the year 1909, or thereabouts, did you have any application for patents pending on the part of the Thermoid Company in the United States Patent Office? A The only patent I have any recollection of, is the one Mr. Bonner secured—I mean, an application made.

Q The one that was refused? A Refused.

Q Did any of the other persons who were manufacturing brake linings have applications for patents in the Patent Office, if you know? A I think the Johns-Manville was allotted one, and I think Mr. Hubert, the Coleman patent, and at that time that was our only knowledge; ours was made in the name of Mr. Bonner, in which we had a half interest, and afterwards bought it out, by advice of our attorney.

Q And did you enter into any negotiations in any matter pertaining to these patent applications with any of the persons whom you have named?

It is admitted that the Bonner application was filed on January 20, 1908.

Q (Stenographer repeats the question.) A The negotiations were carried on by Mr. Lowthorp and Mr. Wilson.

Q Which Mr. Lowthorp? A Francis C. Lowthorp.

Q The Mr. Wilson to whom you refer was Mr. Fred Wilson? A Yes.

Q As president of the company you had knowledge of these negotiations? A I did.

Q With whom were they conducted? A The transactions were with Johns-Manville and Mr. Hubert, and I believe tentative arrangements were made and a company formed to formulate the plans.

Q As a result of those negotiations, what general steps were taken? A The company was organized in 1910, I think.

Q That is, the Asbestos Brake Company? A Yes, the Asbestos Brake Company.

Q You mean the first discussion concerning the company was in 1910, do you not?

*Mr. McCarter.* He said it organized in 1910.

*Mr. Katzenbach.* I will withdraw the question.

Q During the year 1910 or 1911, or at least prior to the formation of the Asbestos Brake Company, did you meet Mr. Massie or Mr. Bonner, or have any discussion with the company known as the Brake Liners Company? A We had a great many discussions over the business of forming a company to assume and take over those different patents, through advice of our attorney and the—

*Mr. McCarter.* That is objected to; we think all those negotiations are merged in this corporate agreement.

*Joseph O. Stokes, direct.*

Q Were you personally present at any discussion in which Mr. Bonner or Mr. Massie, as officers of the Brake Liners Company, participated previous to the formation of this company? A Never, not to my knowledge.

*By the Court.*

Q You mean, previous to the formation of the Asbestos Brake Company? A Yes, sir.

Q Do you know how it was that these persons came to be associated with the others in the formation of the Asbestos Brake Company?

*Mr. McCarter.* That is objected to; they were associated.

*The Court.* What is the purpose of it in your mind?

*Mr. Katzenbach.* It is alleged in the bill that the defendants approached the Brake Liners Company with respect to their forming a part of this scheme.

*The Court.* What difference does it make? They did get together.

*Mr. Katzenbach.* Yes, but the manner in which the overtures were made, I believe to be of such a character as to indicate a complete knowledge upon the part of the officials of the Brake Liners Company as to the value of the transaction into which they were entering. We ought to be able to show that as to the basic patents which, as a matter of fact, control the industry of brake lining. We expect to show, that as a mattter of fact, the basic patent by virtue of which brake lining is manufactured, is not any one of the patents for which application was made by Mr. Bonner, but was, as a matter of fact, an English patent of which they had actual knowledge, and it was by threats, practically,

to make exposures of these English patents that they were ultimately admitted in the Asbestos Brake Company.

*Mr. McCarter.* We consider that issue immaterial and attach no importance to it whatever; and it seems to us that any effort to go behind the documents which represent the true and final agreement, must be prevented by the primary rules of evidence. Here is a corporation, here is an agreement, here are license agreements, and they are all here; and whether A went to B, or B went to A, or C went to either one of the others to bring about that agreement—

*The Court.* I will overrule this particular question. I am not precluding you from your whole line. The question is overruled.

Q As a result of negotiations which were held then, the Brake Liners Company was formed, the Asbestos Brake Company was formed? A Yes.

Q And in that Asbestos Brake Company there were how many interests represented? A Mr. Hubert and Mr. Manville.

Q The Auto Improvement Company? A Yes.

Q And Mr. Manville represented H. W. Johns-Manville Company? A Yes.

*The Court.* That is all covered by the pleadings, isn't it?

*Mr. McCarter.* All admitted.

*Mr. Katzenbach.* Yes, sir.

Q There were then the four interests, your interest and the Brake Liners' interests, in addition to those mentioned? A Yes.

Q After the company had been formed, did you develop any greater knowledge of matters pertaining to the

patents which were assigned to this company, than you had had prior to its formation? A At the first meeting we discovered there was this English patent of which we had no knowledge. Our attorney, Mr. Lowthorp, had failed to discover it, and we found it out at the first meeting of the corporation.

*By the Court.*

Q At the first meeting of the Asbestos Brake Company? A Yes.

Q Were you present at the meeting? A I was present at the meeting, yes.

Q That was for the formation of the company? A Yes.

Q Then the matter of the English patent was first brought up? A Brought up.

Q Subsequently to that, what, if anything, did you do with respect to the prosecution of the things for which the Asbestos Brake Company was formed? A Our attorneys assured us, that if we went on and prosecuted anybody we would be violating the Sherman Act, and, therefore, we would have to be very cautious in any move we might make. I called Mr. Hammerstrom and made an appointment to meet him in Philadelphia to see if he could interest the Keasby and Mattison people, whom he knew very well.

Q Why did you want to do that? A It was understood we should interest some of the largest companies in order to get their moral support in going before the smaller manufacturers.

*By the Court.*

Q "It was understood"; what do you mean? A Our attorneys advised us it would be wise for us to interest some of the larger companies in the Asbestos Brake Company.

Q When you say "our attorney," whom do you mean by "our"? A I think they all advised that.

Q Whom do you mean by "our attorneys?" Do you mean the attorneys of the Asbestos Brake Company? A Yes, the Asbestos Brake Company; Mr. Lowthorp was the attorney at that time.

Q Representing your interests? A Representing our interests in the matter.

Q Were there other attorneys who represented other interests? A Parker-Smith.

Q Whose interest did he represent? A The Johns-Manville Company.

*The Court.* He speaks of "our company"; he may be referring to the Asbestos Brake Company or the Thermoid Rubber Company; I don't want to have any confusion.

*Mr. Katzenbach.* When he spoke of "our attorneys," I understood him to mean the four different interests.

Q When you mentioned "our attorneys," what attorneys did you mean?

*The Court.* I think you had better ask the question over again, because he might refer to a particular answer.

*By the Court.*

Q Do you mean that Mr. Lowthorp represented the interests of the Thermoid Rubber Company in the Asbestos Brake Company matter? A He did.

Q At the time you speak of? A He did.

(Stenographer reads a number of the questions and answers last asked and answered.)

*Mr. McCarter.* I don't think it is proper testimony; we move to strike out that particular clause

in the sentence which Mr. Powis has just read with reference to the advice by the attorneys and about the Sherman Act.

*The Court.* I will permit it to stand, subject to your objection.

Q When you use the words "our attorneys," you mean Mr. Lowthorp as representing the interest of the Thermoid, and Mr. Parker-Smith, representing the interest of the Johns-Manville Company? A Yes.

Q What other attorneys represented what other interests in the Asbestos Brake Company? A I don't know anybody but Mr. Massie, who came in with the Brake Liners Company.

Q Did Mr. Hubert have any attorney at that time? A I never met any.

*The Court.* The statement was made by the witness that it was understood that such and such a thing should be done; that attempts should be made to go out and procure the coming in of certain other manufacturers of brake linings. In order to cut the matter short, I am going to rule that is not a statement of agreements between the four interested parties to this agreement. It should be brought out distinctly and clearly.

Q Was there any agreement made between the parties interested in the Asbestos Brake Company that an attempt should be made to interest outside manufacturers of brake linings in the accepting of licenses?

*Mr. McCarter.* The agreement before the formation of the company, it would be immaterial; it should be by the Asbestos Brake Company itself.

*Mr. Katzenbach.* They can make an agreement among themselves.

*The Court.* I will receive it, subject to your objection.

Q (Stenographer repeats the question.) A Yes, sir.

Q When was that agreement made? A At the first meeting after the resolution was passed requiring the 10% payment.

*By the Court.*

Q Then you mean by agreement, that it was an agreement among the directors of the Asbestos Brake Company? A We had no knowledge of the English patents at all then.

*The Court.* Strike that out.

*By the Court.*

Q The agreement you speak of, when you speak of an agreement, you refer to an agreement made between the parties interested; when you spoke about that, did you mean that that agreement was made by the four directors of the Asbestos Brake Company? A I can't say it was an agreement.

Q You have said it was after a resolution was passed in regard to a 10% proposition; was this agreement made at the same place? A It was not an agreement, it was a discussion.

Q At the same time? A Yes, sir.

Q And that was among the directors of the Asbestos Brake Company? A Yes, sir.

Q And did you, as president of the Asbestos Brake Company, take any action following that? A I did.

Q What? A I called up Mr. Hammerstrom, and we had a conference in Philadelphia, and he went to see the Keasby and Mattison Company.

*Mr. McCarter.* That must be hearsay.

*The Court.* Does it make much difference?

Q Did you direct Mr. Hammerstrom to see the Keasby and Mattison people? A I did.

Q Did he ever make a report to you as president of the Asbestos Company? A He did.

Q What was that report?

*Mr. McCarter.* That is objected to as immaterial and incompetent, a statement made by somebody else to this gentleman; there is no resolution; he is relying upon some alleged loose talk; perhaps he had the right to do that—

*Mr. Katzenbach.* There is a resolution to that effect.

Q I show you the minutes of the Asbestos Brake Company, page 43, and call your attention to a direction that was made to you to procure Mr. Hammerstrom to interview the Keasby and Mattison people? A Yes.

Q Do you recall you were given that direction? A I do.

Q This was August 29, 1911. Following the direction given you at that meeting, you had a conversation with Mr. Hammerstrom? A I did.

Q And Mr. Hammerstrom was directed by you to endeavor to get the Keasby-Mattison people to accept licenses? A He was.

Q And Mr. Hammerstrom came back to you and made a report? A He did.

Q What did he report? A Mr. Mattison would not consider the proposition from us in any way, shape or form.

Q Was there anything further to his report? A I don't remember any conversation at the—

Q Did he state any reasons Mr. Mattison had given him?

*Mr. McCarter.* That is objected to as immaterial.

A I don't consider that the Brake Liners Company had any—

Q The Asbestos Brake Company? A The Asbestos Brake Company had anything.

Q Did you yourself, as president of the company, ever interview any people to induce them to accept licenses? A I did.

Q Whom did you interview? A I went down to the Raybestos people.

Q Who were they? A Large manufacturers of asbestos brake linings.

Q Where? A Down in Bridgeport, Connecticut.

Q Did you converse with any of the officers of the company about this matter? A I did.

Q With which officer of the Raybestos Company did you have any conversation?

*Mr. McCarter.* We object to that.

*The Court.* I can't see what bearing it has, but I will not exclude it now.

A I saw the president and the secretary of the company.

Q Who were they; do you remember? A Mr. Raymond, and I don't know the secretary of the company.

Q What did they tell you? A They told me they made brake linings before we had made any application, and, therefore, they wouldn't consider going into any arrangement with us.

Q Why did you interview these people with respect to inducing them to take licenses?

*Mr. McCarter.* That is objected to as immaterial and irrelevant.

*The Court.* Objection sustained.

Q Mr. Stokes, what was the object which the people who formed the Asbestos Brake Company had in forming it?

*Mr. McCarter.* I object to the question; the charter will tell that.

*The Court.* That is true, and if anything further is needed, the original agreement speaks.

Q After you and Mr. Hammerstrom had had an interview with these various people to induce them to take licenses—

*The Court.* This is apparently another line of testimony. We will recess until two o'clock.

AFTER RECESS.

Q Mr. Stokes, I call your attention to the minutes of the meeting of the Board of Directors of the Asbestos Brake Company held July 25, 1911; the minutes recite that you were present, as well as Mr. Conrad Hubert, T. F. Manville and M. C. Massie; do you, as a matter of fact, remember attending such a meeting? A I do; yes, sir.

Q I call your attention to the paragraph reading; "On motion, duly seconded, it was resolved that the secretary be instructed to obtain some printed stationery for the company; to write letters to manufacturers of brake liners inviting them to take licenses under the company patents, and in case of necessity to call personally on such manufacturers as might be interested." Do you remember any action like that being taken? A Yes.

Q Was there any conversation which occurred between the members of the Board of Directors at that time with respect to licenses which had been taken out by the Thermoid Company and by the Manville Company?

*Mr. McCarter.* We object to that. How can such conversation between directors, conversations like this, be taken as against us?

*The Court.* Does your question mean conversations by the directors acting as directors?

*Mr. Katzenbach.* The discussions by them when they were acting as directors.

*The Court.* I can't see how that is competent; whatever discussion there was, there is no allegation that the action taken, whatever it was, was taken because of any misrepresentation.

*Mr. Katzenbach.* The action taken here embodies likewise an agreement of the Board of Directors of this company with the Thermoid Company and with the Manville Company with respect to the licenses which those two last named companies took out.

*The Court.* It cannot refer to an agreement unless that agreement was made an actual act of the company by this Board of Directors.

*Mr. Katzenbach.* The action of the Board of Directors was actually in accordance with the understanding had by these directors acting for the Asbestos Brake Company with the Thermoid Company and with the Manville Company, that is, to be specific, the licenses given by the Asbestos Brake Company to the Thermoid Company and to the Manville Company, were given upon the distinct understanding, and received upon the distinct understanding, that they were not operative until other manufacturers had been induced to accept some of the licenses, and that for the obvious reason that it would be absurd, from a business point of view, for either of these companies to accept licenses, compelling them to accept licenses, and then go out on the market and get others—it was not a minute because these licenses were decoy licenses, because it was impossible for them to go to others and ask them to take licenses when the persons making the invitation were interested in a company which had not taken licenses; it would not become a part of the corporate minutes; it would be contrary to the agreement and contrary

to the equities of the situation not to permit this feature to be brought out, notwithstanding the fact that it does not appear as actual corporate minutes.

*Mr. McCarter.* There are about twenty-five objections to this question, but one or two will suffice. The bill sets up the fact of the execution of the licenses; the evidence already adduced introduces the licenses, which are under corporate seal of both licensor and licensee, and attested by the secretaries of the respective companies, entirely devoid of any condition or any other thing other than a positive agreement, other than the consideration named in the paper by which the licensees undertake to pay certain licenses.

In addition to that, which in itself would prevent any verbal understanding, the answers to our bill which sets up these licenses, says they were executed but is entirely silent with reference to any such defence that counsel has now imagined, that it is a decoy license. On the contrary, they admit that the licenses were executed without condition, but they say they were subsequently rescinded at this meeting of November, 1914, when we have already shown the by-laws require all the directors must be present. To attempt to overcome a positive agreement, recognized by them in every way, under their corporate seal, admitted by their answer and only sought to be impugned by the claim that it was abandoned we object to it for both of those reasons.

*The Court.* Do you claim surprise?

*Mr. McCarter.* Yes, sir.

*The Court.* My recollection is, that the answers do set up allegations that these license agreements were executed in accordance with a certain plan. Paragraph 6 of the answer of the Johns-Manville Company, on page 3, says, "This defendant shows,

however, that the authorizing of said license agreements and the making thereof with this defendant and the said Thermoid Rubber Company, were part of a plan contemplated by said agreement, and were upon the express understanding between the parties thereto, that they were to become finally effective only in the event that the conditions contemplated by the plan should be brought about, and such license agreements between the said Asbestos Brake Company and this defendant and the Thermoid Rubber Company were not intended to and did not become binding upon the licensees because of the failure of said plan," etc.

*Mr. McCarter.* I have never seen that answer; I have before me the answer of the Thermoid Company.

*The Court.* I think that answer is to the same effect.

*Mr. McCarter.* (After examining answer.) I was mistaken in what I said with reference to the answer. What I said with reference to the answer was incorrect. That does not, however, meet the question of the propriety of introducing parol evidence. It tends to show that the agreement, which is in writing, is to be modified upon some parol understanding that existed at the time it was made. It seems to me that the exact question came up before Vice-Chancellor Van Fleet in the case of Parker *vs.* Jemison, in 5 Stewart; "Undoubtedly a written agreement may be modified or altered by a parol agreement; if the parol agreement is made subsequent to the written, but if they are made contemporaneously the written must be taken, in the absence of fraud or mistake, to be the sole repository of the intention of the parties, and the only competent evidence of their agreement. Until a contract is re-

duced to writing and executed by the parties, it is always subject to suhc parol changes and modifications as the parties choose to make; but after it is put into writing and executed by the parties, the writing itself, in the absence of fraud or mistake, must be taken as conclusive evidence as to what were the ultimate intensions and purposes of the parties, and the only competent evidence of what they meant.

"They are familiar principles, and need not be vouched for by the citation of authority. The case of French *vs.* Griffin, 3 C. E. Gr., 280, is, however, so exactly opposite, and I cannot forbear all mention of it. The defendant in that case alleged, by way of defence, that the complainant, at the making of the mortgage, had agreed by parol that he should not be required to pay the mortgage debt in money, as the mortgage required, but should have the right to pay it in work. Chancellor Zabriskie, in rejecting the defence said, (still quoting from the opinion of Vice-Chancellor Van Fleet) 'if such bargain had been made, either before or after the execution of the papers, it could not affect the case; if made before it would be considered changed and abandoned by the mortgage being given for payment in money, and not in work; if made afterwards it could have no effect because without consideration. If such bargain had been made at the time of the contract it could not, at law, alter or change the written instrument. Nor could it have any effect in equity, except as giving a foundation to a suit to reform the instrument and correct the mistake in drawing it. A mortgage cannot be reformed upon an answer to a foreclosure bill.'

"Though these rules are rudimental, it is necessary occasionally to restate them, to rescue them

from the forgetfulness which they, as well as other first principles, seem sometimes liable to fall into."

That was the language of the Vice-Chancellor in that case. Now, here is a positive agreement of license patents pursuant to a rosolution. It has no whys or wherefores or conditions or understandings or anything else, expressed in it. It crystallizes and expresses the intention of the parties. Can that be overcome by undertaking to show in a suit based upon the instrument, that by some contemporaneous parol understanding not incorporated in the resolution, and not incorporated in the document, that document which has this integrity which we know it has, don't mean what it says, but means something else, that there were some conditions or some plan to which it was subservient?

*The Court.* I think you misconceive that which is the foundation of the contention of counsel here, although it perhaps has not been so fully expressed as it might have been.

I gather that the thought in counsel's mind is this: of course, it is perfectly true a written instrument cannot be modified by parol, except by subsequent parol in certain circumstances. It is not the thought that there was to be any modification of this contract; the theory is, that it was agreed that the instrument should never, in fact, take effect, and there have been cases holding that such a parol agreement is effective. That is not a modification of the terms of the written instrument, but it is an agreement which shows that that which seems on its face to have been agreed to, was not to take effect until something else happened.

I take it that counsel was mistaken in saying that the conference or discussion was a discussion among the directors as directors. If there had

been such an agreement among the representatives of the Asbestos Brake Company and the representatives of the Johns-Manville Company, we will say, an entirely outside corporation, whereby the officials of both those companies agreed to execute and did execute a license agreement of this kind upon the distinct understanding that it was not to become effective until the John Brown Company executed an agreement, or other companies executed the agreement, that I take it would be competent to be shown. Now, here is the peculiar circumstance, that the persons who were acting as licensees were the same persons who were the directors of this Asbestos Brake Company, so that the representations which would otherwise have been made at arms length, may have been in this case made by the same persons acting in dual acts.

I think I will admit the testimony and deal with it finally later.

Q (Stenographer repeats the question.) A Yes, sir.

Q What were the conversations? A The thought was, that the only reason why we signed the 10% royalty was, to influence other people to come into it, and, therefore, nothing would be done until other outsiders came in and acknowledged our claim.

Q You mean, that the licenses were not to take effect—

*Mr. McCarter.* That is objected to.

*The Court.* Ask by whom it was said.

Q Who participated in these discussions? A The full board were there, I think.

Q Who were they? A Mr. Manville, Mr. Massie and Mr. Hubert; I think the full board at that meeting.

Q And yourself? A Yes, sir.

*Joseph O. Stokes, direct.*

Q Now, what was the discussion with respect to your license and by whom, what was said? A It was said that the only way it could be effective—

*By the Court.*

Q You are speaking about someone saying something; who was it that said it? A The Board of Directors.

Q What individual? A Mr. Manville and myself talked it over, and I think Mr. Massie.

Q What did Mr. Manville say? A The only way it could be effective was, if we were successful in obtaining other people to recognize our patents.

Q With respect to the time when the licenses taken by you and the Manville Company were to be effective, was anything said? A Nothing until we were able to secure other manufacturers to come in and recognize our patents.

Q You mean it was said?

*The Court.* No, no.

A It was said they would not—

*By the Court.*

Q Not "it was said"; what was said and by whom? A Mr. Manville, Mr. Massie.

Q What was said by Mr. Manville? A He said he would sign this agreement with the thorough understanding that it would be effective if we were able to secure other people to recognize our claim.

Q What was said? A By whom?

Q You. A I corroborated his statement.

Q Did Mr. Massie or Mr. Hubert say anything? A I don't remember much about their statements at all. The two parties in interest were Mr. Manville and myself, representing the two larger members—

*By the Court.*

Q Was this before or after the license agreement between the Asbestos Brake Company and the Thermoid and Johns-Manville had been signed? A Both before and after.

Q Suppose you tell me precisely what was said in that interview before the agreement had been signed? A Mr. Manville stated the purpose was, to secure outside people to recognize certain claims we had.

Q For the purpose of what? A To fix and determine what—

Q The purpose of what was to do— A To have an influence—

Q You said the purpose was to do so and so, the purpose of what? A The purpose of the signing on the 10% royalty basis was to have a moral effect of inducing, but not to have the moral effect until such time—

Q All right.

Q Was that statement made by Mr. Manville in the presence of the other directors? A It was discussed there at the meeting.

*By the Court.*

Q That doesn't answer the question. You simply don't answer questions. A Yes, we were all talking at the meeting before it was over.

Q Before this meeting even, you had talked to the same effect with Mr. Bonner?

*Mr. McCarter.* That is objected to.

Q At the time that this discussion took place of the directors was there anything that was agreed to by the directors in respect to those licenses? A I don't understand the question; an agreement in what way?

Q An agreement with respect to when the licenses given to your Thermoid Company and to the Johns-Manville Company should become effective? A When we were able to invite or secure or get other people to acknowledge our claims and come into the company on the basis that we had outlined.

*By the Court.*

Q Do I understand by that, that your companies were not to be licensed to manufacture under these patents until that time? A Yes.

Q You had no right to manufacture under these patents until other persons should come in? A It was the understanding that it was the moral effect that we should—

Q I am asking you whether your companies were to be permitted to manufacture these articles? A That is a legal question.

Q No, it isn't, Mr. Stokes. You have said it was agreed by these four persons that the license agreement was not to be effective until at least some additional manufacturers of asbestos brake lining should come in and take out license agreements. I am asking you whether that agreement which you speak of as having been arrived at, meant the licenses as a whole or simply the question of the payment of royalties? A I think it meant we were not to pay any royalties until we were able to have other companies recognize our patents and join in with our company.

Q But that you were to be permitted to manufacture these brake linings until that time without paying royalties? A Yes, sir.

*The Court.* It strikes me that that rather affects the admissibility of the testimony. However, since it is in I will hear argument on it later.

*Joseph O. Stokes, direct.*

Q Mr. Stokes, as a matter of fact, were the patents issued, were there any patents issued at that time with respect to which these licenses were given to the Thermoid and the Johns-Manville? A Not any basic patents, just claims, different construction.

Q Patents had not, as a matter of fact, been issued then? A Not that I know of.

Q At the time you proceeded to manufacture? A No, sir.

*By the Court.*

Q There had been applications? A Yes, sir.

*The Court.* Then of what materiality is that?

*Mr. Katzenbach.* In some instances the patent applications were not granted; they would never have been required to pay any royalties on those.

*The Court.* It is a question of the effect of the agreement to pay royalties.

Q Mr. Stokes, there has been a letter which Mr. Massie testified he wrote to you under date of October 5, 1911; have you seen that letter which has been introduced in evidence? A Yes, here.

Q The copy? A Yes, sir.

Q Have you any recollection of ever receiving that letter? A No, I have not.

Q You read the letter, did you not? A Yes, sir.

Q The subject matters contained in the letter were discussed at the directors' meetings at which you were present, were they not? A Some of them, yes, sir.

Q Mr. Stokes, at the directors' meeting of July 25, 1911, at which you and Mr. Hubert and Mr. Manville and Mr. Massie were present, was there any discussion concerning the legality or illegality of operation under the pooling of the patents?

*Mr. McCarter.* Same objection.

*The Court.* What do you mean by pooling of the patents?

*Mr. Katzenbach.* All these patents were to be taken by this company, and then they were to obtain a substantial monopoly of brake linings. It was part of the scheme that there should be obtained in this method and by this operation a practical monopoly.

*The Court.* Part of what scheme?

*Mr. Katzenbach.* Part of the scheme by which the company was formed; that is, there were certain claims for which the Thermoid had the patents, and for which Mr. Hubert had the patents, and certain claims for which the Brake Liners Company had the patents.

*The Court.* Here was a corporation which was formed and which had the patents assigned to it?

*Mr. Katzenbach.* Yes, sir.

*The Court.* Is your question as to whether there was a discussion as to the validity or invalidity of the operation of that company as a fact?

*Mr. Katzenbach.* Yes; not the incorporation of the company itself, but operation in licensing other persons to operate under these patents. It is a question as to its corporate acts.

*The Court.* Re-frame your question.

Q At the meeting of July 25, 1911, at which you, Mr. Hubert, Mr. K. F. Manville and Mr. M. C. Massie were present, was there any discussion relative to the possibility of carrying out the scheme of licensing under the patents held by the Asbestos Brake Company with respect to the Sherman Anti-Trust Law, in the manner and according to the form of the license agreements, to those signed or those which were to be signed by the Johns-Manville Company?

*Mr. McCarter.* This was a year and a half after they were signed. If at the meeting in November a valid resolution had been passed, that would be corporate action made against us, but how can the minority interests be bound by some loose discussion that took place by gentlemen at a meeting, and when this purported resolution of November, 1917, was undertaken to be passed at a meeting when two directors were present, they don't purport to give any such reason as this—

*The Court.* This is concerning a discussion at the July 25th meeting?

*Mr. McCarter.* Yes, and we say as against these companies' action in signing these licenses which the Thermoid Rubber Company signed as well as mere discussion at a Board of Directors' meeting in July, four months after the licenses had been executed by both parties and three months before the attempted resolution nullifying the thing was attempted to be passed, more discussion is absolutely incompetent.

*The Court.* In itself it will have no effect one way or the other, but I will admit this testimony subject to your objection, so that we will have it if needed.

A Yes, sir.

Q What was that discussion; what was said? A Well, it was said on the lines I outlined before, understand.

*Mr. McCarter.* We are entitled to what was said.

*The Court.* You are.

Q Can you state what was said, Mr. Stokes? A Well, in talking with Mr. Manville, and I don't know whether Mr. Massie was in this conversation or not at that time—

*Mr. McCarter.* The question directs the answer especially to a meeting when all four were present.

*Joseph O. Stokes, direct.*

A All four were present, but we had a discussion between Mr. Manville and myself with reference to our attorneys passing upon our claims in reference to the English patent which was issued, stating we hadn't any chance to go to work and force anybody into the organization. The only way we could do it would be by methods to persuade them to come in.

Q Was there any discussion at that time with respect to whether the operation by persuasion of the company in endeavoring to obtain others to take license agreements under the licenses controlled by the company was or was not in accordance with the Sherman Anti-Trust Law? A I don't remember that; I know we discussed the fact that we had taken the matter up with two or three people, including—

*The Court.* You have answered the question, Mr. Stokes, and you had better let it rest.

Q It was following the discussion which was had with respect to the necessity of inviting others to take licenses that the resolution to call personally upon manufacturers was adopted at that meeting, was it not?

*Mr. Lowthorp.* Objected to as leading.

*The Court.* Objection sustained.

Q Following the discussion which you had with respect to the enforcement of the patents held by the Asbestos Brake Company what, if any action—or did you take the action which is recorded on page 42 of the minute book of the Asbestos Brake Company?

*The Court.* Isn't that the question you asked before?

*Mr. Katzenbach.* I will withdraw the question.

*The Court.* Just bear in mind that in these vital points counsel has the right to have the testimony

brought out in the usual way without leading questions.

*Mr. Katzenbach.* Yes, sir, I realize that and I will try to conform to the suggestion.

Q You were present at a meeting held on August 29, 1911, at which Mr. Hubert, Mr. Manville and Mr. Massie were likewise present, were you not? A I think I was, yes.

Q I call your attention to the fact that that is the time in which you were directed to procure the services of Mr. Hammerstrom to interview certain persons? A Yes.

Q Was there at that time any statement made with respect to the licensing of others under the patents held by the Asbestos Brake Company and with reference to the Sherman Anti-Trust Law?

*Mr. McCarter.* The same objection.

*The Court.* The same ruling.

A I don't remember.

Q Do you remember the matter of the legality of the action of the company in licensing others similar to the licenses which had been given to your company and to the Manville Company; do you remember that being discussed in the light of the Sherman Anti-Trust Law at any meeting of the Board of Directors of this company?

*Mr. McCarter.* The same objection.

*The Court.* The same ruling.

A Yes, it was talked over on many, many occasions.

Q You mean, in the directors' meetings? A In the directors' meetings, yes, and by our attorneys, I think, who were present in all our meetings.

Q You mean the attorneys attended the directors' meeting? A A great many of them.

Q And did the attorneys discuss with the directors the effect of the Anti-Trust Law? A Yes, sir.

*Joseph O. Stokes, cross.*

Q And it was in the presence of the directors that it was discussed? A Yes, sir.

Q What was said on those occasions by the attorneys in the presence of the directors, naming the attorney who made the remark?

*Mr. McCarter.* The same objection. We object to the advice of the attorneys; it don't amount to anything and can't be given.

*The Court.* The same ruling.

A Why we were told distinctly by our attorney in several instances—

Q What attorney? A Mr. Lowthorp was the Thermoid Rubber Company's attorney, and he always attended and advised very strongly against our commencing any active action against any person because we might be in restraint of law.

Q Were there any other attorneys present? A I know Mr. Parker-Smith was there; several were there at different times—

Q You are sure Mr. Smith was there? A Not sure, but I know Mr. Lowthorp attended many of our conferences over there.

Q What did Mr. Lowthorp say in the presence of the directors with reference to the enforcement of these patents? A That we should go very slow in trying to force anybody into our organization only in a general talk.

Q Do you remember what Mr. Lowthorp said? A He advised us against trying to force anybody into the organization.

Q What reason did he give for that advice? A I understand—

Q What reason did he give? A That we were contrary to the Sherman Act, to enforce them was contrary.

*Cross examination* by Mr. McCarter.

Q How is your memory, Mr. Stokes, pretty good? A Well, I don't know.

*Joseph O. Stokes, cross.*

Q For instance, I notice that you testify that this company was organized in 1910? A I said we had a meeting then; I didn't tax my memory at that time, because Mr. Lowthorp and Mr. Wilson and the outside men were working on it, and I had very little to do with it in the beginning.

Q Well, coming up to the conversation with reference to these licenses, you remember you executed, as president of your company, the licenses, do you not? A I do, sir.

Q Eh? A Yes.

*The Court.* You understand you may cross examine on the testimony you have objected to, without waiving your objection?

*Mr. McCarter.* Yes, sir.

Q And your corporate seal annexed? A Yes.

Q Attested by the secretary? A Yes.

Q I understood you to say, that at the very meeting that that agreement was authorized, some discussion took place among the directors who authorized it; is that right? A Yes, sir.

Q And the discussion that you refer to, took place in the presence of Messrs. Manville and Hubert and Stokes and Massie? A I don't know; the discussion was at many of our meetings—

Q I am talking of the meeting when these licenses were authorized.

*Mr. Katzenbach.* He has not made that statement.

Q Do you remember testifying about a conversation that occurred among the directors in reply to a question by his Honor at a meeting at which these licenses were authorized?

*Mr. Katzenbach.* That is objected to; there is no such testimony.

*The Court.* Objection overruled.

Q Do you remember testifying to that effect? A I don't know at that meeting, but the meeting we organized I remember having conversations.

Q The meeting you organized? A Yes, sir.

Q Do you mean the meeting at which the Asbestos Brake Company organized? A Yes, sir; when the question came up to pay the 10% which was understood—

Q One moment—no understandings; the meeting of the Asbestos Brake Company when it organized? A When the 10% royalty was issued, the resolution, that was the best of my understanding and belief.

Q That meeting was the meeting of May 2, 1911, your attention was specifically called to it?

*Mr. Katzenbach.* That is objected to; his attention was not specifically called to it; the attention of the witness was especially directed to the meeting of July 25, 1911, not at the meeting prior to that time when it is not specified he was a director.

*The Court.* I think the meeting was in May, 1911.

Q Mr. Stokes, you stated, did you not, on your direct examination, that at that meeting, the meeting at which the board of directors authorized the execution of this royalty agreement between your company and the Asbestos Brake Company, and between the Johns-Manville Company and the Asbestos Brake Company, that there was a conversation between the directors with reference to the matter, didn't you? A I had a conversation with Mr. Manville on that point, but I didn't know the organization wasn't completed.

Q I have asked you about the meeting at which the authorization of the license agreement between the Thermoid Rubber Company and the Johns-Manville Company was given? A Mr. Manville talked the matter over.

Q It wasn't all the directors? A I can't say.

Q Don't you know you were not a director at that meeting? A Yes.

Q Don't you know Mr. Manville was not a director? A Yes.

Q Don't yon know Mr. Hubert was not a director? A Yes.

Q And Mr. Massie? A Yes.

Q Then why did you say that the four directors discussed it at that time? A I misunderstood the date; it was discussed but not at a board meeting.

Q You have stated on several occasions that Mr. Lowthorp advised the company, in your presence, and in the presence of other directors, that it would be improper to undertake to get after the infringers because of the Sherman Act? A Yes, many times.

Q Have I stated it correctly now? A Yes.

Q Give us any single date when he gave you such advice. A We talked it over on many occasions.

Q When? A I can't tell you the date, it is so far back.

Q In whose presence? A I think in the presence of my brother.

Q Who else? A Well, I don't know, except, perhaps, at these meetings there was a general discussion.

Q Not "perhaps"; who was present when the conversations took place? A The directors, in New York.

Q They took place in New York? A Yes, sir.

Q At the office of the company? A I think they were held at Mr. Manville's office down town those days.

Q The office of the Johns-Manville Company in New York City? A Yes.

Q Before or after the license agreements were signed? A When Mr. Lowthorp discovered—

Q Was it before or after the license agreement was signed? A At the meeting when it was signed.

Q Was the license agreement signed at a meeting? A Yes, and then Mr. Lowthorp and the rest of the attorneys

discussed this feature of the English patent; we didn't know anything about it until that time.

Q Was that at Mr. Manville's office? A Yes, I think it was there.

Q Was this at the Johns-Manville office? A Yes.

Q You had the seal of the Thermoid Rubber Company there? A I don't remember that.

Q Be careful; do you mean to say this conversation occurred on the day the papers were signed? A At that meeting.

Q What meeting? A When the 10% was authorized.

Q That is the meeting of May 2nd, and you say that took place in New York? A The meeting of the company?

Q Yes. A I wouldn't swear; I think so.

Q I am speaking of the meeting when you say this conversation took place. A I couldn't say positive where it took place.

Q Who were there? A The minutes will tell you.

Q I am asking you. A I don't remember.

Q Was Mr. Harry R. Wilson there? A No, that is the meeting before the organization.

Q What? A Wasn't that before the organization?

Q I am asking you if Mr. Harry R. Wilson was there? A I don't know.

Q Was Mr. Hubert there? A I don't know.

Q Was Mr. William N. Cooper there? A I don't remember.

Q Was Mr. Massie there? A I don't remember.

Q You don't know where it was? A No, I don't know.

Q What did Mr. Lowthorp say? A On every occasion?

Q On this occasion. A I don't know on this occasion.

Q I am asking you to fix a time and place when this important remark was made, and I think I am entitled to

an answer. A I think it was the 7th of April when the main conversation was held, wasn't it?

Q Don't ask me any questions; I am asking you. A That was when the royalties was issued, 10%.

Q I say, for your information, that the meeting at which the royalty agreements were authorized was the meeting of May 2nd; that is the meeting, if you want to know that date? A Was the Board of Directors there, all the Board of Directors?

Q I am asking you; you are supposed to remember something about this matter. A I know the conversation we had all along the line was—

Q I am asking you if it is a matter of fact, that at the meeting of May 2nd, the meeting when the licenses were authorized, Mr. Lowthorp made this remark attributed to him? A I don't remember on that occasion.

Q What other do you remember? A I remember the 7th, I think.

Q Of what? A The 7th of April, I think.

Q What year? A 1911; wasn't it the 14th?

Q The company wasn't organized until the second of May, 1911.

*Mr. Hardin.* You don't mean to mislead the witness that way, do you?

*Mr. McCarter.* Let me have the minutes.

Q The organization meeting of this company took place on the 7th of April, 1911; you say it occurred at that meeting? A The conversation occurred at that meeting.

Q That Mr. Lowthorp said— A Well, yes, they claimed we hadn't, because the English patent which was brought out at that meeting when Mr. Bonner and Mr. Massie came in—our attorneys never discovered it.

Q Where was this organization meeting held? A I don't know.

Q In New York City? A I don't know.

Q At the Johns-Manville office? A I don't remember.

Q Who were present? A I don't remember; was that on the 7th?

Q The company was organized on the 7th of April. A I remember a meeting when the company met and declared we should pay a 10% royalty; that was meeting was held, I think, on April 7th; I am not sure.

Q The organization meeting is here, and it does not appear that you were present; were you present? A No, we had outside people.

Q You were not present? A I don't know.

Q If you were not present did you hear what took place? A I wouldn't say one way or the other.

Q You don't know where the organization meeting was held? A No.

Q You were not there, were you? A I don't remember; I don't think I was.

Q Now, the next meeting seems to be—I will refer to the authorized version and not to copy—May 2nd, 1911, which was the meeting at which the licenses were authorized; were you present at that meeting? A I think I was.

Q Where was it? A In Mr. Manville's office.

Q You are quite sure about that, are you? A No, I am not.

Q Are you sure you were present? A No, I am not; I think the first meeting I have any recollection of was the 7th of April.

Q Are you sure you were present at the meeting of the 2nd of May? A I think I was; I wouldn't be sure.

Q You were not entered as having been present? A No; I think I was there.

Q Are you sure? A I am not sure.

Q Then, how are you sure of anything that was said? A I said the first recollection I have is when the 10%—

Q That is the meeting I am referring to; were you present at that meeting? A I am pretty sure I was.

Q But you are not sure? A No.

Q Where was it held? A I don't remember.

Q What did Mr. Lowthorp say at that meeting? A He advised us against going into any combination that would infringe the Sherman Law.

Q Anything more? A Nothing else.

Q Eh? No more? A I don't remember. He generally—

Q I mean, did he state about the Sherman Law? A That we should not go into the deal unless we persuaded somebody to go in with us.

Q When did the question of bringing infringement suits first come up? A I don't remember that, sir.

Q Eh? A I don't remember.

Q You finally told us at the close of your direct evidence, that what Mr. Lowthorp advised against was undertaking to sue infringers because they might make some claim to the illegality of the scheme? A Yes.

Q Was that the same thing? A Yes.

Q That's what he had been harping on from the start? A Yes, sir.

Q Against suing infringers because they might set something up which would show it was illegal? A Yes.

Q And the first time you heard that was after the question of infringers came up? A It was the English patent.

Q When did the question of infringers first come up? A When the Bonner people came into it.

Q When was that? A I don't know.

Q So it was after the Bonner people came in that Mr. Lowthorp gave that advice? A I think they came in with the organization meeting, or just after that.

Q Which do you mean? A I don't know; I was away a great part of that time, you know.

Q Yes, I think you were. Now, you realize, do you not, Mr. Stokes, showing you "Exhibit C. 4," do you recognize this document as being the license agreement that the Thermoid Rubber Company signed? A Yes.

Q That is your writing? A Yes.

Q You signed that? A Yes.

Q As president? A Yes.

Q It was attested by your brother as secretary? A Yes.

Q Did you mean anything when you signed that paper? A Yes, with the understanding—

Q Did you mean anything when you signed the paper? A I meant if other people were got into it—

Q What did you mean? A Well, I meant if other people would come into it—

Q Why didn't you say so? A It is part of the evidence—

Q Why didn't you say so? A That was the intention of the company.

Q Why didn't you say so? A That's the fault of our attorneys.

Q You talked about the officers of the Asbestos Brake Company; who was president at that time? A I was.

Q Why didn't you sign the document on behalf of the Asbestos Brake Company? A I was not there; I don't know just when I was—

Q Don't you think you had better be a little more careful in your statements, Mr. Stokes? A Yes.

Q Is it your memory that is at fault? A Yes.

Q You were not a director or an officer at that time, were you? A No.

Q Neither was Mr. Manville? A We talked it over—

Q He was not a director? A No.

Q Nor Mr. Hubert? A No.

Q Nor Mr. Massie? A No.

Q The licensee individuals then, talked over between themselves certain things about this thing? A Yes.

Q And then went on and executed the paper, didn't they? A It wasn't executed until—I don't know what day that meeting was.

Q Well, the paper bears date the second of May; was it executed the day it bears date? A Yes.

Q Now, were you present at that meeting of November 11th when that attempted resolution was passed? A No, sir.

Q Then, the Mr. Stokes that was present was your brother? A Yes.

Q Your brother wasn't a director, was he? A No, sir.

Q There was only one director present at that meeting? A I don't remember; I wasn't there.

Q You were not there, that's sure, isn't it? A No.

FREDERICK NATHAN HAMMERSTROM, a witness produced on behalf of the defendants, being duly sworn, testified as follows:

*Direct examination* by Mr. Katzenbach.

Q You are a resident of the City of Trenton? A Yes, sir.

Q And at present connected with the United States Rubber Company? A Yes.

Q What was your position in 1911? A I was commercial manager of the Wellsbach Company, Gloucester, New Jersey.

Q On or about August 29, 1911, did you have any conversation with Mr. J. O. Stokes relative to matters pertaining to the Asbestos Brake Company? A I had such a conversation, I would say it was about that time; I fixed no dates.

Q What was the conversation you had with Mr. Stokes?

*The Court.* Do you intend to contradict this testimony?

*Mr. McCarter.* We haven't any present expectation of contradicting it, for we don't know anything about it.

*The Court.* I will give you an opportunity to have the testimony put in if it is necessary.

TOM C. GREENWOOD, a witness produced on behalf of the defendants, being duly sworn, testified as follows:

*Direct examination* by Mr. Hardin.

Q Mr. Greenwood, where do you reside? A At present in St. Louis, Missouri.

Q Were you formerly occupying any employment with reference to the Johns-Manville Company or to Mr. T. F. Manville? A I have been with the company.

Q And are still with the company? A Yes.

Q And you were with the company in 1911 and prior thereto? A Yes, several years prior thereto.

Q What was your position in 1911? A Private secretary to the President of the company.

Q How long had you been such at that time? A I am quite sure it was in the fall of 1907 that I went with him.

Q Did you continue as his private secretary during the whole of the year 1911 and into 1912? A Yes, sir; all of those years, I think a year later.

Q Where was your office with reference to Mr. Manville's office? A That depends on which offices the company occupied.

Q In 1911 I am talking about? A 1911, that was the lower office, whether I can describe it to you or not—

Q 100 William street, New York? A Yes, sir.

Q Where was Mr. Manville's office and where was your office? A Mr. Manvillle's office was in the corner of the larger office building, that is, the main building; I had no separate office—

Q Was it an L building? A No, a rectangular building, such as the top of this desk. Mr. Manville's office, which was walled off, was in one corner of that, and my desk was directly outside of a door, so we could see each other always; my desk was placed at an angle with the door.

Q What kind of a door was this? A I guess imitation mahogany.

Q I don't mean the material of the door, I mean the door structure? A Just an ordinary door.

Q A double door or a single door? A A single door.

Q Was the door between your room and Mr. Manville's room open or shut, customarily, I mean? A Very rarely closed; we very rarely closed that; it was seldom closed—a few times.

Q How far was your desk from his desk? A Twelve feet.

Q Were you within hearing of the ordinary conversations that took place in his room? A I was in such a position that I could overhear anything; yes, sir; to answer your question strictly, I was in a position where I think I could have heard every word that was spoken in the other room.

Q Are you acquainted with Mr. Massie, the gentleman who was on the stand this morning? A I have met him, yes.

Q Where have you seen him before this morning? A I think only at Mr. Manville's office.

Q At 100 William street, New York? A Yes, sir.

Q Are you acquainted with Mr. Hubert? A I have met Mr. Hubert, yes; I think I could pick him out.

Q And where have you seen Mr. Hubert? A I wouldn't like to say whether I saw Mr. Hubert at the lower office or the upper office.

Q What is the distinction in your mind between the lower and upper offices? A We moved uptown.

Q When was that move made? A It must have been made in 1912.

Q And have you seen Mr. Hubert at Mr. Manville's office there at the lower office, or uptown? A Yes.

Q At either of those places? A Yes.

Q You know Mr. J. J. O. Stokes? A Yes.

Q Where have you seen him before today? A I have seen Mr. Stokes at both of those places.

Q Are you acquainted with Mr. W. J. B. Stokes? A I met him on one, or possibly two occasions.

Q And where? A It must have been—

Q Not where it must have been; if you recollect, tell us where it was. A Well, at 100 William street.

Q Were you ever present at any meeting of the directors of the Asbestos Brake Company? A If I have ever attended any of them?

Q Were you ever present? A Yes, sir.

Q And were you at your desk on more than one occasion when meetings of the directors of the Asbestos Company were held in the adjoining room? A Yes, sir.

Q Do you recall especially the meeting referred to—were you in court this morning when Mr. Massie was examined? A Yes, I was here all morning.

Q I direct your attention to the minute book, page 45, minutes of the meeting November 14, 1911, with lead pencil memorandum in the corner, that is not in your handwriting? A No, sir.

Q Do you recall whether or not you took notes at anybody's suggestion of meeting which were held on that day and which purport to be recorded there? A I certainly took the notes, I don't know who made the suggestion.

Q Do you have any recollection of the occurrence of that meeting brought to your mind there or a direct recollection or suggestion to you by reading the minutes? A I have a recollection as to two of the matters.

Q Which two are they? A The one reading: "resolved in view of the conditions in connection with prices," etc., and another in which Mr. Stokes was requested to see an attorney in Washington, I believe, with whom he was acquainted regarding some opinion on the subject—

Q Is that attorney Mr. Penny? A Penny.

Q Which Mr. Stokes was the Mr. Stokes referred to here? A That was Mr. W. J. B. Stokes.

Q Do you recall whether you were present during the meeting of the gentlemen named there that day? A I was present during that entire meeting.

Q Do you know Mr. Bonner? A Yes, I have met him and seen him several times.

Q Where have you seen him? A I saw Mr. Bonner at 100 William street, also I am quite sure at Madison avenue and Forty-first street.

Q Were you ever present when Mr. Bonner and Mr. Manville were talking about the affairs of the Asbestos Brake Company? A Yes.

Q Do you recall Mr. Bonner's presence at this meeting on November 14, 1911? A Yes, sir; the one you have just shown me.

Q You are able to tell us whether or not that is a correct minute as copied by you on that day, as so-called temporary secretary? A (Looking at book.) I am positive with the exception that word for word it might not be.

Q Were there any other matters as you recall discussed at that particular meeting, other than the matters that are referred to in these minutes?

*Mr. McCarter.* That is objected to. That can't be competent. I suppose it is proper for them to show that the resolution, as signed, accurately shows what occurred, but I don't think it is competent as

against the company or anyone else to say what occurred at a meeting when only one director was present and not purporting to be a part of the alleged meeting.

*The Court.* I will admit it.

Q (Stenographer repeats the question.) Referring to this particular meeting of November 14, 1911? A That was the only meeting at which I took notes as temporary secretary or stenographer. Took notes in shorthand, which became a part of the minutes. I recall for that reason that the reasons for this—

*Mr. McCarter.* That is objected to.

*The Court.* The question asked could have been answered yes or no.

Q (Stenographer repeats the question as follows:) "Were there any other matters, as you recall, discussed at that particular meeting other than the matters that are referred to in these minutes, referring to this particular meeting of November 14, 1911?" A Yes, sir.

Q What matter that is not recorded here on this minute book, page 45, do you recall as having been the subject of discussion between Messrs. Stokes, Manville and Bonner at this meeting?

*Mr. McCarter.* Objected to.

*Mr. Hardin.* I want him to describe it.

*The Court.* They may have talked about the state of the Union or the European War, or a number of things.

*Mr. Hardin.* Then your Honor would not be interested.

*The Court.* That is just it, what do you expect to show?

*Mr. Hardin.* That they not only passed this resolution, but that it followed a discussion on the sub-

ject involved in the resolution, in which these three gentlemen participated. I think we have a right to show what these three men said at that time.

*The Court.* Upon what theory?

*Mr. Hardin.* So far as the representations involved in the interest of the Asbestos Brake Company—the three or four interests involved were represented at this meeting and this meeting was called by virtue of a formal notice, as we already know—

*The Court.* In other words, you say you are seeking to bring notice of something to the Brake Liners Company of what transpired there?

*Mr. Hardin.* Yes, sir.

*The Court.* I will permit it.

Q Mr. Greenwood, if you remember what was said, anything that was said, by either Mr. Manville, Mr. Stokes or Mr. Bonner while they were together, tell us— A The reasons for that resolutions—

Q What was said? You were there and we would like to have you tell us what occurred in the transaction between these gentlemen, what each one said, so far as you are able to remember, preliminary to the passage of that resolution? A Mr. Manville stated the reason for making that motion.

Q What did he say? A He said that in view of the fact that no other concern had been so far—that is, that the Asbestos Brake Corporation have so far not been successful in getting any other concerns to take licenses, that certainly the company could not afford to pay those royalties under that license agreement, and, therefore, it was his resolution, or his motion that they be waived. That is—

Q Rescinded? A Rescinded.

*Mr. McCarter.* Don't put the words in his mouth.

Q Was there anything else said by Mr. Stokes or Mr. Bonner? A I am obliged to state just what was said by the different parties. I couldn't recall a conversation by any of the other gentlemen present, word for word.

Q Do you recall anything said by either Mr. Stokes or Mr. Bonner in objection or by way of objection to this resolution with reference to the royalty agreement? A No, in fact, I think there was none.

Q Now, on any other occasion than the occasion of this meeting do you recall having heard any discussion or conversation between Mr. Bonner and Mr. Manville with reference to the Asbestos Brake Company situation? A I do, but I can't—

Q Before or after this date? A After that date, possibly, also, before.

Q And what particular matter purporting to the Asbestos Brake Company, do you recall having heard them talk about?

*Mr. McCarter.* Same objection.

*The Court.* The same ruling.

A I remember three. Mr. Bonner had a patent which he wanted Mr. Manville to purchase. That had nothing to do with the Asbestos Brake Company, I believe.

Q That was a Canadian patent? A I think it was.

Q Then forget that, if it had nothing to do with this matter. A Perhaps I shouldn't say this. Mr. Bonner was anxious to get Mr. Manville to help him out on one occasion—

Q Financially? A Well, it was in connection with one of these patents, however, that is, to take charge of it temporarily.

Q Was that before or after the organization of the Asbestos Brake Company? A I don't recall.

Q What was the third thing? A Mr. Bonner was quite anxious that something be done with this patent

situation. Mr. Manville contended he was just as anxious that anything possible be done to see that it come through as it was planned, but that in view of the circumstances that was not possible.

Q And was Mr. Bonner told by Mr. Manville in your hearing why Mr. Manville thought it was not possible? A Well, naturally, that was the subject.

Q What did Mr. Manville say to Mr. Bonner? A As to why it was not?

Q Yes.

*By the Court.*

Q Let us have the entire conversation so far as it had to deal with any of the matters of the Asbestos Brake Company or the patents which were owned by that company? A I can hardly give that word for word.

Q Substantially? A It was as I believe I did state in connection with Mr. Bonner, about not affording to pay—

Q No, how did the conversation commence, what started it? A I think the request of Mr. Bonner as to what could be done or what had been done in connection with the patent situation. Do you mean I must say the exact words?

Q Of course, you can't recall the exact words, but substantially what was said. Did Mr. Bonner come there for the purpose of finding out whether anything was done or being done or going to be done by Mr. Manville or in regard to— A I could hardly recall what the occasion for his coming was, whether it was a request for an interview on his part, or the other way.

Q When they did get together in this conversation, what matter was brought up? A Well, substantially, it was that Mr. Bonner was anxious to

know if something couldn't be done in connection with the matter.

Q That is not what Mr. Bonner said "I am anxious to know if something can be done in connection with the matter." What could be done? A Particularly I think the patent situation.

Q What did he say? You say he was anxious to know whether something could be done in regard to the situation of the Asbestos Brake Company's affairs? A Well, it would certainly be substantially that. I could hardly repeat the words. In other words he would be in town once a month or every six weeks, I don't know where he would be at different times—

Q This is a particular conversation between Mr. Bonner and Mr. Manville, in which you say Mr. Bonner inquired as to what the situation was. Do you mean he inquired into the patent situation of the Asbestos Brake Company? A Yes.

Q What further was said? A Substantially that there had been no developments.

Q Who said that? A I wouldn't like to say Mr. Manville said that in so many words.

Q Substantially? A That is the impression I had.

Q Was there anything more to the conversation? A There were certain things discussed at times. You asked me not in regard to this particular meeting of November 14th, but other times.

Q Other times, if you remember other times, if you don't remember, don't try to tell us? A I couldn't give you any date, any definite date on which I can recall another conversation between Mr. Bonner and Mr. Manville.

Q You do know they met occasionally? A Yes, and talked over this situation.

*Tom C. Greenwood, cross.*

*Cross examination* by Mr. McCarter.

Q Mr. Greenwood, you are now in St. Louis, that is your location? A Yes.

Q And you came on for the purpose of testifying in this case? A Yes, at the suggestion—

Q And you were shown before you came on the stand this minute book, containing the so-called minutes of this meeting of November 14, 1911? A I saw , yes; a copy of them.

Q Where did you see a copy of them? A I saw that in Mr. Parker-Smith's office.

Q Yesterday? A The day before yesterday.

Q And did you undertake then in the presence of Mr. Parker-Smith to recall the incident? A I did recall it very readily.

Q Was a reminder given you of it at all other than the memorandum itself? A None, but certainly that would be sufficient.

Q Did Mr. Parker-Smith try to remind you of anything? A No.

Q Who told you to act as temporary secretary? A I couldn't say.

Q Did you draw the document that is copied in the minute book? A I wouldn't say positive, but unquestionably I did, that is, it seems—

Q You say you are not positive, but unquestionably you did. Are you sure you did? A I am sure I must have written up those minutes.

Q Have you any recollection of it? A Yes, but when I wrote them up that is the part I can't recall.

Q Who told you to put in the fact that Mr. Bonner was secretary? A I can't explain that unless it was simply I was capable of doing shorthand and taking shorthand notes and Mr. Bonner was not and I was asked to take them instead.

Q Do you remember it being stated that he couldn't take shorthand notes, do you remember that? A No, sir.

Q You surmise that? A Yes.

Q Who told you to take it down stenographically? A I couldn't say that.

Q Now, did you know Mr. W. J. B. Stokes? A I think that was the first time I met him.

Q Why didn't you put down in your minutes that it was Mr. W. J. B. Stokes that was there rather than Mr. Stokes? A That has been too long ago for me to say.

Q Do you know whether Mr. W. J. B. Stokes was a director or not? A Do I know?

Q Did you know at that time? A Yes, I knew he was not.

Q I ask you why you didn't state that fact that it was he? A I don't know.

Q Did you know Mr. Bonner was not a director? A I think I must have known it.

Q Didn't it occur to you as strange you should write down what purported to be a memorandum of a meeting of the directors and state who were present when only one of those persons was a director? Didn't that strike you strange? A It may or may not.

Q I ask you whether it did? A I couldn't say.

Q But like a little man, you put down what you were told? A Maybe, I don't understand that question.

Q Well, I want you to understand. I ask you if it struck you as strange, knowing who were the directors of the company, that you should purport to write the minutes of the board of directors when there were only three gentlemen present, of which there was only one a director? A I answered that question and you asked another.

Q What is the answer to that question? A I said perhaps I didn't understand your last question.

Q What is the answer to the question I have just asked you if it struck you as strange? A Really, I couldn't tell you at this time.

Q Did Mr. Manville tell you to call it a meeting of the directors in your memorandum? A I don't think Mr.

Manville, in fact, I am sure he never made any suggestion to me regarding the minutes.

Q Who told you then to call this affair that transpired between these three gentlemen, two of whom were not directors, a meeting of the board of directors, was that your own idea? A That is the only phrase I know.

Q Was that your idea? A It must have been mine, nobody made any dictation whatsoever in regard to it.

Q You don't know who told you to take the dictation? A I don't know who asked me to act as secretary of the meeting.

Q Somebody had to tell you to put down what you did take down? A Certainly not.

Q You didn't take down everything that transpired in Mr. Manville's office? A I would take down the resolutions.

Q You didn't take down everything like a dictagraph? A Certainly not.

Q Who told you to take down these resolutions? A Maybe Mr. Bonner, maybe Mr. Manville, maybe Mr. Stokes.

Q Anyone of the three? A Yes.

Q And like a little man you called it a meeting of the directors, although you knew it was not a meeting of the directors? A I might have realized or not.

Q You knew who the directors were? A I knew who the directors were, but I hadn't in mind what I heard you here this morning say, namely, that it took four to pass certain things in connection with this meeting.

Q You knew that? A No. I may have known it.

Q I understood you to say you had that in mind? A No, I said I didn't have that in mind.

Q Was anybody else present than the three whom you have named there, namely, Mr. Stokes, Mr. Manville and Mr. Bonner? A I will not say positively as to that.

Q Wasn't your friend Mr. Parker-Smith present? A I think he was. I think also Mr. Lowthorp was present.

Q You think Mr. Lowthorp was present? A I think so.

Q You are quite sure Mr. Smith was present? A I think he was.

Q Your recollection is, they were present? A My recollection is both of these men were present.

Q Why didn't you enter those gentlemen on the minutes? A I couldn't tell you. My recollection is that Mr. Parker-Smith was present there before or after the meeting, and during only a part of the meeting, but that is something which I would not say positive.

Q Was that subject discussed yesterday between Mr. Parker-Smith and yourself? A Absolutely not.

Q Now, Mr. Manville stated at this meeting so-called, that his reason for making the resolution was that his company—Mr. Manville stated at this so-called meeting that the reason he offered this resolution was that in view of the fact that no other concerns had come in that his company could not afford to pay the license agreement? A That is substantially it.

Q And thereupon he offered the resolution? A That is what I recollect.

Q He made that remark and then he proposed a resolution? A I don't suppose it came that way.

Q You got it here "On motion of Mr. Manville, duly seconded." A That would be sufficient, yes, sir.

Q Now, you have seen Mr. Bonner in the office of Mr. Manville on several occasions, have you not? A I wouldn't say several; I think I stated one or two. At least that is what I will state at present, on one or two occasions, as I can recall.

Q Didn't you state on several? A No.

Q I am asking you whether you met him, don't fence with me, didn't you see him uptown? A I can't say positively.

Q You mean to say on some of these occasions when he was bringing up the question of why nothing was done in this patent matter, that that conversation wasn't uptown? A Mr. Bonner?

Q Yes. A Yes, I will say I saw him at both places.

Q In which he made these inquiries in reference to this patent situation? A I think that was unquestionably one of his—

Q I am not talking about what you think; I am asking you whether it was not both uptown and downtown where this request of his for information with reference to the patent situation occurred? A I saw him at both places.

Q And at both places he made these requests or inquiries you refer to? A May I answer you indirectly?

Q No. You came all the way from St. Louis to answer that question? A I want to be positive it is correct; at least, downtown, I heard that matter discussed and I am quite sure uptown, also, on at least two or three occasions.

Q And on one at least of the occasions you heard Mr. Manville say, as you testified on your direct examination, that they couldn't afford to pay? A That he couldn't afford to pay.

Q The Johns-Manville Company couldn't afford to pay royalties? A Yes.

Q So that it was the royalties that Mr. Bonner was asking about, wasn't it, when you described this patent situation? A Well, you mean, moneys actually due?

Q When Mr. Manville replied that the Johns-Manville Company could not afford to pay the royalties, in answer to the question of Mr. Bonner, Mr. Bonner was asking him about royalties, wasn't he? A It was in regard to the patent situation,—the license agreement.

Q And the royalties under the license agreement? A Yes.

Q And Mr. Manville would say his company, the Johns-Manville Company, at that time at least, couldn't afford to pay the royalties? A That was understood—

Q Oh, I don't want to know anything about what was understood. Can't you understand the question? Isn't that what Mr. Manville said in reply? A He may have made that direct statement and it may be also just literally true. The idea that Mr. Manville would convey to him—

Q I didn't ask you what the idea was. You don't seem to understand, or don't want to. You couldn't put an X-ray into his mind. You have told us what he has said and I am quite satisfied. Now, what time in 1912 did they move uptown, do you recall? A No, I am not positive of that. Let me see—

Q Try to fix the date if you can? A I believe it was May.

Q 1912? A That's my recollection.

Q That was my idea.

JOSEPH O. STOKES, being recalled on behalf of the complainant, testified as follows:

*Direct examination* by Mr. Katzenbach.

Q You requested Mr. Massie as secretary of the company to deliver to you as president of the company, the minutes of the Asbestos Brake Company? A I did.

Q How long ago was it that you made that request, approximately? A About three years ago.

Q I show you the Minute Book of the Asbestos Brake Company, Exhibit C. 2, is that Minute Book in the same condition as it was when you received it? A I couldn't remember.

Q Beg your pardon? A It seems so, I couldn't remember.

Q The book has remained constantly in your possession? A Absolutely.

*Joseph O. Stokes, cross.*

Q Have you taken anything out of it that was in it when you received it? A Not a thing.

*Cross examination* by Mr. McCarter.

Q Mr. Stokes, what reason did you give for asking the Secretary to deliver that Minute Book to you? A In the first place I understood the books were out of the State—

*By the Court.*

Q The question is, what reason you gave? A What reasons. In the first place, I wanted to look over the Minutes. I wasn't quite positive of the Minutes. I had been away a great deal.

Q It is the reason you gave to Mr. Massie that is wanted? A I simply said I wanted to read the Minutes.

Q To look over the Minutes? A Yes.

Q That is exactly what you told him? A Yes.

Q But that wasn't the real reason, was it? A Yes, sir.

Q You have given us a further reason? A In the first place, I didn't have any intention in my mind, expect to read them over.

Q Now, where have they been since? A Out to the Thermoid Rubber Company's office.

Q All the time? A All the time.

Q You say you live in Trenton? Do you live in New York? A No.

Q Practically you stay at the Royalton Hotel, New York, don't you? A No; I am there very little.

Q Why didn't you return the books to the custodian? A I felt after looking at the mater they belonged in the State of New Jersey, the corporation was formed here.

Q Do you know of any requirement that the Minute Book should be kept in New Jersey? A No, but I thought as President I had a right to say where the

Minute Book should go, that is, I had a right to say that the Minute Book should not go out of the State.

Q Did you explain why you didn't return it? A I don't think I did.

Q Where was the office of the Asbestos Brake Company? A I don't understand; we didn't have any particular office except the State of New Jersey.

Q You filed your annual report, didn't you? A Well, only the report at the State House.

Q Where did you give your office as, in the annual report? A I don't know, it was filed by the Secretary.

Q Who was that? A I guess Mr. Massie.

Q Have you paid annually the franchise taxes of this company? A Yes, we had money.

Q You did have money? A Yes.

Q Have you paid the taxes? A Yes.

Q You paid them annually? A Yes, sir.

Q And kept the organization up to the present time? A Yes, sir.

Adjourned to tomorrow morning, July 15, 1920, at 10:30 A. M.

SECOND DAY.

Testimony taken in the above-entitled cause at the State House, Trenton, New Jersey, on Thursday, the fifteenth day of July, 1920, at 10:30 A. M.

Before Hon. Malcolm C. Buchanan, Vice-Chancellor.

Appearances as before noted.

W. J. B. STOKES, a witness produced on behalf of the defendants, being duly sworn, testified as follows:

*Direct examination* by Mr. Katzenbach.

Q You are a resident of the City of Trenton, are you not? A I am.

Q Connected with the Thermoid Rubber Company? A I am.

Q In what capacity? A As treasurer and stockholder. My brother and myself hold ninety-eight per cent. of the stock.

Q Did you ever hear of the Asbestos Brake Company? A Yes, sir.

Q Did you attend a meeting which was held in New York on November 14, 1911, with respect to the affairs of that company? A I did.

Q Who was present at that meeting? A Mr. Manville, representing the Johns-Manville Company, Mr. Bonner, representing the Asbestos Brake Liners Company, and myself, representing the Thermoid Rubber Company, and Mr. Lowthorp, my attorney, went over with me.

Q Anybody else? A Mr. Greenwood, of the Johns-Manville Company.

Q At that time, I call your attention to a resolution contained in the minutes of that meeting: "Resolved, in view of the conditions in connection with prices on Brake Band Lining and the fact that it has been impossible to maintain prices as proposed at the time of organization,

that the provision for the members of this company paying in ten per cent. on the sale of Brake Band Lining, be rescinded, and until conditions warrant, no royalties are to be paid." That resolution was proposed by whom? A By Mr. Manville.

Q And was seconded by you? A No, I was chairman of the meeting; seconded by Mr. Bonner, if I remember.

Q I call your attention to the Minutes? A Mr. Stokes.

Q Does that revive your memory? A That revives my memory.

Q Were any conversations had at the time of this meeting between the persons who were there? A Yes, sir.

Q Which led up to that resolution? A Yes, sir.

*Mr. McCarter.* I object to that.

*The Court.* Well, that doesn't hurt you, I suppose.

Q Who entered into the conversation? A Mr. Manville, of the Johns-Manville Company, said that the Asbestos Brake Lining Company—

*Mr. McCarter.* That is objected to.

Q Who was it entered into the conversation? A Mr. Manville, Mr. Bonner, Mr. Lowthorp and myself all discussed the matter.

Q When Mr. Manville spoke was it in your presence and in the presence of Mr. Bonner? A Mr. Bonner and Mr. Lowthorp.

Q What did Mr. Manville say?

*Mr. McCarter.* That is objected to. I urge that this was not a meeting of the company, not a meeting of the board of directors.

*The Court.* That is true as far as corporate action is concerned, but it may be competent on the

allegation of estoppel. I will take it subject to your objection.

Q (Stenographer repeats the question.) A Mr. Manville said that the Asbestos Company had made efforts to secure larger asbestos manufacturing companies to take out licenses and it was impossible to secure any and for that reason we were out in competition with the world and he wanted the resolution rescinded granting the licenses. You might call it the royalties.

Q The resolution speaks of conditions in connection with prices on brake lining? A Mr. Manville said we were out with competition with the other asbestos companies and for that reason we couldn't pay any royalties.

Q You mean other people were making these? A Cheaper than we could with the ten per cent. added.

*By the Court.*

Q It was for that reason that he wanted the resolution rescinded that had been entered into? A Yes, sir.

Q Did Mr. Manville say anything at that time in connection with the licenses which had been granted to that company or his? A He said he didn't see why we should pay licenses when there were no earnings. Nothing to pay it with.

*By the Court.*

Q That is what he said? A On that line.

Q Was that what Mr. Manville said? A Yes.

Q At that time did anybody else say anything? A Mr. Lowthorp made the remark or Mr. Lowthorp said that we hadn't a leg to stand on.

Q Meaning whom by "we?" A That was, the Asbestos Brake Company hadn't a leg to stand on.

*By the Court.*

Q Did he say the Asbestos Brake Company or did he say "we"? A He took in the situation as it was—

Q That is not what I asked you. (Stenographer repeats the question.) A In that meeting Mr. Bonner, Mr. Manville—

Q Listen to the question and answer the question I ask you? A I should judge he would say the word "we," because he represented "we" for the company.

Q State what was said, the substance of it.

Q Was there anything else said? A Mr. Lowthorp said we hadn't a leg to stand on, and he advised me to vote as I voted in rescinding the resolution for the licenses.

Q Did Mr. Lowthorp say anything else at that time? A Mr. Lowthorp said, "We are in directly against the Sherman Act."

Q Did he say anything further? A I can't just recollect at the present time.

Q Did anybody else present say anything? A Mr. Bonner, representing the Asbestos Liners Company, told me he represented that company and could act for them and he acquiesced in everything that was said there.

*Mr. McCarter.* I move to strike that out.

*The Court.* Strike it out.

Q Did Mr. Bonner say anything with respect to the remark made by Mr. Manville? A He agreed that if we couldn't get the licenses we may as well rescind the resolution.

Q Did Mr. Bonner say anything about any efforts made by him to induce anybody— A Mr. Bonner made no objections.

*Mr. McCarter.* That is objected to.

*The Court.* Strike it out.

The question was, "Did Mr. Bonner say anything?"

Q Did Mr. Bonner say anything about having made any efforts? A Mr. Bonner said he made no efforts; he had made no efforts.

Q Did Mr. Manville say anything with respect to any efforts he had made? A Mr. Manville said the company had made efforts to secure parties to sign licenses.

Q You were at this meeting as representing the Thermoid interests? A I was.

Q You were not yourself a director? A No, sir.

Q Of the Asbestos Brake Company? A No.

*By the Court.*

Q You said Mr. Lowthorp was there "as my attorney." Did you mean as your personal attorney or the attorney of the Thermoid Rubber Company? A Of the Thermoid Rubber Company. We went from Trenton together.

*The Court.* Strike that out.

Q You have been in active management of the Thermoid Rubber Company for a number of years? A 1897.

Q And such Asbestos Brake Lining as has been manufactured by that company has been manufactured in competition with other companies, making the same or similar products? A Yes, sir.

*Mr. McCarter.* I object to that as leading.

Q When did you begin the manufacture of asbestos brake lining? A I think it was 1908, 1907 or '08, I am not sure which.

Q And from that time on, while you continued the manufacture of that brake lining, were you or were you not compelled to meet competitive prices? A We met the market price.

*W. J. B. Stokes, cross.*

Q How many other manufacturers are there engaged in that? A A good many, lots of them sprung up just around that period.

Q Can you name any that were in business before that time? A The Johns-Manville, the Empire, the Globe, and the Home Rubber made a little, and Keasby and Mattison, and the United States Asbestos Company, and the Raybestos.

*By the Court.*

Q The Raybestos? A The Raybestos Company.

Q There are other manufacturers who have made this product subsequent to the formation of the Asbestos Brake Company?

*Mr. McCarter.* Objected to as leading.

*Mr. Katzenbach.* I will withdraw the question.

Q Are there any persons who were not engaged in the manufacture of asbestos brake lining before the formation of the Asbestos Brake Company, who have subsequently come into the field of such manufacture? A I wouldn't want to answer that question; I am not sure; although, I guess, there are lots of them, because there are thousands of them in the field today.

Q You know who are manufacturing it at the present time? A I could name quite a number.

Q They were manufacturing it prior to the formation of the Asbestos Company? A Yes, about that time.

Q The ones you have named are the principal manufacturers of this product? A They are today; there is one here in town; I can't think of that name.

*Cross examination* by Mr. McCarter.

Q Mr. Stokes, what is your position, treasurer of the company? A Treasurer of the Thermoid Rubber Company.

Q Your brother is president? A My brother is president of the Thermoid.

Q How early did the Thermoid Rubber Company commence to manufacture absestos brake lining? A 1907 or 1908, I am not sure.

Q You knew of the litigation, the interference? A I did, and Mr. Lowthorp had charge of that phase.

Q Did you personally know of the formation of the Asbestos Brake Company? A I did.

Q And the execution by the president and secretary, respectively, under the corporate seal of the Thermoid Rubber, of the license agreement? A I understand that—

Q Did you know of that? A I said "Yes."

Q You didn't, did you? A I said it—

Q Can't you answer my question; you knew what the function of a director of a company was? A I certainly do.

Q Were you a director of the Asbestos Brake Company? A You know I am not a director.

*The Court.* That is an improper way to answer.

A No, I wasn't a director.

Q The minute book of the Asbestos Brake Company has been at your mill for some time, has it not? A That I didn't know anything about until this case came up.

Q You learned it then? A Yes.

Q Had you read the minutes? A I read a part of one minute.

Q Did you read the minutes of this meeting of November 11? A The resolution only.

Q Did you observe that the resolution stated who was present? A Yes.

Q Did you observe that it didn't state that Mr. Lowthorp was present? A I don't remember that part of it, but I know he was present.

Q Well, who was secretary of that meeting? A Mr. Greenwood acted, and Mr. Bonner was secretary.

Q Who was it that told Mr. Greenwood to act? A Mr. Manville.

Q What did he say to him? A He said, "You are there to take down notes."

Q You remember his saying that distinctly, do you? A Yes, sir; I do.

Q He is a competent stenographer? A I think he is.

Q He was there to take down the notes; how do you account for the fact that he didn't take down what you have recited of what occurred? A Because that was before the resolution was passed, and it was at the meeting, it was discussion.

Q What? A What was passed in that meeting was taken down; but what we discussed as to the licenses and as to Mr. Lowthorp saying we didn't have a leg to stand on, he didn't take that down.

Q You said Mr. Manville told him to take down notes? A No, I didn't.

Q What did he say? A He told him to sit down there and take the notes the same—

Q Did he tell him to discriminate? A No, he didn't tell him to discriminate.

Q He told him to take down the notes? A Sure, he did.

Q When you read the minutes, as you say you did, did you observe he hadn't taken down what you say occurred? A He didn't take down all the conversation that took place at that meeting.

*The Court.* Did you observe?

Q When you read the minutes did you observe he had not taken down what you say took place there? A I observed he didn't take down anything but the resolution.

Q Did you observe that he put this down: "In view of the absence of Mr. Massie the minutes of the last meeting were not read;" who told him to put that down? A Mr. Manville, I guess, made that motion.

Q Is that a motion? A I suppose so; it must be.

Q You say, in reply to my inquiry as to who asked Mr. Greenwood to put down the clause "in view of the absence of Mr. Massie the minutes of the last meeting were not read," you say Mr. Manville put that motion; is that your answer to that? A That would be my answer to that question.

Q Who told him to put down who were present? A I suppose if I was chairman I would tell him.

Q I am asking you for your recollection. A I don't recollect.

Q Did anybody tell him to put down the names of those— A I should judge the secretary would do that.

Q I am asking your recollection as to whether anybody told him, Mr. Greenwood, to put down who were present? A Well, I don't know exactly what you are getting at—

Q I don't care whether you know that or not, I am asking you a question. (Stenographer repeats the question.) A No, I don't think anybody told Mr. Greenwood.

Q Who told him to put down "Mr. Stokes acted as chairman of the meeting? A That motion was made by Mr. Manville, that I should act as chairman.

Q There was a motion made? A There had to be.

Q Was there? A Sure.

Q Who moved it? A Mr. Manville.

Q Who told him to put down that Mr. Bonner acted as secretary? A I think Mr. Manville made that motion, too.

Q Who called you to that meeting? A My brother was in ill health and was down to Hot Sulphur Springs, and I got word from New York that there was going to be a meeting, and I took the matter up with Mr. Lowthorp.

Q Who called you to that meeting? A Mr. Manville notified Joseph O. Stokes and Joseph O. Stokes notified me.

Q Where did Mr. Greenwood sit? A Have you ever been to Mr. Manville's office? How can I explain that?

*By the Court.*

Q Do the best you can on it.

Q He was in another room, wasn't he? A No, sir.

Q Wasn't he outside of the door? A No, sir; in Mr. Manville's office.

Q Did you hear his testimony yesterday? A Yes, but not at this meeting; he didn't testify to that.

Q Where did Mr. Greenwood sit? A I ain't positive; there was a table about half the length of that (indicating counsel's table); Mr. Manville sat at one side and Mr. Greenwood on that (indicating) and Mr. Bonner here (indicating).

Q You say, at this alleged meeting, November 14, 1911, Mr. Greenwood was right in at the table with the rest of you? A Mr. Greenwood was right in at the table with the rest of us.

Q There is no doubt about that statement? A No doubt about that in my mind.

Q Now, was anything said as to whether the Johns-Manville Company was to continue to operate to make goods under this patent? A Under what patent?

Q The patents that are spoken of in the license? A I think they are all applications, pretty near all of them.

Q Well, applications, if you will. Was anything said about continuing to manufacture? A Only what Mr. Lowthorp said, that we didn't have a leg to stand on.

Q I asked you if it was stated that the Johns-Manville Company and the Thermoid Rubber were to continue the manufacture, notwithstanding that you were not to pay royalties? A Yes, sir.

Q They were? A Yes.

Q Who said that? A We all said it.

Q You all said it and Mr. Manville. That seems to be very amusing to you. When was that said? A In the meeting.

Q Why didn't Mr. Greenwood put that down? A Might I say this--

Q Answer my question. Why didn't Mr. Greenwood write down what was said about not continuing to manufacture? A Mr. Greenwood took down what motions were made, and what resolutions were passed, and that was all.

Q That was all? A To my recollection.

Q How long a time did this meeting take? A This meeting took about two hours.

Q Two hours? A Yes.

Q What day of the week was it, do you remember? A No, I don't.

Q Mr. Greenwood was with you for two hours? A For two hours.

Q And the other gentlemen you have named, including Mr. Bonner? A Mr. Bonner was there the whole time.

Q And were the resolutions passed side by side, or after long discussion? A We passed one resolution and then we discussed the same as you would in any ordinary business meeting, and then the other was passed.

Q When did the statement with reference to the right to go on manufacturing, notwithstanding you were to cease to pay royalties, take place, with reference to the passage of the resolution that is noted? A Mr. Manville, representing the Johns-Manville Company, and I, representing the Thermoid Rubber Company decided right there and then to go on in the manufacture of brake linings.

*Mr. McCarter.* I move that that be struck out.

*The Court.* Strike out the answer.

Q (Stenographer repeats the question.) A It was decided right after the resolution was passed to go on manufacturing.

Q You decided? A Yes, right after the resolution was passed, to go on and manufacture.

Q You refer to Mr. Manville and yourself? A Yes, and the Thermoid Rubber Company.

Q Did Mr. Manville have the resolution with reference to the royalties written out? A No, sir.

Q What was the resolution, as you recall it? A That we rescind the licenses.

*Mr. Katzenbach.* That speaks for itself.

Q What was the resolution?

*Mr. Katzenbach.* In view of the fact that the resolution was written out and is included in the minutes of the meeting, I object to any question as to what the resolution was.

*The Court.* Objection overruled.

Q What was the resolution that Mr. Manville offered? A The drift of the resolution was that we discontinue the royalties or the license pay.

Q Have you given us your best recollection of what was said about the form of the resolution? A I couldn't repeat the resolution, no.

Q Was there any reason given for the alleged resolution? A Yes.

Q What was it? A We were out in competition with the world, and we couldn't afford to pay 10%.

Q Have you given us all you can recall of the resolution? A There is more to the resolution, but I can't think of anything else. He goes on, I suppose, with the resolution—

Q I am asking you what your recollection is. A Mr. Manville goes on to state why the resolution should rescind the licenses, that we are entering into competition

and we haven't any possible chance to collect any from any other outside concern, that is the pith of the resolution.

Q That is your recollection? A Yes.

Q And, therefore, what? A Therefore, the resolution was passed and the licenses rescinded.

Q That the licenses be rescinded? A Yes.

Q You noticed the resolution yesterday or a day or two ago for the first time? A I saw the resolution yesterday and once before.

Q Did it accurately express your recollection? A It accurately expressed my recollection.

Q Do you think you have now correctly expressed what the resolution says? A No, but what the intent of the resolution was.

Q Oh, what the intent of the resolution was? A Sure.

Q How did you know what the intent was? A Because I knew what we were after.

Q Yes; you went there for that purpose, didn't you? A Sure; Mr. Lowthorp advised me.

*Mr. McCarter.* I move to strike that out.

*The Court.* Everything after the word "sure" will be struck out.

Q You knew, then, before you went to this meeting, that it was proposed to do that very thing, did you not? A I was under the impression that that resolution was going to be introduced on account of being impossible to raise or get anybody else to join with us in paying licenses.

*Mr. McCarter.* I move to strike out the last part.

*The Court.* It will be struck out.

Q I am asking you this question—

*The Court.* He has given you an answer.

Q Had you talked with Mr. Manville before about it? A No, sir.

Q Did you follow at all, Mr. Stokes, the litigation over the several applications that are set out in the license agreement?

*Mr. Katzenbach.* That is objected to as not proper cross examination, unless he makes him his witness.

*The Court.* What is the purpose of it?

*Mr. McCarter.* It is a preliminary question to show his familiarity with these patents and to show he knew that under this Coleman patent they were manufacturing after this—

*The Court.* I will permit it.

A I would say we were operating under the patent of Mr. Hutchings, taken out in 1896 in London.

Q You have not answered my question. My question was, whether you followed the litigation over the several applications for patents in the interference suits that took place at Washington? A Yes, sir.

Q You did? A I followed that with Mr. Lowthorp's advice.

Q Well, you followed it, didn't you? A Yes.

Q You knew of the Coleman patent? A I knew of the Coleman patent.

Q And you acquiesced in the idea of the formation of the Asbestos Brake Company? A I certainly did.

Q Did your company, the Thermoid Rubber Company, contribute to any of the expense of that company? A Sure.

Q You knew your brother was the executive officer of that company? A I did.

Q And you knew of the execution of the license? A I did.

Q And approved of it? A I approved of it.

Q Did you vote at a meeting of the directors of the Thermoid Rubber for the execution of that license? A I would say "no."

Q Are you sure? A Positively.

Q Whether you did or did not, you knew that the Asbestos Brake Company had been kept alive and has been kept alive by your brother and Mr. Manville, did you not? A Yes.

Q By the payment of the annual franchise fee? A Yes, sir.

Q Who was the treasurer of the Asbestos Brake Company? A Mr. Manville.

Q You approved of that? A Of Mr. Manville being treasurer?

Q No, of the keeping alive of this company? A Yes.

Q You are not operating, you say, under these patents? A We were operating under the patent of Mr. Hutchings.

Q You are not operating under the patents referred to in the license? A No, sir.

Q Have you ever offered to return them from the person from whom they were secured? A That is not the Thermoid Rubber.

Q Have you made any effort to see that they should be returned to the persons from whom they were secured?

*Mr. Katzenbach.* That is objected to; it wouldn't be possible for the witness, not being an officer of the company.

*The Court.* Objection overruled.

Q What is your answer? (Stenographer repeats the question.) A No, sir.

Q Are you familiar enough with the material, the Asbestos Brake material, that the Thermoid Rubber Company is at present making, and has been making since the execution of the license agreement, to know whether it

consists in part of woven wire and asbestos tape? A Yes, it is.

Q It does? A It is woven cloth folded over and stitched. And ever since this license agreement was executed, the material that you have been manufacturing in the Thermoid Rubber Company's mills, has consisted, among other things, of woven wire and asbestos tape, hasn't it? A Not asbestos tape, no, cloth.

Q Asbestos cloth? A Asbestos cloth.

Q And woven wire? A And wire woven in the cloth.

*Re-direct examination* by Mr. Katzenbach.

Q The Thermoid Rubber Company is manufacturing now exactly the same asbestos brake lining that it did before the organization of the Asbestos Brake Company, is it not?

*Mr. McCarter.* Objected to as leading.

Q Is there any difference between the brake lining which is manufactured by the Thermoid Rubber Company now, and that which it manufactured before the organization of the Asbestos Brake Company? A No, sir; identically the same.

*Mr. Hardin.* Your Honor may recall, that yesterday when Mr. Massie was on the stand, he identified a file, which he did as a secretary's file. I made an application to Mr. Massie to examine that file last night, and Mr. Massie referred it to Mr. McCarter. Mr. McCarter said he advised against my examining it; and I now make an application to examine that file as containing papers which I have a right to inspect.

*Mr. McCarter.* I don't know whether this is a proper application or not; the file was not offered in evidence; it was produced here for the purpose of this one letter which was in there. The file has

no relevancy as far as this litigation is concerned. I don't know of any rule of law that requires Mr. Massie to hand over his documents, or the documents of the company, if you will, to an adversary in a lawsuit for the purpose of letting them see what was in there. If there was anything in there that they wish and have a right to have, we will give it to them; they have made no effort to get this file; they had a right to apply to the Court for leave to inspect the document. I feel it is buncombe, an attempt to muse around in our papers to see if they can find something. I don't know of any right which authorizes them to exercise that right. If this Court has the power, as it has, to give them the right to see the documents, they would have to show there were documents there that were material. They couldn't go on a searching expedition.

*The Court.* That is essentially the application being made now, an application for leave to inspect these documents.

*Mr. McCarter.* That should be made by petition; I object on general principles to having them muse around in our papers; I have no idea what was in them, and it wasn't offered in evidence. The only object in producing this series of correspondence was to show the letter in its right place. I don't think they have the right as of course to go through our papers.

*Mr. Hardin.* The other side has no right to prevent the inspection of company records. Mr. Lowthorp was the source of the information that this was a company file. It was not brought out in any other way—to sustain the authenticity of a paper the bunch of papers were identified as a secretary's file.

*The Court.* There is no controversy about its being a company file.

*Mr. Hardin.* On direct examination it is said that this is a company file; on direct examination of Mr. Massie it appeared there were letters in that file bearing on the investigations made by him for the purpose of ascertaining whether other licenses could be secured from outside manufacturers. He said those letters were in that file. I think we have a right to examine them. I don't think it follows that we have no right to examine anything else, but I happened to identify something referred to in that file, but the whole file is a company file. When Mr. McCarter says "our papers," they are just as much ours as his papers.

Can counsel conscientiously argue, and can your Honor patiently listen to the suggestion that the papers of the company are to be at the command of one group of litigants in this case and closed to another, when they are company papers? I didn't know there was any such file until it was produced yesterday morning.

*The Court.* Why don't you subpoena the production of the files from Mr. Massie?

*Mr. Hardin.* I certainly can do that, if your Honor thinks it is proper, but your Honor would probably have to wait until I look through it.

*Mr. McCarter.* The Court of Errors has held that the Court of Chancery has no power to compel production of books. I take it, that this Court has no power to compel us to submit these books to the inspection of the other side. That is a function of the Supreme Court. We have no desire except to expedite this case. We think that is a mere ruse to get delay.

*The Court.* Your adversary is perfectly right in saying this is not the file of the complainant in this suit. It is a file of the Asbestos Brake Company, which is a party to the suit, but not a party represented by you or Mr. Hardin. If the defendants desire to have the application passed upon as he made it, I will hear that in chambers at recess. I will not pass upon it at the present time.

*Mr. Hardin.* Perhaps I can relieve the Court by now recalling Mr. Massie to the witness stand.

*The Court.* You may.

MITFORD C. MASSIE, being recalled on behalf of the defendants, testified as follows:

*Direct examination* by Mr. Hardin.

Q You told us yesterday, that you were the secretary of the company, and that you had with you a file of the company's papers, which you referred to as the secretary's file? A Yes.

Q You still have that with you? A Yes, sir; they are right over there.

Q Will you produce that file, please? A I produce it here (producing file).

*Mr. Hardin.* May I ask ask your Honor for leave to suspend the examination of this witness until I can look at the papers in this file?

*Mr. McCarter.* I object to it; I don't imagine there is a thing in that batch of papers to which we have any objection, but at the same time I have an ingrained, old-fashioned sense of the proprieties of a lawsuit. Mr. Hardin doesn't represent anybody who has a right to have them, and we are putting it in the hands of our adversary.

*The Court.* It is not your file, and you are not putting it in the hands of your adversary.

*Mr. McCarter.* But it is in our possession, and before we are compelled to surrender it, a good excuse should be offered, and I don't think Mr. Massie, the secretary of this company, and the complainant in this suit, should be compelled to do it under the cases. We wish it to appear on the record, that we object to the Court sanctioning to the counsel of the Thermoid Rubber Company and the Johns-Manville Company, under the guise of calling this witness, being permitted to inspect these papers; that is our objection.

*The Court.* I shall refuse your motion as you make it, Mr. Hardin. Why don't you offer the files?

*Mr. Hardin.* I am not familiar with it.

*Mr. McCarter.* Neither am I.

*The Court.* I have already called your attention to the fact that I have not given you permission to examine the files.

*Mr. Hardin.* I beg your pardon. May we have it marked for identification?

*The Court.* You may.

Said file is marked "Exhibit D. 3 for identification."

Q You told us yesterday that that file contained letters that you had written, and replies to such letters with reference to the taking out of licenses from the Asbestos Brake Company, under patents of the Asbestos Brake Company?

*Mr. McCarter.* I object to the question as incompetent.

*The Court.* It is improper as to form, I suppose. Ask as to the facts.

Q This file contains, does it not, Mr. Massie, the carbon copies of letters you wrote and the replies to such letters, for the purpose of inducing manufacturers to take out licenses to the Asbestos Brake Company? A It does.

Q Will you pick out, please, and identify from this file, your letters and the replies thereto to which you refer?

*Mr. McCarter.* I object; it will indirectly accomplish what your Honor, as I understand, has said was not proper. I don't know why counsel does not offer the file. I don't think he has the right, if he does take the time to look at these letters. What materiality have these letters to this suit? I object to it because it would be irrelevant if ascertained, and the time involved is very valuable. This is the day before vacation, and your Honor will be through today, and I was in hopes we would get through this case. We object because if they were put in, they would not be admissible.

*Mr. Hardin.* Instead of delaying the case, I am trying to get through with it.

*The Court.* I am not considering this on the question of picking out these letters; I am considering it as an offer to put in evidence such letters as there are in the file, dealing with the efforts made to procure additional licensees, and objection is made to that on the ground that it is immaterial.

*Mr. Hardin.* I refer to the minutes of the meeting held July 25, 1911, at which "it was resolved that the secretary be instructed to obtain some printed stationery for the company to write letters to manufacturers of brake liners inviting them to take licenses under the company patents, and in case of necessity to call personally on such manu-

facturers as might be interested;" with the further minute of the meeting of August 29, 1911, at which "the secretary reported the results of his correspondence with the various manufacturers of brake lining, and also an oral interview with the representatives of the United States Asbestos Company and the Woven Steel Hose and Rubber Company at Philadelphia, Pa.;" and also to the minutes of this meeting held on November 14, 1911, which perhaps cannot properly be styled correctly a directors' meeting, but it was a meeting of the members of the concern: "Resolved, in view of the conditions in connection with prices on brake band lining, and the fact that it has been impossible to maintain prices as proposed at the time of organization, that the provision for the members of this company paying in ten per cent. on the sale of brake band lining be rescinded, and until conditions warrant no royalties are to be paid." That resolution had succeeded discussion which is all in evidence. That one of the moving causes for the adoption of that resolution was due to the fact that they were unable to induce outside people to come in. Having all these considerations in mind and the documents, it seems to me to be of some importance in this case and competent evidence.

*The Court.* My recollection of the condition of the testimony is this: that it has been testified to that efforts were made by the company in several different ways by correspondence, and by the employment of Mr. Hammerstrom, among others, to induce other parties to take out licenses, similar to those taken out by the Thermoid Company and the Johns-Manville Company; and it was upon that understanding of mine as to the testimony that I yesterday declined to permit time to be taken up by Mr. Hammerstrom's testimony.

I will, therefore, likewise deny the offering of these letters, which are offered, as I understand it, simply for the purpose of showing details of the action taken in the way of attempting to procure other parties to take out licenses; that fact has been testified to—that the effort was made and that the effort or efforts were unsuccessful. If that fact be controverted, you may renew your motion.

*Mr. Hardin.* Your Honor has in mind that there may be reasons stated in these letters.

*The Court.* I can't see that that would be material or competent, they would be purely hearsay.

*Mr. Hardin.* I haven't seen these letters, but as to the Sherman Law—

*The Court.* I have ruled.

THOMAS F. MANVILLE, a witness produced on behalf of the defendants, being duly sworn, testified as follows:

*Direct examination* by Mr. Hardin.

Q Mr. Manville, where do you reside? A New York City.

Q What is your occupation? A Manufacturer.

Q Connected with what company? A The Johns-Manville Company.

Q How long have you been connected with that company? A 20 years.

Q And what is your position with the company at the present time? A President.

Q How long have you been president? A 20 years.

Q Is that company engaged in the manufacture of brake linings? A Yes.

Q Asbestos brake lining? A Yes.

Q How long has it been so engaged? A I think we started in 1906.

Q And have you continued ever since? A Yes, sir.

Q Do you recall in relationship to any particular manufacturer as to the time when you first began this manufacture, any particular customer? A That we sold to?

Q Yes. A I am not positive.

Q Never mind, then. Do you recall the making of an agreement between the Johns-Manville Company and the Thermoid Rubber Company and Conrad Hubert in 1910? A Yes, sir.

Q I show you "Exhibit C. 5," dated September 22, 1910, being an agreement between Conrad Hubert, the Thermoid Rubber Company and H. W. Johns-Manville Company; do you recall that agreement? A Yes, sir.

Q Is that your signature? (On "C. 5.") A Yes, sir.

Q You executed it for your company? A Yes, sir.

Q Was that agreement the outcome of previous negotiations? A Yes.

Q Extending over what time, how far back? A I think 1909 is when I first started to discuss this matter.

Q And your company was then engaged in the manufacture of brake linings? A Yes.

Q What other companies were then engaged in the manufacture of brake linings? A The Raybestos, the Thermoid—I don't recall all the names; there is quite a number of them.

Q Eight or ten or a dozen, perhaps? A Yes, easily that many.

Q Had your company any patent applications pending with reference to brake linings? A Yes, sir.

Q Do you know whether any other companies had applications pending for patents? A Yes, sir.

Q What others? A Well, there was Mr. Hubert representing his company, and Mr. Stokes, representing their company.

Q Mr. Stokes' company being the Thermoid? A The Thermoid Company.

Q What was Mr. Hubert's company? A The Auto Improvement Company, I think.

Q What was the condition with reference to these different patent applications at the time these negotiations began, that resulted finally in this agreement of September 22, 1910? A Mr. A. Parker-Smith, our patent attorney, reported—

Q Never mind.

*Mr. McCarter.* Objected to.

Q Never mind that. A There were various interferences in the Hoff application.

Q The Hoff application was your application? A Yes.

Q And what were the other improved patent applications, if you recall, and by what company? A The Coleman patent, representing Mr. Hubert, and the Bonner patent, representing the Thermoid.

Q Who initiated the negotiations among the owners of these various patent applications?

*Mr. McCarter.* That is objected to as immaterial.

*The Court.* It doesn't do any harm.

A I believe I did.

Q Whom did you see in the course of the negotiations resulting in this agreement?

*Mr. McCarter.* That is objected to; that is immaterial. They are all merged into the paper, and whom he saw and whether they were met in New York is utterly immaterial.

*The Court.* I will permit it; it is preliminary.

A I saw Mr. Stokes and Mr. Hubert.

Q Which Mr. Stokes? A The president of the Asbestos Brake Company.

Q J. O. Stokes? A Yes.

Q This agreement of September 22, 1910, has three parties; do you recall later that agreement was modified by the introduction of another party? A Yes.

Q Do you recall how that came about? A Yes.

Q Tell us.

*Mr. McCarter.* That is objected to.

*The Court.* Of what possible materiality is it?

*Mr. Hardin.* It seems to me that it is very material to the defense in this case, that your Honor should be advised of the state of this manufacture so far as the conduct of their own business was concerned, and the pooling of these applications as a result of these agreements. First, the three of them, and then bringing in the Bonner application, making four; their organization of this company, the licenses granted and the agreement of what these licenses were to be, making a plan for a purpose which could not be legal or illegal, as this court may declare, what goes to disclose the intent of that agreement must be included. The contention of the other side is, that any agreement is forever closed against attack if it is once made, no matter how legal or illegal it is. That is not the law, as I understand it. If the agreement when once consummated be for an illegal purpose and in contravention of the Sherman Law, just because certain things have been done, it does not prevent the ascertainment by the court of the real purpose. I am offering this evidence with a view to developing the growth of this plan. It is as plain as though witnesses were not heard about it, almost. I submit it is not only competent evidence, but evidence your Honor ought to hear, and essential to this cause.

*Mr. McCarter.* They can show facts and circumstances which the Judge will conclude bear, or tend to bear, upon the claim they make, that the papers constitute a violation of the Sherman Act, but they can't say what occurred at the negotiations of the consummated deal. They can't show these facts, whether they are in the paper or out of the paper. I have been in several Sherman Act cases and so has Mr. Hardin, but it is the first time I have heard of anything of this kind.

*The Court.* I will rule upon this in the same way I did yesterday, and for the same reason I stated, and I will admit it. The reason I asked Mr. Hardin whether it was of any materiality was, because of the fact that yesterday the testimony turned out not to be in accordance with the idea that had been suggested as the basis for the offering of the testimony.

Q (Stenographer repeats the question.) Tell us who was the new party? A Mr. Massie and Mr. Bonner.

Q I show you "Exhibit C. 6;" did Mr. Massie and Mr. Bonner represent the interests on that paper, apparently signed "Brake Liners Company, H. T. Bonner, President," the last signature? A Yes.

Q Do you know whether there were patent applications pending under the control of the Brake Liners Company? A Yes, sir.

Q With reference to brake liners? A Yes.

Q Did you have discussions prior to the modification of this agreement with either Mr. Bonner or Mr. Massie about this bringing them in in addition to the other three? A Yes, sir.

Q Do you recall the organization of the Brake Company? A Yes.

Q After the making of the modified agreement? A Yes, sir.

Q What was the condition of the market among the manufacturers of brake liners at the time you initiated negotiations which led up to the agreement of September, 1910? A The market was in very bad condition; there was practically no profit in handling the product.

Q How was the competition, sharp or otherwise? A Very sharp.

Q How long did that continue, to the time when the company was organized and thereafter? A There was no change.

*The Court.* The question is rather indefinite, it might have covered ten years.

*By the Court.*

Q Did you intend by your answer to indicate that the market continued in the same condition from 1910 down to the present time? A As to very keen competition, yes; but prices have advanced since that time.

Q The profit has been not so small? A No.

Q When did the advance in prices that you speak of begin, generally speaking? A The first substantial advance was along in 1914 or '15.

Q And prior to that time were the conditions different or the same, in comparison with the conditions that existed at the time this agreement was made in 1910, and the time the Asbestos Brake Company was organized? A Yes, sir.

*Mr. Hardin.* Have you the original assignment made by the Johns-Manville Company of patents made to the Asbestos Brake Company?

*Mr. Lowthorp.* I haven't them here.

*Mr. Hardin.* Will you have them here after recess?

*Mr. Lowthorp.* Yes.

Q Mr. Manville, do you recall by what lawyer the Asbestos Brake Company was organized? A I think all our companies were represented by A. Parker-Smith; A. Parker-Smith represented us.

Q Do you mean to say that the organization certificate and the papers relating to the organization were prepared by all your attorneys, or what do you mean? A I know A. Parker-Smith had entire charge as far as we were concerned; with that, I am not familiar.

Q Who had the charge of the actual filing of the papers and the actual organization of the company? A I don't recall.

Q Did you attend the organization meeting? A No, sir.

Q You became a director of the company at an early date? A Yes, sir.

Q Do you remember where the meeting was held at which you were elected a director? A At Mr. Hubert's office.

Q And with the aid of the minutes are you able to fix the date (handing witness minute book); is that the office of the Ever Ready Company? A I believe so.

Q And what was the date of that meeting, as appears in the minutes? A May 3, 1911.

Q At that meeting what other directors were present, if you remember? A I know Mr. Stokes, Mr. Stokes and Mr. Hubert and Mr. Massie, I believe, were all at that meeting.

Q Mr. Massie also. Do you remember whether any other directors besides yourself became directors at that meeting? A I believe Mr. Massie was elected a director at that meeting.

Q How many directors were there? A Four.

Q Do you recall whether there was any conversation or discussion among the directors at that meeting with reference to license agreements? A Yes.

Q Do you know whether such agreements had or had not already been executed to your company and to the Thermoid Company, before that meeting or not? A I think the contracts—I think they had been.

Q I call your attention to the original license from the Asbestos Brake Company to your company, "Exhibit C. 3," it must be dated May 2, 1911, had this document—is that your signature executing it on the part of the Manville Company? A Yes.

Q Had this paper been executed by the Johns-Manville Company prior to the meeting of May 3, the directors' meeting of May 3rd? A I am not sure when it was executed, the date of the execution.

Q Where was it executed? A Naturally at our office, 100 William street, where we kept the seal of the company.

Q Were you not present at the meeting of the directors of the Asbestos Brake Company held in Trenton on the 2nd of May? A No, sir.

Q Now, will you tell us, if you recall, and tell us by way of conversation and not by way of mere understanding, what was said at this meeting of the directors in New York when all four of you were present on the 3rd of May with reference to these license agreements?

*Mr. McCarter.* That is objected to. All the license agreements were authorized at a meeting on the 2nd of May and executed on the 2nd of May.

*Mr. Hardin.* By one party.

*The Court.* By both parties, so far as I know.

*Mr. McCarter.* How can it be that some persons may get together and talk about assignments after they have been executed, and that talk be competent?

*Mr. Hardin.* This document is dated the 2nd of May and was apparently executed by the company

on the 2nd of May; it certainly was not executed on the 2nd of May if this witness is to be believed, by the Johns-Manville Company.

*The Court.* Why?

*Mr. Hardin.* He has stated that it was executed at his office in New York.

*The Court.* The distance is not so great that it can't be covered by a determined traveler in one day—the distance between New York and Trenton.

*Mr. Hardin.* Do I understand your Honor excludes the testimony?

*The Court.* So far as the testimony now stands.

*Mr. Hardin.* I want to call your Honor's attention that this is an application a little wider than—

*The Court.* Counsel should present to the Court all the arguments before the Court is asked to rule.

*Mr. Hardin.* I thought your Honor had ruled. There is an element in this case of agreement as to the time of taking effect, between the four parties that are concerned in it, as I said yesterday.

*The Court.* It is different from that. Your question goes to what took place after the agreement had been signed.

*Mr. Hardin.* It is my judgment, that if they understood it was not to become effective, it did not make any difference whether it was before or after.

*Mr. McCarter.* How can the Asbestos Brake Company be bound by what Mr. Stokes and Mr. Hubert and Mr. Massie, and the other gentlemen representing the other interests who are contracting parties, agreed among themselves?

*The Court.* It is probably the quickest way to take the testimony.

*Thomas F. Manville, direct.*

Q Will you tell us, please, what was said by yourself and by the other gentlemen, with reference to this license agreement at this meeting of May 3rd, at a meeting between Mr. Hubert, Mr. Massie, Mr. J. O. Stokes and Mr. Manville? A When these license agreements were presented at this meeting I called attention to the fact which we had discussed many times, that they all understood the reason for this license agreement; the condition of the trade as to profits was very difficult; we knew we couldn't induce anybody to come in and accept these license agreements, except the Johns-Manville Company and the Thermoid Rubber Company, and accept licenses under this agreement. We knew very well that if we should undertake—

Q Is this what was said? A That is our conversation; I made this statement. We all understood—

*Mr. McCarter.* Objected to.

A I understood—

*Mr. McCarter.* I object to that.

*The Court.* The witness is saying what he said.

A They fully realized that for us to put that agreement into force would be suicidal—for anybody to sell goods under this new schedule and pay a royalty. We obtained nothing by signing this agreement, and nothing was to be followed out unless we could get the signatures of other manufacturers, unless we could get them to come in, and increase the price list and have a uniform selling price—nothing was to be accomplished unless we could get the consent of other manufacturers to come in, increasing the price list, and to have a uniform selling price, there was no incentive for Mr. Stokes or myself to sign this agreement—

*By Mr. McCarter.*

Q Are you saying you said all this? A Yes, sir.

*By the Court.*

Q You are telling of a conversation had at that time with those gentlemen? A Yes.

Q Proceed, Mr. Manville. What else did you say with reference to these license agreements? A I think that covered the extent of our conversation; we simply repeated at that meeting, which we repeated before and since, that we all understood why we executed these license agreements.

Q What did you tell them as to what you—you say it was understood; please say what you said at that meeting and what the others said. A The statement I made covered the facts as they were; we could not sell any goods under that license agreement; the license agreement was only binding by Mr. Stokes and ourselves to persuade other people to come in and take a license.

*By Mr. McCarter.*

Q You said that on that day? A Yes.

Q Had you said the same thing to these gentlemen on earlier occasions? A Yes, sir.

Q And did anybody say anything in dissent? A No, sir.

Q Now, later, efforts were made, as I understand it, to induce other manufacturers to come in and take licenses from your company? A Yes, sir.

Q Were you continuing the manufacture after the meeting of May 3rd, the organization of the Asbestos Brake Company, exactly as theretofore? A Yes.

Q Do you know whether the patents had been granted at the time of the execution of these licenses in May? A They had not.

Q Or whether they were still in the form of applications? A I think there was a Bonner patent of no consequence; the others were only applications.

Q And who continued to represent your particular interest in the patent situation? A Mr. A. Parker-Smith.

Q Do you know who represented the others? A Only by hearsay.

Q Did your efforts to bring in other manufacturers succeed? A No, sir.

Q Do you remember the meeting of November 14, 1911, which was attended by J. O. Stokes, Mr. Bonner and yourself? A Yes, sir.

Q Do you recall distinctly the resolution passed at that meeting with reference to the rescinding of the 10% royalties under the license agreements? A Yes, sir.

Q Do you occupy offices in relation to this company, other than director? A The Asbestos Brake Company?

Q Yes. A Treasurer.

*By the Court.*

Q The Asbestos Brake Company? A Yes, sir.

Q You are treasurer of the Asbestos Brake Company? A Yes, sir.

Q And have been from early days? A Yes, sir.

Q Have any applications ever been made to you as treasurer or as director to institute any proceedings against either the Thermoid Company or the Johns-Manville Company for the purpose of collection of royalties? A No, sir.

Q Has any request been made of you as director or treasurer during all these years that have elapsed by way of suggestion of a claim on the part of any stockholder in the company that you were expected to pay such royalties? A No, sir.

*The Court.* I suppose your question means, that the Johns-Manville Company was expected to pay such royalties?

*Mr. Hardin.* The Johns-Manville or either one.

*Thomas F. Manville, direct.*

Q Have you had conversations at different times with persons interested in the various stock interests in the company? A Yes.

Q Do you recall specifically with any particular ones at any time? A I talked with the three gentlemen, Mr. Stokes, Mr. Bonner and Mr. Massie, and Mr. Hubert.

Q All of them? A Yes.

*By the Court.*

Q Mr. J. O. Stokes? A Yes.

Q Have you discussed the state of the company treasury at any time with these gentlemen, or any of them? A No, sir.

Q I mean, the Asbestos Brake Company treasury, as to whether you had money or not, or funds in hand for the transaction of— A They all understood—

Q I want to know whether you had.

*The Court.* The question was answered.

A No.

Q After the meeting of November 14, 1911, do you recall whether any change was made in the plan introduced at that meeting? A resolution was adopted that Mr. Stokes be authorized to see Mr. Penny as to the validity of the patents held by the Asbestos Brake Company; do you recall whether there was any change in the situation as to who should be employed to represent the Asbestos Brake Company in the patent situation, other than Mr. Penny? A Mr. Stokes suggested Mr. Penny; we had a further conference and then we appointed the attorneys that represented us originally, to get into the matter.

Q And that action became a corporate action at the meeting held January 2, 1912, as is shown by the minutes: "On motion, duly made and seconded, it was resolved that the four attorneys of the company be authorized to consider the question of whether or not suit

should be brought on patents of the company against such parties as were then said to be infringing," etc? A Yes.

Q Who were those four attorneys?

*Mr. McCarter.* That is objected to as immaterial. This suit is not based on the failure—

*The Court.* Don't let us take up time on it.

A I am not sure who they were.

Q Were any suits brought by the Asbestos Brake Company against anybody as infringing the patents of the Asbestos Brake Company at any time? A No, sir.

Q Have you any recollection of any reason coming to you as a director of the company, why such action should not be instituted or commenced?

*Mr. McCarter.* Objected to as immaterial.

*The Court.* The question is rather indefinite. Do you mean asking him whether the question ever came up before the company to be acted on as a corporate action?

*Mr. Hardin.* There don't appear to have been been any corporate meeting after January, 1912, but it does not follow that these gentlemen didn't follow up their affairs.

*The Court.* Perhaps if the discussions were of such a nature and with such persons at such times as would make them binding.

Q Did you talk after January, 1912, at any time after that with Mr. Bonner or Mr. Massie with reference to the bringing of actions under the patents? A Yes, sir.

Q Did you talk also with Mr. Stokes? A Yes.

Q And with Mr. Hubert? A I don't recall a conversation with Mr. Hubert.

*The Court.* I assume your question implies the same subject?

*Mr. Hardin.* Yes.

*By the Court.*

Q That is what you understood? A Yes, sir.

Q Did you disclose to Mr. Bonner anything or give him any reason in the discussion between you and him in the conversation why infringement suits should not be brought? A Yes.

Q What reason did you give him?

*Mr. McCarter.* That is objected to.

*The Court.* I think your question should be as to the exact conversation.

*Mr. McCarter.* We object to any conversation between these gentlemen, Mr. Bonnor or Mr. Stokes, as evidence against the complainants in this action. Mr. Bonner is not a party to this suit, and Mr. Stokes is a defendant, and I don't think they can make self-preserving statements against us.

*The Court.* If your objection be that it has not been shown that these individuals at the times of these conversations were officers or directors of these several companies in whose interests they were acting, I will sustain the objection.

*Mr. Hardin.* I think the testimony yesterday covers it.

*The Court.* Fix the time of them.

Q Take, for instance, Mr. Bonner; have you had or can you recall roughly how frequently you have seen Mr. Bonner with reference to this matter since January, 1912?

*Mr. McCarter.* What matter?

*Mr. Hardin.* With reference to the Asbestos Brake matters.

A Mr. Bonner has called on me several times, but as to stating the time, I am unable to do so.

Q Did you on these occasions talk with him with reference to the reasons for not bringing suits against the infringers of the patents of the Asbestos Brake Company? A Yes.

Q What did you say to him?

*Mr. McCarter.* That is objected to.

*The Court.* Objection overruled.

A I stated that he knew that we hadn't any money to start in with such suits; he also knew we had been advised that it was against the Sherman Act to proceed with this undertaking.

Q Do you recall whether, in any of these conversations, there was any mention of a British patent? A That came up some time prior to that, yes.

Q You mean, sometime prior to January, 1912? A That patent came up at the time they were taken into the organization, making it four instead of three.

Q Now, do you recall whether you had more than one conversation with Mr. Bonner of the kind you have stated? A Mr. Bonner called on me several times in connection with purchasing a Canadian patent which he held, and at these various interviews we discussed the present conditions and both regarded it—

Q Of what? A The present condition of the Brake Band Company and the brake band business.

Q Yes. A And I finally purchased from him his patent, which I paid him $250.00 for.

Q I didn't ask you that. You discussed the Asbestos Brake Company matters? A Yes, at all these meetings.

Q More than once? A Yes, sir.

Q Can you recall any more particularly than you have, on how many of these occasions you said to Mr. Bonner in substance what you stated you said to him on at least one occasion? A No, sir.

Q Was it more than one occasion you said that to him? A Yes, sir.

Q More than two? A Yes.

Q Do you recall how recently Mr. Bonner has talked with you on this subject? A No, I don't recall.

Q Not very recently? A I don't recall.

Q Did you have conversations, any conversations, with Mr. Massie, since January, 1912, at which the question of suits under your patents was discussed? A Yes, sir.

Q More than one? A Yes.

Q And where? A At our office in New York.

Q What did you say to Mr. Massie, if anything, with reference to reasons why suits should not be brought, if that question was discussed between you?

*Mr. McCarter.* Same objection.

*The Court.* Well, what was the conversation?

Q Yes, what was the conversation?

*Mr. McCarter.* That is objected to.

*The Court.* Objection overruled.

A We reviewed the situation; he agreed—

*Mr. McCarter.* One moment.

Q Tell us what he said; tell us the conversation, the whole conversation. A The meeting that I particularly recall, when this company was organized I advanced Mr. Massie $300.00 to pay his share towards the Asbestos Brake Company—

*The Court.* Strike that out.

Q What was said? A We discussed that.

*The Court.* State what was said.

Q With reference to this one subject? A Mr. Massie came to my office in reply to a letter. I said I wanted that note paid; at that time he stated he didn't

have the money and didn't know when he could pay it. I then called attention—he spoke of the Asbestos Brake Band Company and what had happened to it.

*By the Court.*

Q What did you say? A He said he realized—

Q No, you said you spoke of the Asbestos Brake Band Company, and what had happened to it. Did you merely say, "Well, you know the Asbestos Brake Band Company, and what has happened to it," or, did you say anything particular as to what had happened to it? A Yes, that it could not—that we were unable—I said, "You know, Mr. Massie, we are unable to do anything with the Asbestos Brake Band Company on account of our finances and on account of the legal complications in connection with the Sherman Act;" this he said he understood was true; that is all the conversation relating to that one point.

Q Now, how long or how often did you talk with Mr. Massie on this subject? A I am unable to recall; I think at least two or three times.

Q To the same effect? A Yes, sir.

Q Do you recall other occasions specifically; did you talk with Mr. Stokes about this matter also? A Yes, sir.

Q Mr. J. O. Stokes? A Yes, sir.

Q Who was the president of the company? A Yes, sir.

Q Did Mr. Stokes, as president of the company, ever bring to your attention in any way any request on the part of any stockholder or person interested in the Asbestos Brake Company, to bring suits against your company or Mr. Stokes' company? A No, sir.

Q For royalties on licenses? A No, sir.

*Thomas F. Manville, direct.*

Q Did you and Mr. Stokes at any time discuss the suits against other people under your patents, the Asbestos Brake Company?

*Mr. McCarter.* Objected to.

*The Court.* Objection overruled.

A Yes, sir.

Q Can you recall the conversation with reference to the subject of suits for infringement of patents by other outside manufacturers, what he said and what you said? Give us the whole conversation relating to it? A The conversation with Mr. Stokes was very similar to what we had at our various other meetings with the other gentlemen.

*Mr. McCarter.* That is objected to, and I move to strike it out.

*The Court.* Strike it out.

Q Tell us what it was. A Mr. Stokes said he thought in view of the advice of counsel it would be a very serious matter for us to go into any litigation in regard to these licenses or patents, that the company didn't have sufficient funds to carry on any litigation to try to establish the validity of our patents.

Q What did you say? A I agreed with him.

Q Was there any particular reason mentioned; you spoke about advice of counsel; what did he say counsel advised him? A Advised him that we were very apt to be attacked by the Federal Government in connection with this Sherman Act if we undertook to put through this monoply.

Q Have your company continued the manufacture of asbestos brake bands since January, 1912, exactly as before? A With some improvements; yes, sir.

Q I direct your attention to a bill rendered to the Asbestos Brake Company by Mr. Francis C. Lowthorp, containing three items dated December 6, 1911; January

29, 1912, and August 9, 1912; did that bill come to you in a letter? A Yes, I believe so.

Q And is that the letter (showing witness paper)? A Yes, sir.

*Mr. McCarter.* Is a letter from Mr. Lowthorp competent?

*The Court.* He hasn't offered it yet.

Q That letter is dated? A October 7, 1913.

Q Did you get a letter later, March 3, 1914, referring to the same bill? A Yes, sir.

*Mr. Hardin.* I ask to have them marked for identification.

The said bill is marked "Exhibit D. 4 for identification."

Said letter, dated October 7, 1913, is marked "Exhibit D. 5 for identification."

And the said letter dated March 3, 1914, is marked "Exhibit D. 6 for identification."

*Mr. Hardin.* I propose to offer these letters, not for the purpose of anything relating to the bill for professional services, although its dates may be relevant. I am not interested in the question of the extent or character of the services, although I might be in the dates.

*Mr. McCarter.* I don't think the letters have any relevancy to this contest or have anything to do with it. I have no objection to the Court's reading them.

*The Court.* (After reading letters.) I will hear Mr. Hardin.

*Mr. Hardin.* What Mr. McCarter says concerning Mr. Lowthorp is true, but Mr. Lowthorp has been a very important man in the growth of this matter, both originally and after the organiza-

tion of the company, and probably no man has been more continuously in the service of the company, of the Stokes', with reference to this particular enterprise, than Mr. Lowthorp. One of the issues in this case unquestionably will be on final argument, whether under the circumstances of this case any steps of any kind should have been taken, either with reference to the prosecution of the royalty agreement against the Thermoid Company and the Johns-Manville Company, and also as against outside parties for infringement of the patents. This question of whether they should bring suits against outside parties seems to have been more or less constantly under discussion. The very last meeting of the corporation relates to that subject, and the meeting before that. This witness has testified to conversations he has had since in reference to this subject. There is a statement in one of these letters that the bill had to be introduced to make the thing complete.

The thing I am after is, the reason Mr. Lowthorp gives in this letter for not sooner rendering his bill. This bill is for services—

*The Court.* How can that be competent? Testimony from Mr. Lowthorp might be competent.

*Mr. Hardin.* This is his testimony.

*The Court.* That letter?

*Mr. Hardin.* Mr. Lowthorp is counsel for the Thermoid interests, and presumably acting in his position with reference to the Thermoid Company in the light of facts known to him. He is now of counsel in this case, and a statement from Mr. Lowthorp that he had delayed rendering a bill for one or two years after the services were rendered, because the company was not active and without in-

come, seems to be competent evidence in this case from somebody who knows about the facts. This thing, I think, makes these letters competent, a statement that he has not rendered his bill sooner because the company was not active and without income. That is a statement by Mr. Lowthorp, whose relationship to the whole enterprise I do not have to describe.

According to the statements or the suggestions in this case, this company has at all times been replete with income. All it had to do was to bring suits and have an abundance of money; and it seems to me that a statement from anybody related in the intimate way that Mr. Lowthorp was to this matter that this company was asleep, an inactive company and without income, bears on the issues here presented as to whether there has been laches and acquiescense on the part of everybody in interest, and a substantial abandonment of these enterprises.

*The Court.* I don't think Mr. Lowthorp's action with this company makes the statement in his letters at that time, so far as the evidence has come before me, competent as against interest against the Asbestos Brake Company or against the complainant. The testimony was that Mr. Lowthorp was the attorney of the Thermoid Rubber Company, not of the present complainant, nor even of the Asbestos Brake Company.

I will overrule the offer.

*Mr. Hardin.* You will not object to my renewing the offer later when the testimony takes a different shape?

*The Court.* You may do that.

In regard to the file of letters, the file having been called for and been produced, if counsel desires to

examine them, counsel may do so, but that will be subject, of course, to the resultant condition that anything which counsel does examine will be thereby made evidential for the other side. Mr. McCarter says he has no objection to the file going in.

*Mr. Hardin.* Did your Honor overrule my motion which was in suspense? I understand I am now taking the penalty which accompanied the production of a book by a witness.

*The Court.* I will hear you at recess, if you want an hour to examine these documents.

*Mr. Hardin.* With reference to the application for the examination of the so-called secretary's file, shall I refer to that or let it lie for the present?

*The Court.* If you still desire to press your motion we can pass upon it later.

*Mr. Hardin.* It is the concensus of counsel representing the defendants that the application should be pressed before the Court.

*Cross examination* by Mr. McCarter.

Q Mr. Manville, the Johns-Manville Company has a very large plant out towards Somerville? A Yes, sir.

Q Is that the only one they have? A No, sir.

Q Where are the others? A They have two in Milwaukee, and interest in various other plants. Do you want the ones they are interested in, or the ones they absolutely own?

Q You and your subsidiary companies are large manufacturers of asbestos in several different forms? A Yes.

Q The brake band is one of the small features of your business? A A substantial feature.

Q You make asbestos for roofs? A Yes.

Q What else? A Pipe covers, packing, insulation of different kinds of asbestos.

*Thomas F. Manville, cross.*

Q There is no firm in the country as large as yours in the manufacture of asbestos? A I think not.

Q And you sell asbestos to people who manufacture brakes? A Yes.

Q You have sold to the Thermoid Rubber Company? A Yes.

Q And are still selling? A No, sir.

Q And you sell to the Empire? A I don't recall.

Q You have sold to them? A I really don't know whether we have or not.

Q And to the Globe? A I am not sure.

Q And to the Home? A I am not sure.

Q Don't you know whether these places are your customers? A We have a very large company and I don't keep track of those small transactions.

Q Keasby? A No, sir.

Q United States Asbestos? A I think not.

Q The Raybestos? A We are not selling them now; I don't know—

Q You were selling? A I am not sure.

Q How do you know some and not sure about the others? A Because I know it.

Q Don't you know you sold to every one of those people? A No, sir.

Q You do sell asbestos to people who make brakes? A Yes.

Q Who makes brakes of asbestos except those firms I have named, in this country? A I don't recall.

Q Eh? A I don't know.

Q You can't think of any now? A No, sir.

Q Asbestos is a mineral? A Yes.

Q Your firm owns asbestos mines in Canada? A Yes, sir.

Q Did you also sell woven wire fabric that goes into this brake lining? A Not that I recall.

Q Sir? A I don't think we ever sold any woven wire.

*Thomas F. Manville, cross.*

*By the Court.*

Q Is this brake lining made of a woven wire fabric and then the asbestos added on? A Some with wire and some without; the wire is covered with asbestos yarn before it is—

Q The weaving first— A The asbestos covered with wire and then they weave it.

Q It is woven with the asbestos? A The wire is first covered with asbestos, then it is woven.

Q Do you know whether you did sell to these people or not? A No.

Q Who would know whether you sold to these people, your sales manager? A I don't know; our office would be very glad to give you those details.

Q Would the sales manager know whether the names I have mentioned buy of you? A I don't know whether he would or not.

Q What is his name? A Mr. Hoff.

Q He is here? A Yes.

Q Now, previous to 1906, your company had been engaged in business, hadn't it? A Oh, yes.

Q But it hadn't been making any brake lining of asbestos? A I am not sure.

Q You said you started in 1906? A I said I thought so.

Q Your company had been in the business before you went into this? A I don't know—

Q Wait. Had your company been engaged in the manufacture of asbestos in other forms before you went into the brake lining business? A Yes.

Q Mr. Hoff was connected with you when the application for patent was made, and immediately after that, you started to manufacture brake lining? A We were making it before that.

Q You followed up the manufacture after he put in the application? A Yes.

*Thomas F. Manville, cross.*

Q You remember there was litigation about it, don't you? A About his application?

Q Interference? A About his application, yes.

Q You remember that? A Yes, sir.

Q Now, your attorney in that interference fight was Mr. Parker-Smith? A Yes, sir.

Q And did Mr. Parker-Smith ever tell you that he had a very strong presentiment that Coleman would win out in those proceedings? A I don't recall he made that statement.

Q Will you say he didn't? A No, I wouldn't.

Q At any rate, you knew the Coleman interference was a serious matter? A We knew it was an important factor.

Q And you sought to buy from Mr. Hubert the Coleman application, did you not? A I think Mr. Parker-Smith had some negotiations; I never had an interview with him.

Q Did you not authorize Mr. Parker-Smith, as early as October, 1909, to interview Mr. Hubert with the purpose—he was then the owner of the Coleman application—for the purpose of endeavoring to make a deal with Mr. Hubert by which you could acquire the Coleman interest? A I don't recall that fact; it may be so, but I don't remember it.

Q Have you a good memory? A I never boasted about it.

Q You don't recall any efforts on the part of Mr. Parker-Smith before this company was formed, or before this pre-corporate contract was signed, to acquire the Coleman interest? A I don't recall.

Q Do you say it didn't occur? A No, sir.

Q You knew he was endeavoring to buy the Coleman interest? A No, sir; I don't recall he was.

Q Didn't you have a talk with him in reference to it? A Mr. Parker-Smith?

Q Yes. A I only recall a conversation with Mr. Smith in connection with interference of the Hoff patent; and he also spoke of the Coleman application.

Q He told you he was after the Coleman application, did he not? A No, sir.

Q Eh? A I don't recall he made that statement.

Q You won't say efforts were not made to acquire the Coleman application, will you, on your behalf? A I don't recall whether they were or not.

Q You won't say they were not made? A I don't recall whether they were or not.

Q All right, very good. Now, the time I have been speaking of was along 1909. We will jump down now to 1920. You remember the fact that this suit was commenced, don't you? A Yes, sir.

Q Do you remember making efforts to meet Mr. Hubert about the time this suit was commenced, for the purpose of negotiating with him then to acquire the Coleman interest? A Mr. Parker-Smith had some correspondence, I believe, with his attorney in connection with my meeting Mr. Hubert to discuss this matter.

Q For the purpose of acquiring the Hubert stock in this company? A I believe that is correct.

Q That was done with your sanction and approval? A Yes.

Q So that you knew, as late as 1912, the Coleman application was made— A 1912? Not until after this suit was started.

Q As late as 1920 you viewed the Coleman application of some importance to acquire? A Only as a matter to avoid just what we are going through now.

Q Do you say that at the time the interview between Mr. Hubert and yourself was first suggested this suit had been commenced? A I never had any interview with Mr. Hubert.

Q I didn't say you did. Now, listen to the question. (Stenographer repeats the question.) A I reply I never had an interview with Mr. Hubert.

Q (Stenographer repeats the question.) At the time it was first suggested in 1919 that Mr. Hubert and you should have a meeting, did you say this suit had been commenced? A I didn't say in 1919.

Q I am not talking about what you said; I am asking you if you say that at the time recently, within the past two years, it was suggested that a meeting should occur, with your sanction, between Mr. Hubert and yourself for the purpose of discussing the propriety of getting Hubert's interest in your hands, that this suit had been commenced? A If it was in 1919, it had not.

Q You say it was only when this suit was commenced. I tell you now that it was before the suit was commenced. A I don't recall the date.

Q If it is a fact, as it is, that the negotiations for that interview occurred before this suit was commenced, you then did talk of the Coleman interest as late as the close of 1919, and deem it of importance for you to acquire, didn't you? A I don't recall that.

Q Didn't you at that time deem it of importance to acquire? A I don't recall.

Q Well, you do recall making an effort to see Mr. Hubert and have a meeting and instructed Mr. Parker-Smith to make— A To see if he could arrange for an interview.

Q Between you and Hubert? A With his attorney as to this patent.

Q Between you and Hubert? A I presume so.

Q You don't fail to recollect that? A I am not so positive as to that.

Q Now, you had been advised, and, therefore, knew, had you not, that the so-called Coleman patent, or what had previously been an application was the basic patent; you had been so advised, hadn't you? A No, sir.

Q You never had been? A In the early stages we thought it was.

Q When did you change your mind? A After we heard of the British patent.

Q Why, then, did you try to get in touch with Mr. Hubert the latter part of 1919? A Just to avoid this difficulty we are now going through.

Q Had the suit then commenced? A I don't recall.

Q Do you say you had never been warned or had suggested anything about this suit? Did you know this suit was coming? A No.

Q What was your object in trying to get an interview? A I don't know that I did.

Q What? A Unless you can show me. Mr. Parker-Smith had arranged with his attorney, as I recall it.

Q That is the way you want to leave that, is it, Mr. Manville? A I am quite satisfied.

Q All right; so am I. Did you not write to Mr. Hubert yourself, suggesting an interview? A I don't recall the letter.

Q Do you recall making any effort in the latter part of 1919 to see Mr. Hubert? A I don't recall any.

Q When did you first learn of the English patent you speak of? A I think 1911.

Q Before the company was organized? A No, it was after the company was organized.

Q It was after the company was organized; how long after the company was organized? A I think just a short time; that brought about—

Q Never mind what that brought about. I ask you how long after the company was organized was it that you learned about this English patent? A I don't recall that.

Q Was it before or after you executed your license? It was before, wasn't it? A I don't recall.

Q What? A I don't recall.

Q Now, hadn't the supplemental agreement been made before the company was formed? A I think, yes, we had arranged with—

Q Had not—I don't want you to do anything but answer my question. A I am trying to.

*Thomas F. Manville, cross.*

Q Had not, and did you not testify this morning that the English patent was connected with supplemental arrangement? A Yes.

Q And that supplemental arrangement had been made before the company was organized? A I don't know.

Q Do you mean to tell me that you don't know that the original, pre-corporate contract was signed and the supplemental was signed, and then the company was organized? A I am not positive.

Q What? A I am not sure.

Q And then the license was executed; don't you know that to be a fact? A I know the license was executed.

*The Court.* Suppose we have the chronological order of the different steps.

Q Look at "Exhibit C. 5," which is the so-called original pre-corporate agreement, that is dated September 22, 1910, isn't it? A Yes, sir.

Q Look at the so-called supplemental agreement, in which the Bonner interest and Brake Liners Company came in; that is dated the 22nd of September, 1910, isn't it? A It is dated March 6, 1911.

Q It is dated March 6, 1911? A Yes, sir.

Q Look at the certificate of incorporation; that is filed and recorded March 22, 1911, isn't it? A Yes, sir.

Q And your license agreement, Johns-Manville Company, is dated the 2nd of May, 1911, isn't it? A Yes, sir.

Q So at the time you executed the license agreement on behalf of the Johns-Manville Company, you knew of the English patent, didn't you? A In this agreement of September 22nd, Mr. Bonner and Mr. Massie were not in this agreement.

Q I believe I know that, and you do, too; but they are in the supplemental agreement, aren't they? A That is March 6?

Q Yes, yes. The company was organized on March 22nd? A Yes, sir.

Q And the license is executed on the 2nd of May? A Yes.

Q Now, I say, therefore, at the time you executed the license you knew of the English patent? A Yes, the second agreement.

Q Did you execute two licenses on behalf of the Johns-Manville Company? A No.

Q I am talking about this license? A Yes.

Q Therefore, notwithstanding whatever you did learn concerning the English patent, you executed this license, didn't you? A Yes.

Q Who drew it, this license agreement? A I don't know.

Q Did Mr. Parker-Smith draw it? A I think he drew it in connection with the other attorneys.

Q He had a hand in it, didn't he? A I presume so.

Q You knew he did, didn't you? A I presume so.

Q You would not have signed it if he hadn't advised you? A Oh, yes, I might have signed it whether he advised me or not.

Q But he had a hand in drawing it. Now, you have stated that the very next day, that having been executed on the 2nd of May, and having been authorized to be executed by the directors, you say a meeting took place at Mr. Hubert's office on the 3rd of May, at which you were present, Mr. Hubert was present, Mr. Massie was present and Mr. Stokes; do you remember that? A Yes.

Q Was Mr. Lowthorp present? A I don't recall.

Q He was, wasn't he? A I don't recall.

Q Just picture, now. This is the first meeting you had after the license had been executed during the meeting at which you qualified and became diretcors. Don't you know Mr. Lowthorp was there that day? A No, sir.

Q What? A I don't.

Q You don't. I understand the effect of your testimony to be, that while this license was prepared, and

that all the attorneys, including Mr. Parker-Smith, had their hands engaged in its preparation—

*Mr. Hardin.* We object to the question, as far as it has gone. This is an oration the witness is not to be compelled to listen to.

*Mr. McCarter.* I am delighted that counsel thinks this is an oration. I didn't mean it to be.

Q You have stated that the attorneys had a hand in drawing this license agreement, and you included Parker-Smith, or don't you recall that? A I recall Parker-Smith had a hand in it.

Q You read it before you signed it? A Yes.

Q Did you tell Mr. Parker-Smith that it was understood that it wasn't to be binding? A Yes.

Q Why didn't you have that put in there? A It would have spoiled the entire effect of the license.

Q Why didn't you have another paper with that in? A It was a gentlemen's agreement; we all understood what it meant.

Q Mr. Bonner understood it? A Yes.

Q Mr. Massie understood it? A Yes.

Q And Mr.— A Undoubtedly they all did.

Q Mr. Massie understood it and admitted it to you? A Yes, sir.

Q You hestitate about that? A I want to put it right.

Q I want you to answer my question. A All right.

Q I understand you to say that both Mr. Bonner and Mr. Massie, understood and conceded that those were mere decoy licenses and they weren't meant to be anything? A Yes.

Q At that meeting all three of them— A It was all understood before that meeting and discussed at that meeting.

Q On the 3rd of May? A Yes.

Q How many times did you discuss it? A A dozen times, probably.

Q Was it necessary? A Yes, it was an important matter.

Q And then you executed the papers? A Yes.

Q And then had another discussion the day after it was executed? A Yes.

Q And at that interview in Mr. Hubert's office, when you say you don't know whether—they all admitted it, that it wasn't a binding obligation at all? A They all admitted it.

Q There is no doubt about that, is there? A These gentlemen were all at the meeting.

*The Court.* He has specifically and expressly so stated.

Q Now, you say that at that meeting you stated that you couldn't get third persons in unless these documents were signed; is that what you stated, that you couldn't get third persons to come in? A Yes.

Q That the document would only be effective if other persons were to come in? A To persuade them to come in.

Q Who fixed the royalty terms in the license agreement that the Johns-Manville Company should pay? A I think that at an adjourned meeting we all agreed to it.

Q You agreed to it? A Yes.

Q Were you familiar with the terms that were to be paid? A Yes.

Q And you said that it was improper; the schedule as attached to the license, of prices? A What do you mean?

Q Who fixed the prices attached to the—widths of material and different thickness of material—attached to the license; your concern, didn't they? A No, sir; it was an adjourned meeting.

Q You suggested and they acquiesced? A Not necessarily; we all submitted prices.

Q Who, on behalf of the Asbestos Company, except you, knew anything about the rates? A Mr. Stokes was selling as much as we were, and Mr. Hubert knew what the prices were, his company was selling brake bands.

Q Were they? A I am quite positive.

Q At any rate, you knew the rates and acquiesced in them? A After they were all passed on, yes.

Q Very good. You say you couldn't afford to pay them in view of competition? A No, I didn't.

Q What did you say? A I said these rates were so excessive that we couldn't sell any brake band lining on the present basis until we got other people to join us.

Q You could not? A Not on that basis.

Q Were you aware of the clause in the pre-corporate contract, which I now read to you, "It is further agreed by and between the parties hereto, that the Auto Improvement Company," that is Mr. Hubert's company, isn't it? A Yes.

Q "Or its successor in interest as licensee is to have the privilege of buying such goods as are manufactured by the Thermoid Rubber Company, and H. W. Johns-Manville Company, under license from the Asbestos Brake Company, at a discount of 15% below the lowest net price to any others, and of selling the same under the trade-mark of the manufacturer." Did you know that? A Yes.

Q How do you reconcile that provision with what you have stated with reference to prices? A Well, if this agreement ever became operative, that was going to work out very satisfactorily to Mr. Bonner, Mr. Hubert and the rest of us—but it was never put into effect.

Q At the time you signed the pre-corporate agreement, being "Exhibit C. 5," did you expect to make licenses? A Yes, we intended to.

Q Were they all then to be hocus-pocus licenses, or were they expected to be good licenses? A The licenses were made.

Q At the time you signed the pre-corporate contract, did you expect to make licenses? A If they became operative.

Q And did you expect they would be valid licenses or more decoys? A The licenses that were signed—

Q No, no, no. I am asking you, at the time you executed the pre-corporate contract and provided for the execution of licenses, you expected the licenses you were then talking about to be enforcible licenses? A No.

Q You didn't? A Not until they became operative.

Q So that was hocus-pocus, all the provisions? A Not so far as Mr. Hubert was concerned. We agreed to give Mr. Hubert those discounts.

Q I am asking you if, at the time you signed the pre-corporate agreement, you expected bona fide to execute the licenses therein provided for? A It didn't mean anything, all—

*Mr. McCarter.* That is objected to.

*The Court.* Strike it out.

Q (Stenographer repeats the question.) A I don't understand that.

Q You recall that the pre-corporate contract calls for licenses and the execution of licenses to Johns-Manville Company and to Thermoid Rubber Company? A Yes.

Q Were they at that time supposed to be bona fide licenses, or were they decoy licenses you were providing for? A I wish I understood your question better. I could tell you in a simple way what kind—

Q You are the head of a very large institution, and I think it is plain. I asked you the question: do you recall the fact that you executed a pre-corporate agreement;

you did, did you not? A What do you mean; what agreement have you reference to?

Q The agreement made the 22nd of September, 1910, "C. 5?" A Yes, sir.

*By the Court.*

Q And that agreement provides that there shall be assignments of patent applications by the several parties to the corporation to be formed, the Asbestos Brake Company? A Yes.

Q And that the Asbestos Brake Company shall execute with the several parties in interest license agreements. This contract contracts on the part of all four of them that that should be done. Now, was that contract which you then and there executed, intended to be bona fide? A Yes.

Q And the license agreements that were therein agreed to be executed were bona fide license agreements? A Yes.

Q What happened between the time that the document to which your attention has just been directed, "Exhibit C. 5," and the 2nd of May following, which prevented the license from being of the same bona fide character which you intended when you signed that document? What happened? A We found we were absolutely unable to carry out our intention as we started in.

Q How long had the company been going, and what efforts had been made to get outsiders on the 2nd of May? A For some months.

Q Who had made any efforts previous to the 2nd of May, and what efforts had been made by anybody to get outsiders in? A Why, I think all of us discussed it with various people to try to get them to come in.

Q Well, do you mean to say that the efforts had all proven futile on the 2nd of May? A No, we hadn't abandoned all hope at that time.

Q Who had made any efforts at that time, to your knowledge? A I can't recall.

Q You can't recall. Now, you recall that you agreed to fix the prices in your pre-corporate contract, didn't you? A Yes.

Q Now, how can it be true that the prices that were fixed were such that you couldn't make any money, and you at the same time could afford to sell to Mr. Hubert at 15% discount? A That is not correct. The prices named in that list were the prices we hoped to get for this produce when our licenses became operative. We never sold at that price.

Q You never sold goods at what price? A At the list price.

Q Even since 1914 or '15? A Not at that time.

Q You told us this morning that prices and rates had gone up since 1914 and '15? A Yes, everything has gone up.

Q Have not rates gone up? A I don't recall.

Q Don't your sales manager recall? A I don't know.

Q Don't you know anything about the prices you were selling brake linings for, 1915, 1916, 1917? A No.

Q Not anything? A Very little.

Q You told us they had gone up? A Yes.

Q How much have they gone up? A I don't know; we sell a great many articles besides brake linings.

Q You sell some brake linings? A Yes.

Q Have they not increased in the last two years? A I think everything has.

Q Have they not increased within the last two years? A I don't know, I think so.

Q Don't you know that the present rates at which you are selling goods are even higher than the rates in the— A I don't know.

Q It's a fact, isn't it? A I don't know.

Q Well, will Mr. Hoff know that? A I don't know.

Q And who would know? A You could easily find out by going to our records.

Q Yes, very good. Now, on the 14th of November this so-called meeting occurred in your office. Where did Mr. Greenwood sit at that meeting, outside the door or at the table? A At the table.

Q Did you call him in? A Yes.

Q What instructions did you give him? A I told him to take a record of the minutes of the meeting.

Q To take down everything that was said? A No, to take a record.

Q What discrimination did you specify? A Only to take the minutes of the meeting.

Q Did he write out the minutes after he had taken them down? A I presume so.

Q Don't you know? A He sent them on to Mr. Massie; I presume he must have.

Q Did he show them to you? A I don't recall that he did; I presume he did.

Q Did they seem to you to be right? A Yes.

Q He recorded the whole subject? A All connected with the company, the meeting.

Q You think he covered the meeting? A What?

Q The motions. A What?

Q About rescinding this agreement? A About rescinding this agreement and not able to pay the bills.

Q You knew there was but one director of the Asbestos Brake Company present? A Oh, yes.

Q You knew that? A Yes.

Q And you knew also as sole director of the company you were proposing to pass a resolution, and passing a resolution by which your company was to be relieved from paying to the Asbestos Brake Company the royalties provided for in the agreement? A There was as much understood; everybody understood it, and they were as much interested there as we.

*Thomas F. Manville, cross.*

Q You, the sole director present of the Asbestos Brake Company, were proposing and having carried a resolution, the effect of which was to relieve your company of the obligation to pay the royalties provided for in the agreement? A Yes.

Q Mr. Hubert wasn't there or wasn't represented, was he? A No, sir.

Q Now, did you propose the resolution? A I don't recall who proposed it.

Q Was it correctly stated in the minutes? A I believe so.

Q Why didn't you state that it was understood that the documents or licenses were not to be effective, and only made upon condition; why didn't you state that? A It was thoroughly understood, and it was one of those things we neglected.

Q You were there and you were undertaking in your business-like unlawyer-like way to get relief from the obligation to pay royalties, weren't you?

*Mr. Hardin.* I object to Mr. McCarter's making those characterizations.

*Mr. McCarter.* Well, well. I didn't know that I appeared to be offensive—I didn't want to be; I am trying to relieve him of embarrassment; when I do go easy and try to be fair with the witness, it appears that I have misunderstood.

*The Court.* I don't think there was anything offensive in the question.

Q You were endeavoring to do that? A It was thoroughly understood.

Q Weren't you endeavoring to do that? A We simply made a record of what we all agreed to.

Q Did you think it was worth while to have a record? A Apparently so.

Q You did. Why didn't you have the record state the truth, that whereas, when these royalty agreements were signed, it was understood that they were not to be effective until outside licenses were taken, and whereas no outside licenses have come in, resolved, &c.? A If we were as smart as you, we would have done it.

Q Yes, of course. Instead of that, you, the head of the Johns-Manville Company, the president of this company, all you said was, "Resolved, in view of the conditions in connection with prices on brake band lining, and the fact that it has been impossible to maintain prices as proposed at the time of organization, that the provision for the members of this company paying in 10% on the sale of brake band lining be rescinded, and until conditions warrant, no royalties are to be paid." Why did you put it that way, if the other thing is what you were drifting at? A What other thing?

Q Have you not said it was understood there were not to be royalty agreements until others came in? A Yes.

Q Why didn't you say so? A It is one of those things a man neglects.

Q Had you before the meeting of November 14, heard of the letter of October 5, 1911? A From Mr. Massie to Mr. Stokes?

*Mr. Hardin.* That refers to something that was not addressed to this witness. I think the witness is entitled to have it shown him.

A I don't recall it.

Q I refer to "Exhibit C. 7," a letter dated October 5, 1911, addressed to Joseph O. Stokes and signed by Mr. Massie, in which, among other things, he says: "I believe that the United States Asbestos Company, which is one of the tape manufacturers having quite a large plant, has been converted from a position opposed to us to one at least neutral, if not friendly. I enclose a copy of a

recent letter from this company, indicating the present disposition of Mr. Zimmerman. Quite a number of brake liner manufacturers, whose names were furnished to me in the first list, buy their asbestos tape from the United States Asbestos Company, and these customers, as I understood, were being held together in opposition to us by the United States Asbestos Company. I think it now remains to visit each one of the said manufacturers separately, and induce them to join us. One of the largest of these companies is the Woven Steel Hose and Rubber Company, and I enclose a recent letter from Mr. Kelso, showing that apparenty his company is willing to join us. It seems to me that this is a case of where too many cooks spoil the broth. If our company were to take the position that it would be satisfied if it had most of the brake liner manufacturers under license agreement by the first of the coming year and was prepared to incur the necessary expenses involved in trips to visit the licensees in different parts of the country, I could feel a reasonable assurance that the most important manufacturers, probably controlling four-fifths of the output of brake liners, would be with us by January 1, 1912. There has been great talk about the matter of suing somebody for infringement of our patents. I call your attention to the fact that our company has about $1,700 in the treasury which would not be a drop in the bucket for a good lawsuit. The present licensees appear to be making no effort whatever to carry out the terms of their licenses in the way of making returns to the company and this will have to be looked into at an early date. If the royalties due our company from such licensees were promptly paid," etc. I won't take the time to read any more of that letter.

*Mr. Lowthorp.* You might read that following.

*Mr. McCarter.* "If the royalties due our company from such licensees were promptly paid in, we could probably accumulate a fund with which

we might hope to eventually make a fight on the patents, if that becomes necessary."

Q Do you recall having had your attention directed to that letter before this meeting? A No, sir.

Q You do not, you never saw the letter? A Not until this moment; no, sir.

Q There was no connection between that letter, so far as you know, and that meeting of November 14, 1911? A No.

Q Do you recall that the meeting was proposed to be had in October and deferred until November? A No, sir.

Q You don't recall that? Can't you now recall that Mr. Lowthorp was present at that meeting? A What meeting?

Q November 14. A He accompanied Mr. Stokes; I think he was present with Mr. Stokes at that meeting.

Q Are you sure of that? A Yes.

Q You are? A Yes.

Q And you can't remember whether he was present at the meeting of May 3, 1911? A No, sir.

Q Now, you say you talked with Mr. Massie; how many times have you seen Mr. Massie since January, 1912? A I can't tell you.

Q Have you seen him at all? A Yes.

Q Where? A In our office in New York.

Q Since January, 1912? A Yes.

Q You are sure of it? A Yes.

Q Where, uptown? A Yes, sir.

Q I understood your testimony to be that you, in reply to the question of why the royalties weren't paid, that your company couldn't do anything on account of finances; what did you mean about that, on account of finances? A I never made any such statement.

Q What did you say to Mr. Massie? A I thought you had reference to the Johns-Manville Company; I did say that to Mr. Massie.

Q What was it you meant about the finances of the Asbestos Brake Company? A We didn't have money enough to start suit against any concern that would make it worth while.

Q And also the fact, that if you should commence a suit, you might get in complications with the Government; did you tell him that? A I told him that in connection with the Sherman Law. If we are infringing that—we were told we would be.

Q What? A I told him that in connection with the fact, that if this thing went through we would be doing something against the Sherman Act.

Q What? A The license agreement.

Q We are talking about why you should sue infringers? A Yes; I told you we didn't have money enough.

Q And is that the only reason you gave him? A That was the main reason.

Q What else? A We were told we were infringing the Sherman Act if the deal went through.

Q If what went through? A If the company ever became operative.

Q Didn't you say that if you got in the other infringers that would make you amenable to the Sherman Law; isn't that what you said you told him? A I don't understand that.

Q Didn't you say the reason you gave to Mr. Massie for not commencing suit against infringers was, in the first place, that you hadn't enough money, and in the second place, if you did you would be apt to get the Government after you under the Sherman Act? A If the company ever become operative we would.

Q Are you sure you said that? A I can't recall the words I stated.

Q Didn't you say this morning that the reason you told Mr. Massie was, that in the first place you hadn't the money, and in the second place, if you did undertake to gobble them in, that you would then run up against the Sherman Act? A The company would be likely to.

Q On account of getting in these people? A Yes, in this combination.

Q If you had paid royalties, as you agreed to do, you would have spent the money, would you— A We never agreed to pay royalties until the company became operative.

Q If your agreement means anything, and you had performed it, you would have had to spend the money? A I don't know.

Q What? A I don't know.

Q Well, you have been making brake liners just as you made them before and just as you were making them when you were in the interference suit, and just as you have been making them ever since? A We make them—

Q With the small improvements you mentioned, otherwise the same? A Some changes.

Q It has got the wire in it? A Yes.

Q And the cloth? A Yes, sir.

Q Both of which are covered by the Coleman patent, aren't they? A I don't know that they are.

Q You can't recall that? A I can't recall the Coleman patent, but I don't think it is a valid patent.

Q You want to go on record as saying you don't think the Coleman patent is a valid patent? A I have no right to say that, I don't know.

Q You did say it? A I don't think it is.

Q You recall that? A I don't think it is a valid patent.

Q You tried to buy it, didn't you? A Yes, as a matter of peace.

Q As a matter of peace. Well, you know that Mr. Hubert had the Coleman application and patent, didn't you, Mr. Manville? A Yes, he had an application.

Q And when you executed the license agreement you knew that you were agreeing to pay the royalties provided therein for the right to manufacture under that as well as under other patents; you knew that, didn't you? A If this agreement ever became operative, yes.

Q And you knew that Mr. Hoff, who had an application to get a patent, also assigned his patent to the company, and you got the right to exercise under that; is that right? A If it ever became operative.

Q Yes; well, what consideration did you conceive you gave Mr. Hubert for the Coleman patent? You have been manufacturing right under it all these years; what did you give, as you understood it, as a peace proposition? A If this agreement became operative, he was in a position to buy brake band lining 15% lower than anybody else.

Q That was his consideration? A And an interest in the company.

Q What consideration did he get for letting you manufacture under the license agreement, if you were manufacturing, and not pay any royalties? A If this agreement ever became operative we were supposed to pay royalties.

Q In the meantime, you were manufacturing? A We always manufactured.

Q And do you think he was to keep quiet when he wasn't to get one dollar until this agreement became operative, and yet he was to sit back and let you continue the manufacture? A The agreement never became operative.

Q You thought that Mr. Hubert was idiot enough to make an agreement by which he was to authorize you for the life of his patent, to manufacture under it, and yet he wasn't given any consideration for it unless it

became operative? A He was not sure his patent was good.

Q (Stenographer repeated the question.) You thought that? A Mr. Hubert understood the situation just the same as all of us.

Q You thought that is what he agreed to? A That is what he agreed to.

Q Yes; that you were to have the undoubted right to manufacture under the patent which had been the subject of sharp litigation between you and him? A No, we never had any—

Q Well, interference? A Yes, interference.

Q Was there any litigation over the interference? A I don't remember any litigation.

Q Litigation in the patent office, wasn't it? A You know more than I do.

Q You paid bills for work done by Mr. Parker-Smith in the patent office? A We paid him monthly for various work.

Q You knew there was an interference? A Yes, sir.

Q And you thought that after that litigation—how was that litigation terminated? A Well, as I recall—

Q How did that litigation terminate? Coleman won out, didn't he? A Not necessarily, no more than the rest of us; Mr. Hoff won out, Mr. Bonner won out.

Q That is your idea? A Well, we all withdrew our various—I am not in a position to discuss that.

Q Don't you know that interference was sustained? A And so was Johns-Manville, and so was Mr. Hoff; I don't recall that.

Q Now, will you produce on the next day we meet, if possible, the figures at which you have been selling asbestos brake lining since the year 1914 to the present time? A Yes; and you understand conditions are very different as to the prices we are paying. They are very different as to prices; we are now paying three times as

much for fibre as we were in 1910, so that these prices would have no relative point as to what those prices were.

*Mr. Hardin.* I am willing to produce anything within reason, but just how the prices of 1914 compared with what they are in the changed conditions that have come by reason of the war can have any relationship to this matter in 1911, I am unable to see.

*The Court.* Wait until the figures are offered.

*Mr. Hardin.* I want to know why he wants the figures of 1914; I am not suggesting that there shall be anything withheld, but I shall object to the introduction of evidence in this case to any isolated instances of prices.

*The Court.* It is entirely within your power to put in other figures.

*Mr. McCarter.* He said he didn't know how much they had advanced. He made the periods himself.

*Mr. Hardin.* I have asked for the assignments purporting to have been made in accordance with the agreement of September, 1910. I want to put in evidence the whole chain of title.

*Mr. Lowthorp.* Here they are (handing counsel papers).

*Mr. Hardin.* I desire to offer in evidence letters patent of the United States No. 903,049, patented November 3, 1908, William T. Bonner, patentee, for friction member.

Said paper is marked "Exhibit D. 7."

*Mr. Hardin.* I now offer in evidence letters patent of the United States for friction member, No. 931,988, August 24, 1909, Bonner, patentee.

Said paper is marked "Exhibit D. 8."

*Mr. Hardin.* I now offer letters patent of the United States, Bonner, assignor, to the Brake Liners Company, No. 980,481, patented January 3, 1911.

Said paper is marked "Exhibit D. 9."

*Mr. Hardin.* I offer letters patent, Clyde J. Coleman, assignor, to Conrad Hubert, No. 993,031, patented May 23, 1911.

Said patent for brake facing is marked "Exhibit D. 10."

*Mr. Hardin.* I offer in evidence copy of application of Cutting and Jewett, serial number 441,207, for improvement in brake blocks.

Said paper, dated May 3, 1920, is marked "Exhibit D. 11."

*Mr. Hardin.* I offer in evidence letters patent, Hoff, patentee, as assignor by mesne assignments to the Asbestos Brake Company, No. 997,818, patented July 11, 1911.

Said patent for asbestos brake band is marked "Exhibit D. 12."

*Mr. Hardin.* I offer in evidence letters patent of the United States, Bonner, assignor, by mesne assignments to the Asbestos Brake Company, No. 1,141,606, dated June 1, 1915. Said patent, being for brake and brake liner, is marked "Exhibit D. 13."

*Mr. Hardin.* I offer in evidence letters patent, Bonner, assignor, by mesne assignments to the Asbestos Brake Company, No. 1,117,774, patented November 17, 1914.

Said letters patent for brake and brake liner is marked "Exhibit D. 14."

*Mr. Hardin.* I offer in evidence letters patent of the United States, Headson, assignor by mesne as-

New Jersey State Library

signment, to the Asbestos Brake Company, No. 997,498, patented July 11, 1911.

Said patent, being for brake band lining, is marked "Exhibit D. 15."

*Mr. Hardin.* I offer in evidence letters patent, Hoff, assignor, by mesne assignment to the Asbestos Brake Company, No. 1,012,356, patented December 19, 1911.

Said letters patent for brake band is marked "Exhibit D. 16."

*Mr. Hardin.* I offer in evidence application for letters patent, serial number 411,599, filed January 20, 1908, for improvements in brakes and linings thereto.

Said paper is marked "Exhibit D. 17."

*Mr. Hardin.* I offer in evidence a certified copy of the British letters patent that have been referred to, Hutchings, No. 7900, of 1896.

Said paper, dated July 13, 1920, for letters patent dated April 14, 1896, is marked "Exhibit D. 18."

*Mr. Hardin.* To make the record complete, I can offer in a group the assignments and mesne assignments which have been produced to me from the other side, I suppose from the custody of the secretary of the company—the documents transferring title in these various patents.

*The Court.* Do you want them in the case? It is admitted those assignments were executed and delivered.

*Mr. Hardin.* The only purpose on my part is to complete the record.

*Mr. McCarter.* It seems to us that the English patent is not admissible; it is not in any way a part of this litigation; it was not assigned or attempted

to be assigned; the only theory, I suppose, on which it is offered is, that it bobbed up in the course of the negotiations. It cannot be used under well settled principles in any way to controvert or invalidate the license agreement; the only purpose of offering it would be to in some way invalidate the title taken out and assigned and under which licenses were accepted, it seems to me, if it is relevant.

*The Court.* It must stand or fall with the other testimony that has been admitted for the present; it cannot have any greater value than that testimony, but it will have as great a value, and for the purpose of completing that testimony, I will admit it.

*Mr. Hardin.* I think I should direct the Court's attention—I didn't know about it until this morning —that it seems to be a fact—that I assumed these assignments were in accordance with the tripartite agreement; apparently that clause is not included in these assignments, unless I have overlooked it.

A. PARKER-SMITH, a witness produced on behalf of the defendants, being duly sworn, testified as follows:

*Direct examination* by Mr. Hardin.

Q Mr. Smith, where do you reside? A In New York City.

Q What is your occupation or profession? A An attorney at law, and also a mechanical engineer.

Q What particular branch of the law do you follow? A The law of patents and trademarks.

Q How long have you been practicing? A 32 years.

Q It has been testified that you have represented the Johns-Manville Company in various patent matters. The patents in evidence that originated with the Johns-Manville Company were taken out under your supervision? A

Yes, I was the solicitor of record in the two Hoff patents, not in the Headson patent.

Q Did you make the original application of the Hoff patent in 1908? A Yes.

Q Was there more than one application made by Mr. Hoff? A Yes, we filed one application in 1908 and one a little later, 1909 I think.

Q What developed after you had filed those applications; what came to your attention with reference to the patent situation involving inventions of the character in this application? A After these applications had been considered by the primary examiner we were notified of a probable interference and an interference was declared between these applications and certain other applications of Mr. Clyde J. Coleman, I think, and Mr. W. T. Bonner, and these interferences were—

Q Was the Bonner application still in Bonner's name, or has it been transferred to somebody? A Well, there were several of these interferences, and one or more of them involved an application of Mr. Bonner's which had been assigned to the Thermoid Rubber; and others involved applications which he had filed which were not assigned to the Thermoid Rubber Company, and subsequently assigned to the Brake Liners Company, and through that company to the Asbestos Brake.

Q At the time of the interferences, what interest had patent applications on file which resulted in—

*The Court.* Isn't this covered in the pleadings?

*Mr. Hardin.* Paragraph one.

Q Tell us, please, what interests were represented other than the Johns-Manville by the interferences that developed in the patent office? A Well, there was the main Bonner application, as it has been called, which was owned by the Thermoid Rubber Company, I think its name is.

Q Mr. Stokes? A Mr. Stokes' company.

Q Go ahead. A And there was the Coleman application, which was owned by Mr. Hubert, Mr. Conrad Hubert, and then these other—one or more other applications—which were in the name of Mr. Bonner personally, and as subsequently developed, were controlled by the Brake Liners Company which was—

Q Now, did you have anything to do with the negotiations of the tripartite agreement of September, 1910, between the Thermoid Company, the Johns-Manville Company and Mr. Hubert? A Yes, sir.

Q Whom did you represent in the negotiations? A The H. W. Johns-Manville Company.

Q Who represented in the negotiations in which you were concerned, the Hubert interest and the Stokes' interest? A Mr. Henry D. Williams was the solicitor of record for the Coleman application owned by Mr. Hubert, and Mr. Lowthorp was the solicitor of record for the main Bonner application owned by the Thermoid, and I think Messrs. Massie and McElroy, or one of them, I forget how that was, were the solicitors for Mr. Bonner's personal—

Q I am talking about the tripartite agreement confined to the three parties; was the representation of the Stokes Company and of the Hubert Company limited to particular patents or to all the applications in the office which those interests controlled? A I dealt with Mr. Williams as representing Mr. Hubert's interests, and I dealt with Mr. Lowthorp as representing the Thermoid Company's interest.

Q Did the negotiations take some time? A Yes, they dragged along.

Q What was the condition of things in the patent office at the time of their culmination in the agreement of September, 1910 A The applications were still involved in these interferences; it was uncertain which patent would prevail.

Q Now, do you remember—were there any other applications for covering asbestos brake lining, or any other kind of brake lining in the patent office, so far as you knew, at the time of this agreement in September, 1910? A There was the application of Messrs. Jewett and Cutting, assigned to the H. W. Johns-Manville Company and included in the license agreement.

Q At the time of the making of the three-party agreement, were there any other applications on file than the ones that you represented, or that Mr. Williams represented, or that Mr. Lowthorp represented? A There were these applications of Mr. Bonner personally.

Q Who represented Mr. Bonner? A I forget whether it was Mr. Massie or McElroy, or one of them individually.

Q Was there any further application, do you remember, relating to asbestos brake lining or to brake liners, pending in the office at that time, of which you had knowledge, except the ones you have now mentioned, which ultimately came to the Brake Company? A I have no knowledge of any other; there may have been some, but they are held confidential pending the action of the patent office.

Q No notice had been developed otherwise, and so far as you knew, these four interests had all the patent applications relating to asbestos brake lining or brake liners? A Yes, so far as I know.

Q Did you have anything to do with the modified agreement by which the Brake Liners Company was admitted into the company of the other three? A Yes, I took part in the negotiations leading up to that.

Q With whom did you negotiate that? A Well, I dealt with Mr. Massie as representing Mr. Bonner or the Brake Liners Company.

Q And when you got the Bonner interest in at the time that agreement was made, which was in March, if I remember rightly, of 1911, March 6, 1911, had you then included in the proposed organization of the Asbestos

Brake Company all the patent applications covering asbestos brake lining or brake liners that you knew of as pending in the patent office?

*Mr. McCarter.* That is objected to as leading. Mr. Smith has told us of the only applications he was aware of, and he tells us that they were confidential, which he says is all that he was aware of, all of them being asbestos brake liners. They were the subject of this pre-corporate contract—

*The Court.* The objection is overruled.

A Yes.

Q And the patents for asbestos brake lining and brake liners that had been granted up to that time—were they patents or applications? A There were no patents definitely for asbestos brake linings at that time, they were all applications; there were involved in this three patents of Mr. Bonner's that covered woven wire lining.

Q For what? A For brakes.

Q Any other type of brake liner patents issued, so far as you knew, for any other brake linings than those of these last patents you mention? A Of course, the records of the patent office are full of patents for brake shoes, but there was nothing I knew of that related to automobile brakes particularly.

Q Did you endeavor to include everything that you knew about in the state of the art up to that time?

*Mr. McCarter.* That is objected to.

*The Court.* Isn't it objectionable? What difference does it make?

*Mr. Hardin.* If these gentlemen were endeavoring to combine all inventions for the purpose of accomplishing a monoply which might be in restraint of trade, their purpose is of great importance.

*The Court.* You have not asked that question; you asked this witness what his purpose was.

Q Do you know the purpose of the parties in making this arrangement as to these patents?

*Mr. McCarter.* Objected to.

*The Court.* Objection overruled.

A Well, I know what the purpose of the Johns-Manville Company was.

Q I asked you whether you knew the purpose of the parties from your participation in this matter and your meeting these people?

*Mr. McCarter.* Objected to.

*The Court.* I will admit it.

A Yes, as far at it was expressed to me.

Q Did you first take this matter up with Messrs. Williams and Lowthorp and afterwards Mr. Massie, or did they approach you? A The first suggestion came from Mr. Massie at the time that the preliminary statements, which correspond to the pleadings in a lawsuit, had been filed in the patent office, were opened, so that the papers were open for inspection by the opposing parties; and I went down to Washington and went through the papers, and in that connection I met Mr. Massie, as representing Mr. Bonner, and he suggested to me—

*Mr. McCarter.* We object to what Mr. Massie said at that time.

*The Court.* The question was, as to who instituted it.

Q What did Mr. Massie say to you on the occasion to which you refer, with reference to the different interests involved in these patents? A I don't remember.

*Mr. McCarter.* Objected to. How can the other people interested in this suit be bound by some statement of Mr. Massie's?

*The Court.* It can't bind anybody but those Mr. Massie was representing, but he was representing one of the interests.

*Mr. McCarter.* Can the purpose be defined by what a man says himself; must it not come out of the facts and not out of statements and declarations of somebody?

*The Court.* I presume the statements may be relevant in determining the fact; I will admit it.

Q (Stenographer repeats the question.) A I don't remember his exact words, of course, after all these years; the substance of it was—

Q As near as you can remember, what did he say? A This was a pretty mixed up situation, and why not get all the parties together.

Q Did he indicate the groups he included in all the parties? A Yes, all the parties that were in interference.

Q The four parties you have already mentioned? A Yes, sir.

Q Who were the interests in interference at that time? A The Johns-Manville Company, owning the Hoff and Cutting and Jewett applications, and the Thermoid Rubber Company, owning the main Bonner application; Mr. Bonner and his group—whether or not his corporation, the Brake Liners Company, had been organized at that time I don't know—and Mr. Hubert, owning the Coleman application.

Q What happened next with reference to this suggestion; what did you do about the suggestion? A Well, I took this idea and put it up to Mr. Manville; but I left out of the proposed combination Mr. Bonner's individual applications, because I didn't consider that he had anything that was worth bothering with, but I suggested to Mr. Manville—

Q Never mind what you suggested to Mr. Manville. Did you take the matter up with Mr. Williams, representing his client, and Mr. Lowthorp? A Yes.

Q And what did you say to them when you took it up with them?

*Mr. McCarter.* Same objection.

*The Court.* Same ruling.

A I suggested that it might be well for the three parties to come together.

Q What was the answer? A That was favorably received.

Q What did Mr. Williams say, for instance, or Mr. Lowthorp? A I can't remember exactly what they said at this time; I am not sure I talked with Mr. Lowthorp at that time, but I remember I spoke to Mr. Williams, because I knew him very well, and suggested that our clients get together and subsequently, Mr. Stokes of the Thermoid came in.

Q What did you say to them about your clients getting together; is that all you said? A Get together and form some kind of an arrangement by which these applications, if they matured into patents, would come to one combination in which all would be interested.

Q And out of this suggestion came the three party agreement finally? A Yes, sir.

Q I don't recall whether you said you had anything to do with the modification of that agreement when Mr. Bonner came in? A Yes, I participated in the negotiations.

Q And to whom did you talk about it? A Mr. Massie.

Q You also talked to Mr. Williams and Mr. Lowthorp about that matter? A Oh, yes; of course.

Q And out of that came the four party agreement? A And out of that came the four party agreement.

Q You had to do with the negotiations, or with the preparation, in association with the other counsel involved, of the papers? A Yes, we all worked on it.

Q Now, in the course of your negotiations with these people, when did you first learn of the so-called British patent? A At the time that we were examining witnesses before a notary in New York, taking depositions in an interference in which one of the Johns-Manville applications was involved, and one of Mr. Bonner's applications which was not assigned to the Thermoid.

*By the Court.*

Q That does not fix the time. A That was in the fall of 1910.

Q Can you remember the month? A No, I can't fix the date without referring to the records, and I don't know that I could then absolutely.

Q Was it before or after the making of the three party agreement? A Oh, it was after the making of the three party agreement, a long time after.

Q Who first brought that British patent to your attention? A Mr. Massie.

Q Did he at that time make any suggestions as to the modification of the three party agreement?

*Mr. McCarter.* Same objection.

*The Court.* Same ruling.

A I can't say definitely that he made a suggestion at that time, but he made several suggestions nearly every time we came together; I can't swear positively on that occasion.

Q And did you bring the attention of Mr. Williams and Mr. Lowthorp to the British patent? A Yes.

Q How soon? A Very soon thereafter; I don't remember how soon.

Q Before the making of the modified agreement? A Oh, yes; a long time before that.

Q Are you familiar with the course of organization of the Asbestos Brake Company while it was going on? A I worked with the other counsel mentioned on the preparation of the papers, but the obtaining of the charter and the organization meeting, etc., were all done through Mr. Lowthorp's office; I had nothing to do with them after I passed on the proposed form of papers.

Q You understood Mr. Lowthorp was in charge of that work? A Yes.

Q Do you know who the incorporators of the company were? A No, that was all left to Mr. Lowthorp.

*The Court.* Is there any doubt, gentlemen, about the four incorporators being dummies?

*Mr. Lowthorp.* They are all dummies.

*The Court.* And that the first meeting was a meeting in New York on May 3rd?

*Mr. Lowthorp.* No, the board was real enough.

*Mr. Hardin.* I want to save showing that these four incorporators were the first directors of the company and were retired after the organization meeting of the company, and that the Board of Directors were dummies.

*The Court.* I understand that is admitted.

Q Were you later brought into professional relationship with the Asbestos Brake Company? A Yes.

Q And when was that? A Well, after its organization I continued to handle the applications which were assigned by the Johns-Manville Company and became the property of the Asbestos Brake Company.

Q Do you know whether the other lawyers continued to represent the applications that they had filed beforehand? A Yes.

*By the Court.*

Q They did? A Yes, sir.

Q I notice that in the meeting of the directors of the company held on the 17th of January, 1912, there was a resolution passed that the four attorneys of the company be authorized to consider a question of whether or not suits should be brought on the patents of the company. Are you able to tell us who the four attorneys of the company were whom that question was referred to? A Yes.

Q Who were they? A Mr. Henry D. Williams, Mr. M. C. Massie, Mr. Lowthorp and myself.

Q And did those gentlemen consider the question as mentioned in the minutes, as I have read it? A Yes, we had conferences.

Q Did the four lawyers unite in a report to the Asbestos Brake Company? A They did.

Q Was that report in writing? A It was.

Q Is this a copy of the document (handing witness a paper)? A It is a copy which I have had made from my carbon copy, and which I presume is correct.

Q I notice it has got four names to it, Francis C. Lowthorp, M. C. Massie, Henry D. Williams, by A. Parker-Smith? A I drafted the opinion and submitted it to the other gentlemen named, and with one or two slight verbal corrections they O. K.'d it as expressing the conclusions to which we had arrived; so that my signature at the end means that I had drafted the opinion to which they subscribed.

Q This opinion dated January 29, 1912; do you remember whether there was a conference held on that day by the four counsel involved in reference to the matter? A I don't remember whether the date of January 29th was the date of the conference, or whether it was the date that the thing was written out and signed.

*Mr. Hardin.* I offer that in evidence.

Said paper is marked "Exhibit D. 19."

Adjourned to Wednesday, November 17, 1920, at 10:30 o'clock at the State House, Trenton.

Testimony taken in the above-entitled cause, at the State House, Trenton, New Jersey, on Wednesday, November 17, 1920, at 10:30 A. M., before Hon. Malcolm C. Buchanan, Vice-Chancellor.

Appearances as heretofore noted.

*Mr. Hardin.* I have to bring to your Honor's attention the unfortunate accident to Mr. Parker-Smith, who, on Sunday afternoon, was the victim of an automobile accident and is in the hospital with a broken leg, and likely to be for several weeks.

I brought the matter to the attention of Mr. McCarter yesterday, and he said he had desired to further cross examine Mr. Manville, and he thought we could, perhaps, go on today with that. Mr. Manville is here, and we might do the best we can, but I am obliged to ask your Honor for a continuance in order to complete the examination of Mr. Parker-Smith.

I also understand Mr. Katzenbach's client is the victim of some unfortunate illness.

*Mr. Katzenbach.* Mr. W. J. B. Stokes has been taken suddenly ill; as a matter of fact, it was a stroke; he is not, of course, able to be present, and probably will not be able to be in court for several weeks to come.

As I told your Honor, I am not desirous in any way of obstructing the progress of the case. I do feel that Mr. Stokes, being very vitally interested as one of the persons interested in the Thermoid

Rubber Company, might be entitled to hear what testimony may be given by the other side. However, if I might have your Honor's permission to produce Mr. Stokes and for him to produce such evidence as may be necessary to be subsequently produced by reason of his absence today, then I wouldn't object to the case progressing as far as possible.

I feel I ought to place upon the record the fact of Mr. Stokes' illness in asking to subsequently take testimony.

*The Court.* Opportunity will be given now to hear as to your side, Mr. Lowthorp; you spoke about an absence.

*Mr. Lowthorp.* The absence of Mr. Williams. I guess both sides are in much the same situation.

*The Court.* It seems to be a case which, unfortunately, is different to get the hearing concluded.

*Mr. Lowthorp.* We are ready to go on as far as we can.

*The Court.* I think we might as well utilize these days if it is possible to go ahead with any of the testimony which can be produced.

I might say at this point, that I have concluded to let the application to examine the file—I have concluded to let that matter rest, upon the request of counsel for the complainants that that shall be examined at the conclusion of their cross examination, and I will let you call such witnesses as you may desire.

*Thomas F. Manville, further cross.*

THOMAS F. MANVILLE, being recalled by the complainants, for further cross examination, testified as follows:

*Further cross examination* by Mr. McCarter.

Q Mr. Manville, you were here, of course, and testified at the previous hearing of this case? A Yes.

Q You were here when Mr. Massie testified? A Yes, sir.

Q Mr. Massie's attention while on the stand was directed to his having written and signed a letter, which was introduced in evidence and marked "C. 7." He testified, as you may recall, to having sent that letter to Mr. Stokes. It is a letter dated October 5, 1911, and was introduced and read into the evidence on page 6 of the record, while Mr. Massie was on the stand. While you were on the stand, at page 210, in order to refresh your recollection, the record shows that you were asked and answered, as follows: "Had you," referring to yourself, "before the meeting of November 14th," that being the meeting at which there was no quorum present, "heard of the letter of October 5th, 1911? Ans. From Mr. Massie to Mr. Stokes? Mr. Hardin: That refers to something that was not addressed to this witness; I think the witness is entitled to have it shown him. Ans. I don't recall it. Ques. I refer to 'Exhibit C. 7,' a letter dated October 5th, 1911, addressed to Joseph O. Stokes and signed by Mr. Massie, in which, among other things, he says: 'I believe that the United States Asbestos Company, which is one of the tape manufacturers having quite a large plant, has been converted from a position opposed to us to one at least neutral, if not friendly. I enclose a copy of a recent letter from this company indicating the present disposition of Mr. Zimmerman. Quite a number of brake liner manufacturers, whose names were furnished to me in the first list, buy their asbestos tape from

the United States Asbestos Company, and these customers, as I understood, were being held together in opposition to us by the United States Asbestos Company. I think it now remains to visit each one of the said manufacturers separately, and induce them to join us. One of the largest of these companies is the Woven Steel Hose and Rubber Company, and I enclose a recent letter from Mr. Kelso showing that apparently his company is willing to join us. It seems to me that this is a case of where too many cooks spoil the broth. If our company were to take the position that it would be satisfied if it had most of the brake liner manufacturers under license agreement by the first of the coming year, and was prepared to incur the necessary expenses involved in trips to visit the licensees in different parts of the country, I could feel a reasonable assurance that the most important manufacturers, probably controlling four-fifths of the output of brake liners, would be with us by January 1st, 1912. There has been great talk about the matter of suing somebody for infringement of our patents. I call your attention to the fact that our company has about $1,700 in the treasury, which would not be a drop in the bucket for a good lawsuit. The present licensees appear to be making no effort whatever to carry out the terms of their licenses in the way of making returns to the company, and this will have to be looked into at an early date. If the royalties due our company from such licensees were promptly paid,' etc. I won't take the time to read any more of that letter. Mr. Lowthorp: You might read that following. Mr McCarter: 'If the royalties due our company from such licensees were promptly paid in, we could probably accumulate a fund with which we might hope to eventually make a fight on the patents, if that became necessary.'" That finishes it; that is the end of the quotation from the letter, and the question I gave to you was: "Do you recall having had your attention di-

rected to that letter before this meeting?" of November 14th. "Ans. No, sir. Ques. You do not; you never saw the letter? Ans. Not until this moment, no, sir. Ques. There was no connection between that letter, so far as you know, and that meeting of November 14th, 1911? Ans. No." Do you still adhere to that position that you never read that letter or heard of it? A No, sir; I don't recall ever hearing or seeing that letter.

Q Do you recall—it isn't a question of recalling; the question is, whether you adhere to this answer; do you still stick to that? A Yes.

*Mr. McCarter.* We call upon the other side to produce a letter of October 5th, 1911, from Mr. Massie to Mr. T. F. Manville, a copy of which is in the file of the company under the care of the sergeant-at-arms.

*Mr. Hardin.* I received on Monday a notice from Mr. McCarter's office to produce at the trial of this case all letters and copies of letters from Mr. Massie between certain dates, which would include this date. I have advised Mr. McCarter, I did advise him after receipt of that notice, and after the accident to Mr. Smith, that it would be impossible for me, with any certainty, to comply with that notice, because they were in Mr. Smith's custody, many of them, and I had in my office some papers that Mr. Smith had left in my office. I went through them, and I find three letters from Mr. Massie to Mr. Manville, and only those three. I have produced those three, otherwise, I am unable to produce the papers at this time. That is the best I am able to do now.

*Mr. McCarter.* We have here a copy of the letter to which I refer, in the file; have you any objection to our using that?

*Mr. Hardin.* I haven't seen it.

*Thomas F. Manville, further cross.*

*Mr. McCarter.* We'll show it to you now.

*Mr. Hardin.* (After looking at letter.) That is the disadvantage I am under by not having had access to the company's records.

*Mr. McCarter.* This is undoubtedly a copy of a letter Mr. Manville received.

*Mr. Hardin.* We can't produce the original.

*Mr. McCarter.* I offer in evidence a copy of a letter dated October 5, 1911, addressed to Mr. T. F. Manville, Esq., 100 William street, New York, N. Y.

*Mr. Hardin.* I object to its being offered in evidence at this time; I have no objection to its being shown to Mr. Manville.

*Mr. McCarter.* I will ask to have it marked for identification.

Said letter is marked "Exhibit C. 8 for identification."

Q I ask you if you remember receiving a letter from Mr. Massie, of which the following is a copy, dated October 5, 1911: "Dear Sir: I beg to report that about September 15th, by request of Mr. Stokes, I met Mr. Hammerstrom in Philadelphia, at about 4 P. M. and stayed with him until about 6 o'clock. I do not know exactly what Mr. Hammerstrom had in mind as to the plan of procedure, but he did incidentally mention the idea of having our company assign all its patents to him, so he could run the business, collect the license fees and pay to us any profits to which our company was entitled, this plan having been considered by Mr. Hammerstrom as in accordance with the views of Mr. Stokes. I should be glad to know how you feel in regard to this proposition, which I presume will come up before the Board at a later date. I have recently received some urgent communications from Mr. Stokes for further conferences in regard to the matter of a plan for Mr. Hammerstrom to take up, but

unfortunately, have been so pressed with other urgent matters at this end, that I was unable to meet Mr. Stokes. I have just received another letter from him requesting me to send suggestions and information to him in Chicago. I enclose herewith a copy of my letter to Mr. Stokes, which will not only show what has been done, but also will indicate my general views. I believe that if I were let alone in this matter, and backed up with the necessary funds to cover expenses, I could settle this matter before the first of January, 1912, and this, in my opinion, is certainly as early as it will be settled by anybody, particularly if we are going to be eternally discussing plans. There is only one plan which can be carried out under the law, and that is a license agreement. It may be necessary to modify the form of the license agreement slightly, as suggested in my letter to Mr. Stokes, but this is a mere detail which I feel satisfied the board of directors of our company would agree to. I should be glad to have you write me frankly as to your own position in the matter. Very truly yours." Do you remember receiving that letter? A If you say I received it—

Q I ask you if you remember receiving it? A No, I don't recall it.

Q You stated on the stand that you never had heard or seen the Stokes letter or a copy of it? A I didn't recall the letters; it is a good many years ago.

Q Do you remember receiving this letter? A I don't recall it.

Q I show you a letter on the letterhead of H. W. Johns-Manville Company, 100 William street, New York, dated October 6, 1911, and addressed to Mr. M. C. Massie, No. 918 F street, Washington, D. C. Look at that and see if you signed or wrote or dictated that letter. A Do you want me to read it?

*Thomas F. Manville, further cross.*

Q Anything you want. A (After reading letter.) That is my signature, and I undoubtedly wrote the letter, yes.

*Mr. McCarter.* I offer these letters in evidence.

*Mr. Hardin.* I have no objection to either one of them.

*The Court.* They will be admitted.

Letter "Exhibit C. 8 for identification," is marked "Exhibit C. 8."

Letter from Mr. Manville to Mr. Massie, dated October 6, 1911, is marked "Exhibit C. 9."

*Mr. McCarter.* The letter is as follows: "H. W. Johns-Manville Company, 100 William street, New York. Office of the President.

October 6, 1911.

Mr. M. C. Massie,
#918 F. Street,
Washington, D. C.

My dear Sir: I am pleased to acknowledge receipt of your letters of the 5th inst., enclosing copies of your letters to Mr. Stokes, also copies of letters from the United States Asbestos Company and the Woven Steel Hose and Rubber Company.

The points you name in your letter are important, and we should get together at a very early date and give you positive instructions. I am writing Mr. Stokes to call a meeting immediately on his return East.

The way matters are running now, the various companies that are in this agreement are losing a lot of business, as under the terms of our agreement we are unable to quote prices that will secure the business for us, and something will have to be done, one way or another, at a very early date.

*Thomas F. Manville, further cross.*

I thank you for your letter regarding the Bonner Canadian patent, and will write you further on this subject within a short time.

Yours very truly,
H. W. JOHNS-MANVILLE CO."

That is typewritten and is scratched out and the letter is signed "T. F. Manville."

P. S. I, of course, am not in favor of assigning patents to Mr. Hammerstrom.

Q Now, since hearing your letter read, you feel satisfied you have received a copy of the letter that Mr. Massie wrote to Mr. Stokes, don't you? A It would seem so, yes.

Q And I notice that you say in this letter that I have just read, marked "Exhibit C. 9," "I am writing Mr. Stokes to call a meeting immediately on his return East." Do you now still adhere to the fact that the Massie letter to Stokes had nothing to do with that meeting of November 14th? A I can't recall that.

Q You remember testifying, as I have refreshed your recollection, that it had nothing to do with that meeting; do you still adhere to that? A What did I say. I don't want to say anything but the truth, I want to tell the truth, every bit of it.

Q I now ask you if it is not a fact that the letter from Massie to Stokes, a copy of which was sent to you, did not have something to do with the alleged meeting of November 14th? A I can't recall whether it had or not.

Q You say, "I am writing Mr. Stokes to call a meeting immediately on his return East." That is there, isn't it? A Yes, sir.

Q Now, you have already, under cross examination and direct examination, described in some detail the occurrences of the alleged meeting of November 14th, the memorandum for the minutes of which were copied

by your secretary, Mr. Greenwood. Was it by your direction that the initials of the Mr. Stokes that was present at that meeting, were not given in the minutes of the meeting?

*Mr. Katzenbach.* Have we the minutes of the meeting? I have no recollection that the initials were not given.

*The Court.* My recollection is, that they were not.

Q I will repeat the question: "Meeting of the directors of the Asbestos Brake Company was held pursuant to notice, at the office of Mr. T. F. Manville, 100 William street, New York City, November 14, 1911, at 2 o'clock. Present: Messrs. Stokes, Manville and Bonner." The question that I put to you was, whether it was by your direction, that your secretary, Mr. Greenwood, omitted to state which Mr. Stokes was present? A Certainly not.

Q At any rate, the so-called meeting was held; you recall the fact that only one Mr. Stokes and yourself and Mr. Bonner were the individuals in the room, except Mr. Greenwood; can you recall that? A Refreshing my mind from the minutes.

Q You have no recollection about that, excepting the minutes? A I do recollect that meeting.

Q Do you recall the fact, that the Mr. Stokes that was present, was Mr. W. J. B. Stokes? A Yes, sir; if that is his initials. The initials always confuse me; I don't know which is which, but this gentleman that was there was the treasurer of the Thermoid Rubber Company.

Q And not a director of the Asbestos Brake Company? A Yes.

Q Not a director? A Yes, sir.

*Thomas F. Manville, further cross.*

*By the Court.*

Q Do you mean it is true that he was not a director? A I mean it is true that he was not a director.

Q So that you recall distinctly that there wasn't a quorum present? A I never realized at that time.

Q Will you answer my question? You know what a quorum is? A Yes.

Q You know there was not a quorum present? A I never realized—

*By the Court.*

Q But you do now know? A I do now know.

Q You knew that Mr. Bonner was not a director, didn't you? A Yes, sir.

Q The H. W. Johns-Manville Company is a corporation? A Yes, sir.

Q It has a Board of Directors? A Yes.

Q You know whether a Board of Directors at a purported meeting has or has not a quorum, don't you? A Yes.

Q Did your familiarity with the affairs of the Asbestos Brake Company amount to enough to know who the directors of the company were? A Oh, yes.

Q Now, I show you a letter purporting to be signed by you, dated November 14, 1911, addressed to Mr. Massie, this being the same date as this alleged meeting; look at it and see if you signed it? A Yes, sir.

*Mr. McCarter.* I offer that letter in evidence.

Said letter is marked "Exhibit C. 10."

*Mr. McCarter.* "New York, November 14, 1911.

Mr. M. C. Massie,
#918 F. Street,
Washington, D. C.

Dear Sir: I have your telegram advising us that you could not attend the meeting. There

was a quorum present, and we passed a few resolutions, which we will hold and have you enter in the minute book at the first opportunity.

Yours very truly,

H. W. JOHNS-MANVILLE CO,

T. F. Manville, *President.*"

Q Why did you send that letter, Mr. Manville? A I sent that letter, because at the time I thought it was the truth; they were the large interests in the company. They come to call the meeting; there have never been any objections to it.

Q Why did you say there was a quorum present when you knew that there was just one director present, and that was yourself? A I didn't realize at the time; they were the largest interests that attended that meeting.

Q It has now turned out that you had notified Mr. Massie, the secretary and a director, of the proposed meeting? A Yes, notified all the directors.

Q And evidently received a telegram from him that he couldn't be present? A Yes.

Q And notwithstanding that, you went on and held the meeting? A Yes; Mr. Bonner was there.

Q And passed a few resolutions, to use your own language? A Yes.

Q Have the resolutions undertaking to rescind the license agreement to your own company, under which your company had obligated itself to pay royalties—

*Mr. Hardin.* It speaks for itself.

A The record shows what happened.

Q If you thought there was a quorum present in good faith, and everything was all right, why did you take the trouble to write to Mr. Massie that there was a quorum present? A Why, probably in reply to his letter that he said he couldn't come to the meeting.

*Thomas F. Manville, further cross.*

Q He telegraphed you that he couldn't be present? A Yes.

Q Have you got that telegram? A No, we don't keep letters after seven years; they have been destroyed.

Q Well, what is the fact, then, with reference to your letters; when are they destroyed? A The letters that the Johns-Manville Company keep they hold for seven years; there may be some exceptions, but I don't recall them.

Q Seven years? A I think that is correct.

Q Exactly the time Jacob served for Rachel. So you think that telegram has been destroyed with the other records of the company? A I presume it was, I don't know.

Q Was that a record of the Johns-Manville Company, the statement to you by Mr. Massie, the secretary-treasurer of the Asbestos Brake Company, that he could not attend a meeting of the Asbestos Brake Company which you had asked Mr. Stokes to call? A I don't recall.

Q Do you say that all the letters anterior to the seven years from the present time, in connection with the Asbestos Brake Company matters, have been destroyed? A I can't say for sure; I think they have been, as far as our records are concerned; I don't know anything about the records of the Brake Band Company, but I think they have of the Johns-Manville Company.

Q I show you a communication or a copy of a communication, dated November 7, 1911, addressed to "T. F. Manville, Esq., 100 William street, New York, N. Y.," and signed "Yours respectfully, (blank) Secretary." It was signed by Mr. Massie; look at it and see if you have doubt that that was a notice of the proposed meeting on that 14th of November? A I am not able to state whether I received it; I don't know positively; I guess I did; it is in reference to a meeting, and I presume I received it.

*Thomas F. Manville, further cross.*

*Mr. McCarter.* I offer it in evidence.

Said letter is marked "Exhibit C. 11."

*Mr. McCarter.* "November 7, 1911.

T. F. Manville, Esq.,
100 William street,
New York, N. Y.

Dear Sir:—You are hereby notified that a meeting of the Board of Directors of the Asbestos Brake Company will be held at the offices of the H. W. Johns-Manville Company, 100 William street, New York, N. Y., at two P. M., Tuesday, November 14th, for the consideration of the regular monthly business, and any special business which may be brought to the attention of the directors. You are requested to be present.

Yours respectfully,

_____

*Secretary.*"

Q I want to refresh your recollection and see if you remember the following resolution being introduced and passed, and whether you voted for it at the meeting of the Board of Directors held at the offices of the H. W. Johns-Manville Company, New York, August 29, 1911, at 4 o'clock P. M., page 43 of the minute book. Present: Messrs. Joseph O. Stokes, Conrad Hubert, T. F. Manville and M. C. Massie. You observe that the minutes say which Mr. Stokes it was. Now, the minute of that meeting shows that the following, among other things, were transacted that day—see if you can recall it. "On motion, duly seconded, it was resolved that the licenses to be granted manufacturers of brake liners should be uniform with those now held by the present licensees of the company, and that in view of complaints, that the present schedule of prices was too high, a lower schedule would be adopted, after further consideration of the views of pros-

pective licensees." Do you remember that being passed? A The record shows; I wouldn't recall it.

Q You voted for it? A I probably did if the rest did.

Q And who fixed the selling prices; you and Mr. Stokes, didn't you? A I don't recall.

Q What? A I don't recall.

Q Now, Mr. Manville, don't you know that you and Mr. Stokes fixed the schedule of selling prices? A I do not; no, sir.

Q Well, what is your best recollection of it? A I don't want to guess.

Q You have no recollection? A No.

Q Who fixed the prices? A No.

Q What? A I have no recollection of who fixed the prices.

Q Well, Mr. Hubert didn't, did he? A I don't know.

Q Eh? A I don't know.

Q Was there any manufacturer of asbestos brakes connected with the Asbestos Brake Company other than you and Mr. Stokes? A I believe at that time we were the only manufacturers, but other people sold, Mr. Hubert sold.

Q Do you know of anyone other than yourself and Mr. Stokes that was competent from information in your possession or his possession, to fix the prices? A Mr. Hubert was selling band linings; he ought to have known as well as we.

Q Do you think Mr. Massie had any information? A I don't know.

Q Do you wish to go on record as saying, that you don't know who fixed that elaborate record of licenses? A I am quite willing to go on record as stating I don't recall who did it.

*Thomas F. Manville, re-direct.*

Q Do you say that in 1911, Mr. Hubert was selling asbestos brake linings? A I am quite sure he was; that is why we made him a special proposition of 15%.

Q Don't you know it was after that agreement was made that that company made that adjustment— A I am quite positive he went into business before that.

Q When? A Before these prices were made.

Q What do you base that statement on? A Well, only as a matter of recollection; I couldn't swear to that.

Q Then you are not so positive; you know, do you not, that the schedule of prices was complete anterior to May 3, 1911, don't you? A I don't recall about these prices.

Q They are included in the license agreement which bears that date? A I suppose the record will show.

Q Do you say positively now, that Mr. Hubert was engaged in selling brake liners at that time? A I think so.

Q To whom? A To the trade.

*Re-direct examination* by Mr. Hardin.

Q Mr. Manville, who was present at the meeting of November 14, to the best of your recollection, November 14, 1911?

*Mr. McCarter.* That has all been gone into.

*The Court.* Yes, that was brought out on direct.

*Mr. Hardin.* Unquestionably, and I only want to clear up the possible difference left by the cross examination, not intentionally on Mr. McCarter's part, but I can't tell what is in my mind without indicating to the witness, perhaps, a possible answer, and I don't want to do that. May I have an answer?

*The Court.* You may.

A There was Mr. Stokes, Mr. Lowthorp, Mr. Bonner, Mr. Greenwood was called in, and myself.

*Thomas F. Manville, re-cross.*

*By the Court.*

Q Mr. W. J. B. Stokes, you mean? A Yes, sir.

*Re-cross examination* by Mr. McCarter.

Q You are quite sure Mr. Lowthorp was there? A Yes, sir.

Q No question about that? A No question about it; he came in late; I recall it very well, on the—

Q You have already testified before that he came over with Mr. Stokes; which is the fact?

*Mr. Hardin.* I would like to have reference to the testimony as to the fact.

Q At the bottom of page 212, the testimony of Mr. Manville reads as follows: "Do you recall that the meeting was proposed to be had in October and deferred until November? Ans. No, sir. Ques. You don't recall that? Can't you now recall that Mr. Lowthorp was present at that meeting? Ans. What meeting? Ques. November 14th. Ans. He accompanied Mr. Stokes; I think he was present with Mr. Stokes at that meeting." Now, Mr. Stokes was present from the start, wasn't he? A I don't recall; I know positively he was at that meeting.

Q Mr. Stokes was there at the start, wasn't he? A I don't recall at the start, but he was at the meeting.

Q You don't recall that Mr. Stokes was present at the start of the meeting? A I presume we may differ; they were both late; that is the reason, I recall Mr. Lowthorp being there.

Q Were you telling us the fact when you said Mr. Lowthorp accompanied Mr. Stokes? A I presume he did.

Q Did you tell us your recollection? A He was at the meeting.

Q Did he accompany Mr. Stokes? A Well, I can't state positively; I know he was at the meeting.

Q There is no doubt that he was at the meeting? A No doubt.

Q Your recollection is absolutely impregnable on that point? A I am quite positive.

Q There can be no mistake about it? A No, sir.

*Mr. Hardin.* Mr. McCarter asked us at the last hearing, and we agreed to do so—to produce the prices at which the Johns-Manville Company had sold bands in certain years. It is rather difficult to get at that from any of the books of the company, for this reason: In the ledger, for instance, the amounts are entered in gross, and the recourse is to duplicate invoices. This is the best way I could get at the information, and I have here the sales manager of the company, and am prepared to furnish that information.

*Mr. McCarter.* Well, it seems to me, on reflection, that that evidence is premature. It should come in naturally on the accounting rather than now, and I don't think we will take the Court's time, or counsel's time, or the witnesses' time at this time to go into that, because, on reflection, it is the view of my associates and my own view, that that concerns the accounting.

Mr. Manville was claiming, as I recall his evidence, that they made these things at a loss, or without profit, for a long time. I asked him if that was true, and then he said, that from 1914 down there had been an increase in price, and some profit: I said, "Will you produce the—"

*The Court.* I don't think it is necessary to take up the time at this hearing, in detail, at least. If it is desired to put the general results on the record, that can be done, but to take the time of the witness to go into all this detail—I do not think that should be done now.

*Mr. Hardin.* We said we would do it, and we are prepared to do it.

LOUIS R. HOFF, being recalled on behalf of the defendants, testified as follows:

*Direct examination* by Mr. Hardin.

Q What position do you occupy with the Johns-Manville Company? A General sales manager.

Q How long have you been such? A I think since 1913.

Q And did you have anything to do with the fixing of prices at which brake band material was sold by the Johns-Manville Company, prior to the time when you became sales manager in 1913? A I did.

Q For how much of a period after that were you concerned with making prices for the company? A To the best of my recollection, to the time when I instituted the invention of the brake lining that was afterwards patented; I think that was some time in 1909; I don't recall exactly.

Q And have you looked up the prices at which brake band material was sold by the Johns-Manville Company during the years 1909, 1910, 1911, 1912 and 1913? A I have, so far as the records are available.

Q Tell us why the records are not available? A It has been a rule of the company to destroy all records of orders, billings, and general correspondence relating to my department I know, back of seven years, because they were too bulky to keep.

Q And what would be included in those records that would be related to this question of prices? A Orders from customers, lists of instructions to salesmen, and copies of loose leaf invoices, as our bookkeeping system provides.

Q The general books of account of the company—do you know whether they are destroyed or not? A I can't answer that question.

*Louis R. Hoff, direct.*

Q What course have you pursued to enable you to tell us what the prices were at which the Johns-Manville Company sold brake band materials in these years of 1909, 1910, 1911, 1912 and 1913; how have you gone about furnishing the information? A I will try to answer that question, if I understand it correctly. In finding that the records were entirely destroyed, I communicated with some of our branches in the hopes that they might find certain records. I also sent representatives to some of the jobbers who were our customers during those years, to secure copies of invoices or the original invoices, rather, at which we billed the goods to them, and it is from those sources I have been able to get the data regarding the prices at which the goods were sold from 1909 to 1914.

Q Have you got the data you refer to with you here today? A I believe you have it there.

Q Was there any change made in the list price at which you sold brake band material in the year 1911, as compared with the year 1910? A Not from those records.

Q Was there any change made in 1912, as compared with 1911? A Not from those records.

Q Or in 1913, as compared with 1912? A Not from those records.

Q How is the price made to the trade? A By quoting discounts from established list prices.

Q Has there been any difference in the price since 1913? A No.

Q The list price? A The list price.

Q Do you mean the list price, or a discount? A I believe there has been a change in the price, but there has been no increase in the discount or in the net price; I mean, no decrease in the net price.

*Mr. McCarter.* No what? No decrease? No decrease, do you say?

A I was confused.

Q What is the fact? A The fact is, I believe there has been a change in the list price, and that for a part of the time from 1913 to 1920, prices were lower than they had been since 1918.

Q What do you mean? When was this change in the list price made? A That I have been unable to clearly establish from the records.

Q About when? A I guess in 1914 or '15.

Q Are you referring to the discount or the list? A To the list prices.

Q Well, now, coming to the actual prices, has there been any advance in the actual prices at which the materials were sold to the trade since 1913? A No.

Q Any change in the discounts? A Yes.

Q Does that affect the price? A Yes.

Q Discounts greater or less? A The discounts have made a lower net price.

Q During what period? A Since 1913.

Q Compared with what? A Compared with the period from 1909 to 1913, as shown by those records.

Q Did there come a time when, by reason of the lower net prices after 1913, compare with the period that had gone before, did there come a time when the net price was advanced? A The net price was advanced, I think, in 1918, over what it had been in '16 and '17.

Q How was that advance accomplished? A By quoting a lesser discount.

Q I show you a group of bills, marked together with the lead pencil "B;" will you give me a general description of what those are? A These are invoices for the sale of brake linings to R. W. Whipple, of Binghamton, New York.

Q By what concern? A H. W. Johns-Manville Company.

Q How did you get those? A From Mr. Whipple's files in Binghamton.

Q And do you think they were bills that went to that firm near the dates of their respective dates? A From the appearance of the invoices I would say they are originals.

Q What is the year of those particular ones? A 1911.

Q And what was the discount from—how were the goods billed, at a list price or a discount? A Yes, sir.

Q With a discount? A Yes.

Q What is the discount that you find there customarily allowed? A 60% from list.

Q And what was Whipple in the trade? A A jobber of automobile accessories.

Q Were you able to reach any other samples of your prices in 1911 from original sources? A I secured other invoices.

Q Is that bunch of papers I now hand you illustrative of another group? A They are also, apparently, original invoices to R. W. Whipple, of Binghamton, but subsequent years.

Q What years? A These are all 1912.

Q What about the top one? A With the exception of the first one, which is 1911.

Q And how are those bills made up, by the same method, the list price and a discount? A Yes.

Q What is the customary discount there? A From November 6, 1911, invoices show a discount of 60%, until the invoices of April 30, 1912, a discount of 65-5%; July 2, 1912, 60%; July 18, 1912, 60%.

Q They generally run through the year at 60%? A Yes, sir.

Q Are these similar bills from Whipple, invoices from Whipple, originals, covering the year 1913 (handing witness papers)? A These are, apparently, original invoices to Whipple for part of the year 1912 and 1913, and a few in '14 and '15.

Q What are the customary discounts? A 1912, 60%; 1913, 80%.

Q 80% usually, or is that occasionally? A That is the average through the year, as shown by the invoices for that year; 1914, one invoice shows 80; 1915, one invoice shows 80.

Q You get those the same way, from the original files of Whipple? A Yes.

Q Did you reach any other of your customers besides Whipple? A Several others.

Q Any others you remember? A I can recall the Albany Iron Company, automobile supply jobbers.

Q And is this group I show you now from that Albany company? A Yes.

Q How did you get them? A From the Albany Iron and Hardware Company at Albany.

Q Are those original invoices? A The indications are, these are original invoices to them.

Q From your company? A Yes.

Q How did the discount run on those bills? A 1913, from 75-10 to 80.

Q Are those bills all in 1913? A Yes, sir.

Q Can you tell from these bills about whether the list price was varied in these years, '11, '12 and '13, the list price? A I can by picking a certain size of brake lining, and comparing the list from which they were billed

Q Have you made that comparison; are you able to tell us whether the list continued the same during '11, '12 and '13? A From one instance of an invoice of July 23, 1912, the list on 2x3-16, which is a popular size, is 90c; February 13, 1913, the list on the same size was 80c. Another invoice of February 13, the list on the same size is 90c; April, 1913, the list is 80c.

Q Does that mean a different list to different customers, or was that a common thing in the trade? A To the best of my recollection, we hadn't adopted at that time an arbitrary list that we stuck to with all customers.

Q I show you another group of bills, Alling Rubber Company; is that a similar list? A Yes.

Q What are the prevailing discounts there? A Invoice of March 3, 1913, the discount is 80-10%.

Q I notice what looks like a copy of original orders attached to that? A Yes, sir; that is an original signed order of the Alling Rubber Company.

Q Are you able to tell us or not, whether the prices shown on these various invoices are indicative of the prices charged by the Johns-Manville Company throughout the country for brake lining materials? A It is my belief that those were the average jobber—that those were the prices charged by the company generally.

Q Have you made any investigation outside of jobbers, which help you to confirm that recollection? A I have received filed copies of invoices from other of our branches in other sections of the country.

Q Where the records have been kept? A Some of the records I find were kept—

*The Court.* What is the purpose of putting all these in the record?

*Mr. Hardin.* To show that there was absolutely no change in the conduct of the business of these people, notwithstanding this transaction in 1911—the issuing of the license that year. I propose to show the prices were the same before and after, and that no changes were made in the prices used and discounts allowed, they are absolutely at—

*The Court.* You have asked this witness about isolated instances; he testifies that with one jobber there was a certain price in a certain month and year, and the discount was changed.

*Mr. Hardin.* They are both ways; they vary.

*The Court.* Both ways, both the list prices and the discount; there was an advance and a decrease.

*Mr. Hardin.* I am obliged to go at this piecemeal. Their business was conducted without reference to this license agreement.

*The Court.* You have that testimony, but why can't that be taken before a Master?

*Mr. Hardin.* It is addressed to this actual hearing; it will take some time; I have got a heap of these things, and it is a matter that I have got in some way to get to your Honor, and to prove it by the general method.

*The Court.* Let this witness refer to these things outside of the court room and give the results in his testimony instead of taking the time to refer to them here.

*Mr. Hardin.* I am perfectly willing to do it by that method.

Q Was any change made in the method of conducting your business with reference to the prices that were charged for brake band material in 1911, as compared with 1910, or 1912 as compared with 1911?

*Mr. McCarter.* We object to that unless they propose in some way to fasten upon us knowledge of how they conducted their business; how can the fact that they did conduct it this way or that way or the other way, without our knowledge, in any way affect us. We were not bound to go into their shop to see whether they were charging enough to reimburse us for the fixed royalties. All we were bound to do was to get the royalties; they can't by a self-serving declaration coming on in the same way, counteract the effect of the agreement.

It seems to me it is utterly immaterial; they were to pay us a certain royalty, not profits. If they saw fit to advertise this new invention and sell at a discount to one, and another to another, they

knew they were obliged to pay us a royalty of 10 cents. This is not what I asked for, and while, perhaps, it has been enlightening and will be helpful on the accounting, and will lead to a motion I am going to make before we leave today, I do object to the expense involved in a reference to a Master, or of going on this way before your Honor.

*The Court.* I will permit the answer to that question, subject to your objection.

*Mr. McCarter.* Was he sales manager then?

*Mr. Hardin.* Not by title, but he was in charge of prices.

(Stenographer repeats the question.)

A No, sir.

Q Who made the prices of your company during those three years? A I did.

Q Did you receive any instructions from any source of any different character than formerly, with reference to prices?

*Mr. McCarter.* Same objection.

*The Court.* The same ruling.

A No, sir.

Q What did you take into consideration, if anything, in 1911, 1912 and 1913, other than you had been accustomed to take into consideration in 1910, for instance?

*Mr. McCarter.* Same objection to that.

*The Court.* Your objection will go to this whole line of testimony.

A Nothing.

Q And what generally covered the fixing of prices? A My knowledge of market conditions and competition on similar materials secured through our sales organization and branches.

*Mr. Hardin.* Now, subject to my right to prove up these figures for the purpose of comparison with the license agreement, I can leave the examination of the witness to take place at a time when your Honor's time will not be taken.

*The Court.* I think that had better be done.

*Cross examination* by Mr. McCarter.

Q I understand that you had sole charge of fixing prices during the years 1909 to 1914, inclusive? A Yes, sir.

Q Did you have a system of books? A What do you mean?

Q The Johns-Manville Company kept books? A Yes.

Q Well, if you sold goods to a customer at Binghamton, or any other place, he was charged with what he owed, wasn't he? A Yes.

Q Are those books destroyed? A I don't know.

Q What? A I don't know.

Q I understand from your evidence that there was no uniform price. You took a certain discount to A., a certain discount to B., another discount to C., and another one to D., as the case may be? A There was a variation owing to local competitive conditions.

Q Exactly. Did you have a list price during those years? A Not an absolutely uniform fixed list price, to the best of my recollection.

Q Isn't what you had still in existence? A I believe it was changed—

Q Isn't what you had still in existence for those years? A You mean the list?

Q Yes. A Not that I can find any record of, except as indicated by various sizes shown on these invoices.

Q You have no permanent records showing the price at which goods were sold— A Not prior to seven years.

Q Well, apart from the invoices, have you no way

from your books of showing or learning the prices you charged a given customer a given year, assuming the books are still in existence, for a given set of goods? A I don't believe we could.

Q Are you sure you can't? A I am quite sure.

Q Have you ever examined the books to see? A No, sir.

Q Then why are you sure? A I know what our system of bookkeeping is.

Q What is there about that? A Our system is making out invoices in a loose leaf file, from which are posted to our books only the amount and date of the bill, without any reference to material or price.

Q Now, how long has the habit of destroying documents, invoices, etc., after seven years, prevailed in your department? A To the best of my recollection, ever since I have been with the company, twenty years.

Q Twenty years? A Yes.

*Mr. McCarter.* I think at this point we ought to ask from your Honor an order, verbal now, to be followed by a written one, to the effect that no further destruction of papers or documents that would bear upon the amount due to the complainants, if they are adjudged to be entitled to any, until the further order of the Court.

*The Court.* Mr. McCarter, I think if any such thing should be shown to have taken place, it would be an exaggerated act of contempt of court.

*Mr. Hardin.* There won't be, of course.

*Mr. McCarter.* And that will apply to both the defendants, the Thermoid and the Johns-Manville Company.

Your Honor will recall that on page 21 of the cross examination of Mr. Hoff when he was here before, he was interrogated a little, but I don't

think quite enough, with reference to what occurred at his examination in the Patent Office on the interference in connection with these original patents. He referred to certain evidence and was asked if that didn't refresh his recollection; he said it did not.

What I now desire to do, is to ask him if he does not remember testifying, as follows, to complete the line of examination partially completed before. I will ask the question.

Q You recall, do you not, being examined in these interference proceedings in the case of Louis R. Hoff *vs.* William T. Bonner *vs.* Clyde J. Coleman, proofs on behalf of Louis R. Hoff? A Yes, sir.

Q You have examined one of these printed books? A I have not.

Q Do you recall being examined in the presence of A. Parker-Smith, Esquire, attorney for yourself, on the 26th of September, 1910, before Louella F. Little, Notary Public, at Mr. Smith's office, on Monday, September 26, 1910, and giving the following testimony: "XQ41." being examined by Mr. Williams, attorney for Coleman, you being the witness: "Do you recollect any transactions with Mr. Clyde J. Coleman, or Mr. Conrad Hewitt, of Auto Improvement Company, in relation to Asbestos brake lining; if so, what is your recollection?" and do you remember giving the following answer: "A I recall that Mr. Coleman called upon me at the office of our company in regard to a heat resisting lining for the brakes of automobiles, stating that he was connected with the Auto Improvement Company, who had and were developing various automobile improvements, and he personally was interested in developing for his company a new type of regulator. At that time he showed me a crude sample of lining made from asbestos. I told him I did not think it was practical in the shape that he had it; that his

ideas were along the right track. We then discussed the manufacture of a more suitable fabric, samples of which were first made by our company for the Auto Improvement Company, and we afterwards received and filled orders for that company, and I have reason to believe that the goods were delivered to them." Do you remember testifying that way? A I don't recall it; it may be a matter or record.

Q Do you say you did or did not? Let me show you this book, calling your attention to page 31. A What is your question?

Q Do you remember testifying, as I have read; do you admit you did testify that way? A I admit I gave such testimony, but as to the accuracy of this, I couldn't recall it; it may be so, as this is a matter of absolute record.

Q You have not had one of these books? A Not to the best of my knowledge, I haven't seen one of these books.

Q "XQ. 42. What is your best recollection as to when this first interview occurred with Mr. Coleman? A At the time I made my application here involved. I was under the impression that it was sometime in 1907. At present I am led to believe that it was in August, 1906, that the discussion above referred to occurred." Did you testify that way? A I can't recall.

*Mr. Hardin.* That is as far as I can go in the absence of Mr. Parker-Smith.

*Mr. McCarter.* Is that all your witnesses except Mr. Parker-Smith?

*Mr. Hardin.* Yes, and I may have to bring other witnesses besides Mr. Hoff, to connect up this chain.

THOMAS F. MANVILLE, being recalled for further cross examination, testified as follows:

*Further cross examination* by Mr. McCarter.

Q Is one of your subsidiary companies under the name of H. W. Johns-Manville Company, organized under the Massachusetts Laws, Mr. Manville? A Yes, sir.

*By Mr. McCarter.*

Q Is that the name of the subsidiary? A Yes.

*By Mr. Lowthorp.*

Q Give the name of the company, won't you, please? A H. W. Johns-Manville Company of Massachusetts, I believe is correct.

*Mr. McCarter.* It does seem to me—I may be obtuse about it, and I don't want to be technical, but for the life of me, personally I can't see any reason why the evidence Mr. Hardin is reserving here should be injected into the case. We have the general statement for what it is worth, that there was no change made. I think that is immaterial, but it is in now; and is it going to be worth while to follow that up with a mass of documents taken from here, there and everywhere, isolated instances, if you will, to substantiate—

*The Court.* Certainly not, if you don't intend to contradict it.

*Mr. McCarter.* This is the first inkling we have had about it, and we won't be able to contradict it. Your Honor has taken the view that the fact that they made no change is important, and that appears as a fact, but I don't know that we can contradict it. He had no right, it seems to me, to undertake to follow that up with details such as Mr. Hardin suggests, or threatens. It would be just a waste of time, and it would seem to me to be

a great deal better to have the case closed as soon as Mr. Parker-Smith, who, we hope, will soon be well and be able to come here, and close this case.

*Mr. Hardin.* I don't understand the objection. We show there has been no change, but we still have got to make the comparison between the charges that were made before the license agreement was made and afterwards, and I want to show that this business of ours was conducted on exactly the same lines, under the same conditions and the same prices. I want to show what the prices were, without regard to whether the discount was 60% or 70% or 70-5%, that it reached a different net all the time from the net called for by the license agreement itself, which has a schedule attached to it.

The license agreement provides, that there shall be no sales except at that price; there never was any change made in the business of the Johns-Manville Company since that time, and this whole matter is tentative, unless these other people were brought in. It doesn't seem to me to be enough to lay before the Court, unless my friends stipulate that, notwithstanding making this agreement, the business of the Johns-Manville Company continued at a schedule of prices established by itself with no reference whatever to this license agreement. If they want to concede that, I am willing to take their concession.

*The Court.* You have that practically testified to, if I understand you, as a general proposition by Mr. Hoff; why go into the details?

*Mr. Hardin.* Because otherwise I can't get the comparison. Our prices might have been the same; it might have been exactly the same thing. We say no change was made; that is the start of it. Sup-

pose these proofs demonstrate that the actual prices of the goods were at no time in harmony with that agreement, I don't see how the Court gets proof unless it is conceded—not without figures.

*The Court.* I have very grave doubts as to whether the testimony, when you get it, is going to be competent, but I have received it subject to the objection, so that I might have it before me, in case I should change my mind.

It has occurred to me it might be material upon a proposition of establishing good faith—showing the conduct of the concern at that time—but if I receive it upon that basis, I suppose I am bound to go to the full extent and receive all that you offer, to the extent that it is necessary to show the general facts that you allege.

*Mr. Hardin.* Perhaps I can make a schedule and submit it to my friends on the other side, and that we can agree that that schedule is a tabulation of the result, and they can take these bills and prove it.

*The Court.* That is what I have been thinking; your witness could go over these things and make a schedule himself, and then he could testify to that and put it in.

*Mr. McCarter.* The difficulty about the thing is, it can't be complete unless they went to every place.

It appears from Mr. Hoff's testimony, that he has only got isolated instances; they have no records in their office at all. Suppose he brings in a dozen; what does that prove? Now, I suppose there are dozens and dozens and dozens; he doesn't want to go to all of them.

*Discussion.*

*The Court.* I do not know what he has; he might have invoices from every customer in the country, for aught I know.

*Mr. McCarter.* I don't think he pretends to have any such thing.

*Mr. Katzenbach.* On behalf of the Thermoid Rubber Company, I had anticipated producing the same line of evidence in practically the same manner as that which had been produced by the Johns-Manville Company.

*The Court.* Do you also have the seven year rule at the Thermoid?

*Mr. Katzenbach.* I am not certain whether it is a seven year rule, but it is almost a seven year rule; it may be exactly the seven year rule. What Mr. Hardin has made, I want also to make—an application on behalf of the Thermoid Company.

*The Court.* To give you an opportunity to make a schedule such as suggested?

*Mr. Katzenbach.* I think that could be done, and I should be very glad to make the same proposition.

*The Court.* That is, the same application?

*Mr. Katzenbach.* Yes, and I also desire to offer testimony of witnesses testifying on behalf of the Thermoid Company of the same character, and if your Honor has the disposition to make a reference to a Master, then I would apply for a similar order for testimony on behalf of the Thermoid Company, and we could take all of the testimony of that character before the Master in the same way as your Honor has suggested it would be proper to take it on behalf of the Johns-Manville Company.

*Mr. McCarter.* We deprecate such a course of procedure as that. If you can make your schedule—

*Discussion.*

*Mr. Hardin.* We can get a schedule and give our friends an opportunity to go over the schedule, and we will go the limit to give them what we can get ourselves. We can't reach every customer, as Mr. McCarter is right in saying, but we can send our representatives, and we may be able to find some printed list, or something of that sort, which would be very helpful. We have not found one yet, but we hope we may among some of the jobbers.

*The Court.* Let that be done. Do I understand, that as far as both defendants are concerned, there are no witnesses available today?

*Mr. Katzenbach.* No witnesses only on this particular matter, and I would not produce those witnesses today, because it would be unnecessary.

*Mr. McCarter.* Counsel will prepare these schedules, and we will do our best to acquiesce in the course suggested, and, perhaps, save a lot of the Court's time; and then, assuming they go in without any further testimony, the defendants have closed, and your Honor will be ready to hear the rebuttal testimony, except Mr. Parker-Smith's, is that right?

*Mr. Hardin.* So far as I am concerned.

*Mr. Katzenbach.* I believe that is so. In consideration of Mr. Stokes' illness, I ask leave of the Court to introduce him.

*The Court.* That would be sur-rebuttal?

*Mr. Katzenbach.* Yes, sir.

*Mr. McCarter.* We desire to call Mr. Hubert, and I find that he is going away. I would like very much to have your Honor hear Mr. Hubert's testimony. We can have him here tomorrow morning. I don't suppose it will be advisable to get him here this afternoon, and even at the expense of putting in rebuttal testimony before

the case is closed, I would like to have him here before your Honor.

Adjourned until Thursday, November 18, 1920, at 10:30 A. M.

## FOURTH DAY.

Testimony taken in the above-entitled cause, at the State House, Trenton, New Jersey, on Thursday, November 18, 1920, at 10:30 A. M.

Before Hon. Malcolm G. Buchanan, Vice-Chancellor.

Appearances as heretofore noted.

CONRAD HUBERT, a witness produced on behalf of the complainants, being duly sworn, testified as follows:

*Direct examination* by Mr. McCarter.

Q You are Conrad Hubert, who is one of the complainants in this suit? A Yes, sir.

*Mr. Katzenbach.* There has been no notice served on me.

*Mr. Hardin.* There has been no notice served on me; it's the first time I have heard it.

*Mr. McCarter.* Well, it is not necessary—

*The Court.* You are in no different situation from the Court.

*Mr. Lowthorp.* I entered the order, and I suppose I am to blame if nobody is aware of the fact; Mr. Stockton advised the order.

Q You live where? A In White Plains, New York.

Q And you became by assignment the owner of the so-called Coleman patent for brakes? A Yes, sir.

Q And you are the Mr. Hubert that is here, one of the parties signatory to the so-called pre-corporate contract attached to the bill of complaint in this cause? A Yes, sir.

Q You were not present, were you, at the alleged meeting of November 14, 1911? A I was not.

Q When did you first learn of what purports to have been transacted at that meeting? A Last year, from Mr. Plant.

Q Your counsel here, Mr. Plant? A Yes, sir; my counsel.

Q Prior to sometime last year, when you were informed by Mr. Plant of those alleged transactions, had you ever heard or had the slightest suspicion of any such alleged transactions as were there reputed to have occurred? A Never did.

Q I notice, by the terms of the so-called pre-corporate contract to which you were a party, you were given the privilege, if you desired to exercise it, of purchasing such of the brake liners under the patents as you might desire, at a discount of 15%; do you remember that alternative provision in the contract? A Yes, sir.

Q Were you connected with the Ever-Ready Company? A Yes, sir; I was.

Q After the making of the contract and the carrying out of its terms by the organization of the Asbestos Brake Company, etc., what conclusion did you reach with reference to your desire to avail yourself of either one of the options you had in that contract? A Well, I never intended to manufacture brake bands, because we never had any proper facilities for doing so, and if we intended to do any business in this line at all, we would buy it through the Thermoid Company at a stipulated discount, at 15% discount below the lowest price to jobbers.

Q You were familiar with the terms of the so-called Coleman patent? A Certainly.

Q You became its assignee? A Surely.

Q From your knowledge, what do you say as to its relation to the two other patents, namely, the Hoff and the Bonner? A The Hoff and Bonner patents were never anything but improvements on Coleman's patent; the basic patent for making wire and asbestos brake linings is embodied in Coleman's patent.

Q As a matter of fact, did you ever avail yourself of the privilege which you say you concluded to adopt as one of the two alternatives you could adopt—did you ever buy any goods at the discount rate? A Never did.

Q Or the Ever-Ready Company either? A No.

*By the Court.*

Q Did you ever buy any at any rate? A Well, we started before this contract to buy some from the Thermoid Company at the regular trade discount, but very small quantities; and after a very little while we gave up this work.

Q After the organization of the Asbestos Brake Company and the issuance of licenses to the Johns-Manville Company and the Thermoid Rubber Company, did you buy, or any of your companies buy, any brake liners? A Well, except the National Carbon Company, which was one of our companies, and I guess about three or four years ago started to be a representative of the Thermoid Company for the Pacific Coast, but we didn't buy here any.

Q That was not under the contract, that was a sub-agency of the Thermoid Company? A Yes, in that particular territory.

Q Did you personally have anything to do with the business of that sub-agency on the Pacific Coast? A Nothing whatever.

Q You happened to own some stock in that company? A Yes; you asked me if any of our companies.

*Conrad Hubert, direct.*

Q Now, were you present at the meeting of May 3, 1911, that was held in the City of New York? A Yes, that was at my office.

Q Was Mr. Lowthorp present at that meeting? A Yes.

Q Who else was there? A Mr. Stokes and Mr. Massie, Mr. Manville and Mr. Bonner.

Q Which Stokes? A O. J.

Q J. O., you mean? A J. O., pardon me.

Q Do you recall the occurrences of that meeting pretty well? A I do.

Q Was there anything said by anybody at that meeting, either Mr. Manville or Mr. Stokes, to the effect that the licenses that they were to take had all been executed by the company, by the Asbestos Brake Company, would not became operative or were ineffective or conditionally signed, or anything of that kind?

*Mr. Hardin.* That is objected to as leading.

*The Court.* Objection overruled.

A There was never a word mentioned about any conditions whatsoever.

Q Do you recall whether or not Mr. Lowthorp remained present during the entire time that the other gentlemen were there and the meeting lasted? A We all left together.

Q Including Mr. Lowthorp? A Including Mr. Lowthorp.

Q Mr. Manville, on page 164 of the testimony in this case, says: "When these license agreements were presented at this meeting, I called attention to the fact, which we had discussed many times, that they all understood the reason for this license agreement; the condition of the trade as to profits was very difficult; we knew we couldn't induce anybody to come in and accept these license agreements, except the Johns-Manville Company and the Thermoid Rubber Company, and accept licenses under this agreement. We knew very well that if we

should undertake— Ques. Is this what was said? Ans. That is our conversation; I made this statement." Did Mr. Manville make any such statement at that meeting? A Never did.

Q Did anybody make any such statement? A No, sir; nobody did.

Q Had you, on any previous occasion heard any such statement made, either by Mr. Stokes, by Mr. Manville, or anybody else? A I never did.

Q When, if at all, did you ever hear of any such statement, when, for the first time? A Right here in the Court.

Q Now, Mr. Stokes, on pages 68 and 69, J. O. Stokes, in speaking, I think, of the same meeting, says on page 67 in response to the question, "Who were there?" "Mr. Manville, Mr. Massie and Mr. Hubert; I think the full board at that meeting. Ques. And yourself? Ans. Yes, sir. Ques. Now, what was the discussion with respect to your license, and by whom; what was said? Ans. It was said that the only way it could be effected— By the Court: You are speaking of someone saying something; who was it that said it? Ans. The Board of Directors. Ques. What individual? Ans. Mr. Manville and myself talked it over and I think Mr. Massie. Ques. What did Mr. Manville say? Ans. The only way it could be effective was, if we were successful in obtaining other people to recognize our patents." At that meeting, or any other meeting of the Board of Directors of the Asbestos Brake Company which you attended, was any such statement made either by Mr. Manville or anybody else? A I never heard anybody mention anything about any conditions whatever.

Q On pages 68 and 69, Mr. Stokes swears, in response to a question by the Court: "Mr. Manville stated the purpose was to secure outside people to recognize certain claims we had. Ques. For the purpose of what? Ans. To fix and determine what— Ques. The purpose of what

was to do— Ans. To have an influence— Ques. You said the purpose was to do so and so; the purpose of what? Ans. The purpose of the signing of the 10% royalty basis was to have a moral effect on inducing; but not to have the moral effect until such time— Ques. All right." And then a question by counsel, "Was that statement made by Mr. Manville in the presence of the other directors? Ans. It was discussed there at the meeting. By the Court. Ques. That doesn't answer the question; you simply don't answer questions. Ans. Yes, we were all talking at the meeting before it was over." And again by counsel: "Ques. Before this meeting even, you had talked to the same effect with Mr. Bonner? Mr. McCarter. That is objected to. Ques. At the time that this discussion took place of the directors, was there anything that was agreed to by the directors in respect to those licenses? Ans. I don't understand the question. An agreement in what way? Ques. An agreement with respect to when the licenses given to your Thermoid Company and to the Johns-Manville Company should become effective. Ans. When we were able to invite or secure or get other people to acknowledge our claims and come into the company on the basis that we had outlined. By the Court: Ques. Do I understand that your companies were not to be licensed to manufacture under these patents until that time? Ans. Yes." Did any such conversation occur as there has been outlined in the evidence of Mr. Stokes or Mr. Hubert? A No.

Q Either at that meeting or any other meeting? A Never did.

Q Is there any doubt in your mind as to that? A No doubt at all.

Q None at all? A No.

Q Still continuing, at the bottom of page 70, still being interrogated by his Honor, the Vice-Chancellor: "I am asking you whether your companies were to be permitted to manufacture these articles? Ans. That is a

legal question. Ques. No, it isn't, Mr. Stokes. You have said it was agreed by these four persons that the license agreement was not to be effective until at least some additional manufacturers of asbestos brake lining should come in and take out license agreements. I am asking you whether that agreement which you speak of as having been arrived at, meant the licenses as a whole, or simply the question of the payment of royalties? Ans. I think it meant we were not to pay any royalties until we were able to have other companies recognize our patents and join with our company. Ques. But that you were to be permitted to manufacture these brake linings until that time without paying royalties? Ans. Yes, sir." Was any statement ever made at the meeting in question, or any other meeting, in your presence, where it was stated that notwithstanding these licenses which had been signed by the patentee or licensee company, the licensees were not to pay any royalties until the Asbestos Company was able to have other companies recognize its patents and join in with the company? A Never heard such a statement.

Q Did you ever hear, at any meeting that you attended of the Board of Directors of this company, or otherwise, any mention made by Mr. Manville or Mr. Stokes of the alleged danger from the Sherman Act? A Never did.

Q In response to a question put to Mr. Manville on cross examination, to the effect that it was understood by all the parties interested, that the license agreements were not to be binding except upon this condition, that other licensees would come in, he was asked, on page 198: "Why didn't you have that put in the license"; and he replied: "It would have spoiled the entire effect of the license." "Ques. Why didn't you have another paper with that in?" Then he replied, "It was a gentlemen's agreement; we all understood what it meant." Did you have any such understanding? A It might have been a gentlemen's agreement, but without me.

Q Did you ever have such an understanding? A Never did.

Q Did you ever hear of any such alleged gentlemen's agreement until it was testified to here in court? A Never did.

Q Now, I have here a copy of the minutes, and there seems to have been a meeting held at the office of the Johns-Manville Company on the 29th of August, 1911, at which you, Joseph O. Stokes, Mr. Manville and Mr. Massie are reported as having been present; do you recall that meeting? A Yes, sir.

Q You remember that? A Yes.

Q I will read an extract or two from the minutes, and ask you if that conforms with your recollection and what your view was with reference to the matter? "The secretary reported"—

*Mr. Hardin.* I object.

*Mr. McCarter.* Allow me to read the extract.

"The secretary reported the results of his correspondence with the various manufacturers of brake lining, and also of an oral interview with the representatives of the United States Asbestos Company and the Woven Steel Hose and Rubber Company, of Philadelphia, Pa.

"On motion, duly seconded, Mr. J. O. Stokes was authorized to interview Mr. Frederick Hammerstrom, now with the Wellsbach Light Company, and make an arrangement with him substantially as follows:

"If Mr. Hammerstrom succeeds in inducing the Keasby & Mattison Company to take a license from this company, an arrangement for a permanent position for Mr. Hammerstrom with this company, at a compensation based on a percentage of the net profits will be entered into, the details to be decided upon later.

"On motion, duly seconded, it was resolved that the licenses to be granted manufacturers of brake liners should be uniform with those now held by the

present licensees of the company, and that in view of complaints that the present schedule of prices was too high, a lower schedule would be adopted after further consideration of the views of prospective licensees."

Q Do you remember that transaction, that resolution?

*Mr. Hardin.* That is objected to; it is competent to show things happened at a meeting. There is no suggestion that this particular matter did not occur, and his question does not address itself to anything additional to what is recorded in the minutes. The minutes speak for themselves until it is attempted to show something else happened than that which is recorded as a part of the minutes.

*The Court.* I cannot see any objection to his asking whether the witness remembers that occurrence; it may be material whether he remembers it or not.

A I do remember.

Q This resolution I have just read, says—you say you remember the discussion—"In view of complaints that the present schedule of prices was too high, a lower schedule would be adopted, after further consideration of the views of prospective licensees." What schedule of prices is there referred to? A The original schedule which Mr. Stokes and Mr. Manville had drafted or made.

Q Did you have anything to do with the creation of that schedule of prices? A Nothing whatever.

Q Do you know who did prepare that schedule of prices? A We left that entirely to Mr. Manville and Mr. Stokes, and I suppose they did it.

*By the Court.*

Q Which Mr. Stokes? A O. J.

Q Mr. J. O. Stokes? A J. O., that is the only Mr. Stokes I have ever dealt with.

Q You voted, did you not, for the resolution which I have just read? A I did.

Q Do you recall whether or not, at any of the other directors' meetings that you attended than that on the 3rd of May, 1911, Mr. Lowthorp was present? A I never saw Mr. Lowthorp there.

Q You never saw him at any other meeting? A Never saw him.

Q Now, recurring to the minutes of the meeting alleged to have been held on the 17th of January, 1912, the minutes show that all members were present. Were you present at that meeting? A I was.

Q Do you remember the occasion? A Yes.

Q At the office of the Johns-Manville Company, New York? A Yes, sir.

Q Was anything at that meeting said, or, were the minutes of the alleged meeting of November 14, read or referred to? A Never was.

Q Beg pardon? A It was not.

Q I notice that at this meeting of Januray 17, 1912, the following motion appears to have been made and adopted: "Resolved, that in case such a suit or suits were brought, and the costs of the same should be greater than the funds of the company at that time on hand, the common stock of the company should be assessed as might be necessary to pay the actual expenses of such litigation beyond the amount of funds on hand, and it was agreed that the Brake Liners Company of Washington, D. C., one of the stockholders of this company, should be allowed to deposit its stock in this company as collateral security for the payment of its assessment, the amount of which should be advanced by the other members of the company, such advanced moneys to be repaid from any dividends accredited to the stock of the said Brake Liners Company." Do you recall to what suits that resolution referred, proposed suits against whom? A Suits against infringers of the Coleman patent.

*Conrad Hubert, cross.*

Q Do you recall at the same meeting a resolution was passed directing the four attorneys of the company to consider the question of the rights under the patent, and the rights against infringers, etc? A No, this resolution was passed to authorize five attorneys to go ahead and bring suits, if they think that particular time is the proper time to do so.

Q What knowledge did you have of the commencement after this meeting of any such suits? A I have never heard a word about it.

*Cross examination* by Mr. Hardin.

Q Had you any particular infringers in mind? A Everybody who was manufacturing or selling brake lining with woven wire or asbestos, to my mind was an infringer.

Q Have you any particular infringers in mind? A Dozens of them.

Q Name them. A Empire Rubber Company, the Raybestos, and all kinds of manufacturers of brake lining.

Q The Keasby and Mattison Company? A Well, I couldn't tell you the names of these companies now, because I haven't followed them since, but everybody who was manufacturing brake lining, and there were very many of them.

Q Do I understand you to say, that the only manufacturers of brake linings of the four people interested in the Asbestos Brake Company, were the Thermoid Rubber Company and the Johns-Manville Company? A What?

Q The only manufacturers of brake bands of the four who were instrumental in the deal that led up to the organization of the Asbestos Brake Company, were the Thermoid Rubber Company and the Johns-Manville Company? A The only people with whom we entered into this agreement.

Q And those two manufacturers had been some time engaged in the brake liner business? A They were.

Q You, yourself, through the Ever-Ready Company, had been buying brake liners through the Thermoid Rubber Company? A Yes.

Q You knew the Johns-Manville Company were in the same line? A Yes.

Q And there were dozens of other companies engaged in the same line of business? A Yes.

Q A pretty keen competition? A I don't know anything about the competition.

Q You do know there were dozens of manufacturers? A Yes.

Q What was the name of your company? A Well, I was interested in very many companies; the Auto Improvement Company was the—

Q Was that the company who was to have a license under this agreement? A There was the Ever-Ready Company, which was the successor of the Auto Improvement Company.

Q When did that succession take place? A The succession took place in 1914, I think.

Q At the time of the organization of the Asbestos Brake Company, the Auto Improvement Company was still in business? A The Auto Improvement Company was still in business, and I controlled the Ever-Ready Company entirely.

Q And you also controlled the Auto Improvement Company? A I also controlled the Auto Improvement Company.

Q The Auto Improvement Company was the one to have the license under this agreement? A Either that or the Ever-Ready Company; that was the successor of the Auto Improvement Company.

Q Just what do you mean when you say the license was either to go to the Auto Improvement Company or to the Ever-Ready Company; this agreement was made in 1911? A Yes.

Q And your American Ever-Ready Company was not organized until 1914? A No, the American Ever-Ready Company was organized in 1898; I simply controlled these two companies at that time.

Q Which one of the two companies in 1911 was engaged in the sale of brake bands? A The Auto Improvement Company.

Q And how long did you continue to sell brake bands in that company? A A very short time.

Q Were you selling brake bands in 1911? A I think I gave it up in 1911.

Q What time in 1911? A Oh, at the end of the year, I think it was.

Q And up to the time that you gave it up, you bought what small quantities you sold from the Thermoid Rubber Company? A Yes, what small orders we got I bought through the Thermoid Company.

Q You bought as long as you continued in business at the regular prices of the Thermoid Rubber Company? A Yes, sir.

Q Now, this arrangement out of which this Asbestos Brake Company grew, was under negotiation for a long time, was it not A Quite a few months, I think.

Q Don't you recall that it was originally arranged as including only the Thermoid, the Johns-Manville and yourself? A Yes, I do.

Q And what was the object of this company originally?

*Mr. McCarter.* I object to the question. How can he state that; it speaks for itself; the company has a charter, I suppose. How can he show by one stockholder in the company what the object was; the pre-corporate agreement is in writing; there is an organization of the company; those papers speak for themselves.

*The Court.* I take it that that is so.

*Mr. Hardin.* I am not using the word "object" in the technical sense as defined in the charter; I am using it in the colloquial sense; I want to find out what his idea was in joining with the others in going into this arrangement.

*The Court.* You want to know his reason for going into it?

*Mr. Hardin.* Yes.

*The Court.* You may ask that.

A The reasons were, that my patent attorney, Mr. Williams, who prosecuted Mr. Coleman's application in the Patent Office, reported to me that he found several interference cases. By my experience in such cases, I knew that it is an expensive and troublesome affair, but I was perfectly willing to go ahead with the interference cases, because I knew that Coleman's patent is the basic patent of this particular invention, and I was convinced that we had priority in this particular art, because years before this contract was entered into, Mr. Coleman went to the Johns-Manville and requested him to make samples for us under that invention, and they stated to me themselves that this was a new invention and they would be very glad to make samples for us, and they did; and knowing that we had the real patent and substantially valid claims in the new art, and realizing this is an important product, I was willing to go ahead and go through the interference case to protect my rights under this patent; but Mr. Williams finally reported that Mr. Manville's attorney and Mr. Stokes' attorney approached him with the proposition: rather than to fight the interference, which will take years to finish, to make a combination of the three patentees; and I was tremendously busy at that time, and I also knew I will not be able for a good many years to come to undertake the manufacture, or to market this particular article, and for that reason, I agreed to start negotiations with those two gentlemen, in the hope they are the largest manufacturers. Mr. Manville is the prime head of

the Asbestos Company, which is practically a company that supplies all brake band manufacturers with materials, and it looks to me as if it will be a very good proposition, and that was the reason why I afterwards consented to the terms embodied in that agreement.

Q All these patents were in the Patent Office in the form of applications at the time these things were going on? A That is right, but the Patent Office had acted on the application.

Q And these interferences had developed the presence of other applications in the Patent Office that you have referred to, from the Johns-Manville and the Stokes' company? A Yes.

Q You were personally convinced that the Coleman application was basic? A Yes.

Q And that you would control the entire market for brake bands, if your patent was granted on that application? A If my patent is granted and I have the time to devote to this proposition.

Q You would have dominated the whole trade?

*Mr. McCarter.* That is objected to; he is asking a hypothesis; he can't speculate as to that.

Q Mr. Hubert, your confidence in your Coleman application was such, that you believed that if you secured a patent in accordance with that application, that you would have an invention which would dominate the brake band business? A I believed that this patent would protect any brake lining of wire woven with asbestos.

Q All these various concerns that you speak about, besides the Johns-Manville and the Stokes, these ten or fifteen outside concerns were then engaged in manufacturing asbestos brake lining? A A great many engaged then.

Q Do you remember how long this matter was under negotiation between yourself and the Stokes' and Manville interests; do you remember when you first took it up? A

Well, I didn't participate very long myself, but it was going on between the attorneys for a great many months; I don't know exactly how long.

Q Wasn't it as early as 1909? A Well, it may have started at that time.

Q Now, do I understand that Mr. Williams, Henry D. Williams, was your patent attorney, and that he had authority from you to negotiate about this matter? A Yes.

Q You, yourself, saw Mr. Manville and Mr. Stokes about it? A After the negotiations had advanced far enough.

Q Do you remember when things had advanced sufficiently far so you had personal meetings with— A Two or three months before we entered into this contract.

Q This three party contract? A Yes.

Q Not this four party contract? A No.

Q Did you have any meetings with Mr. Manville and Mr. Stokes? A No, I believe we only had two meetings, if I remember correctly.

Q Two meetings with Mr. Manville? A Mr. Manville, and, perhaps three or four meetings with Mr. Stokes. I called at Mr. Stokes' apartment a couple of times.

Q Did you meet together? A Twice we met together.

Q Other times? A I met Mr. Stokes.

Q Did you ever meet Mr. Manville without Mr. Stokes? A I believe not.

Q Your acquaintance with the brake liner business was more particularly with the Thermoid people? A No, it originally started with Mr. Manville when he started to make samples for us.

Q But your company was buying— A Buying from the Thermoid.

Q Now, do I understand from you, that you never heard during the course of these negotiations, of any possible difficulty about the Sherman Act? A No, sir; I never heard a word about it.

Q Mr. Williams never brought the subject to your attention in any way whatsoever? A Mr. Williams did state to me at one time, that Mr. Parker-Smith talked something about it with him, but he assured me that there was absolutely nothing to it; that there was no intent of any illegal combination of any kind; it was simply a matter of protecting an article by patent, and Mr. Williams made this statement, that we had a right to go into this combination to sell this article under that patent.

Q Mr. Williams did bring to your attention the subject of the Sherman law, and the arrangement you were apt to make would be in contravention of the Sherman Act, and that had been under discussion by Mr. Parker-Smith and himself? A Mr. Parker-Smith spoke to him about it.

Q You were never definitely particularly informed of just what Mr. Parker-Smith's claim was to Mr. Williams? A No; it was in a general way spoke that how we shall arrange if we should come to such an agreement, everything in a proper legal way, so there should be no kind of illegality.

Q Don't you remember that in the course of these negotiations, that the form in which the project was to be carried out was changed, from time to time? A I don't know anything about that.

Q Your recollection is, that you only heard of it when it was in the final form? A It was about to get in final form.

Q Mr. Williams never brought to your attention the objections to some of the earlier drafts of the agreement that were made, because of the possibility of danger from the Sherman Law? A No, sir.

Q You were never shown any drafts of any preliminary agreement prior to this one that was finally executed? A Outside of the one time mentioned by Mr. Williams. Mr. Williams only referred to me questions of terms.

New Jersey State Library

*Conrad Hubert, cross.*

Q But Mr. Williams had your authority to discuss these questions if they arose, with Mr. Parker-Smith? A I suppose so; if there was anything wrong, he would talk about it.

Q Was there any discussion at any of these meetings which you speak of, between yourself and Messrs. Stokes and Manvilie, of the effect on the business of the Stokes' and Manville companies of making this arrangement?

*Mr. McCarter.* I object to that. How are the discussions anterior to the making of the agreement and negotiations leading up thereto competent to modify the effective agreement that was made?

*The Court.* I suppose it is not cross examination, either.

*Mr. McCarter.* I also make the further objection that it is not cross examination; I don't want to give the impression that we are trying to keep this gentleman within narrow bounds; he is here to answer any questions that are legal.

*The Court.* I will permit the question to be answered.

*Mr. McCarter.* Isn't it a rule of law, that all negotiations are merged in the contract?

*The Court.* It is.

A It was never said anything about the effect it will have on their business; it couldn't have any effect on it; it was the only way they could continue their business, if they had a license under my patent.

Q Did Mr. Williams ever bring to your attention any matters that were brought to him by Mr. Parker-Smith, or anybody else, with reference to the effect on the prices that were then being charged under this arrangement? A No, Mr. Williams didn't know anything about the prices, neither did I; we couldn't tell anything about the prices, because we have no means of knowing what prices should

be established for selling brake lining; we don't know the cost of production or the cost of selling or advertising that had to be done, and we left it entirely to Mr. Manville and Mr. Stokes; and it was up to them to put any price they pleased, and we were satisfied to take our royalties, according to the selling price. If it is a higher price, we get more, and if it is a lower price, we were willing to take less.

Q Nothing was said in these conferences with reference to competition that existed in the trade between the Manville and Thermoid Companies and the other manufacturers? A Never said anything, because it was up to them, and they knew exactly the competition and the prices they can afford to put on, and I had nothing to say and was not interested.

Q Nothing was said in these conferences about what they could afford to put on? A Nothing.

Q Did Mr. Williams ever bring to your attention any objections— A I told Mr. Williams the prices were up to these gentlemen to say; he couldn't have brought anything to me.

Q It was your expectation, was it not, that infringement suits should be brought by this Asbestos Brake Company against these outsiders? A Absolutely.

Q And that was one of the purposes that you had in joining this organization? A No, we expected a great many manufacturers after the patents were issued, and they will have their patents examined by their attorneys, and they will come in voluntarily; but a great many manufacturers preferred to fight than to come in, and it was up to us to litigate and establish the validity of our patent.

Q. And it was the expectation on your part, that there would be an effort made to bring them in? A Well, we simply invite them, simply notify them that our patent has been issued, and that we expect them to take licenses and pay royalties accordingly.

Q And to pursue the notice by active efforts to compel them to recognize that belonged to this company? A There is only one way you can compel them, and that is, suing.

Q When was the Coleman patent actually granted? A I couldn't tell you; I forget it; it must have been not very long after this agreement, but I don't recall.

Q Do you remember any discussion as to whether the—was the Coleman patent actually issued before or after the Hoff patent? A I couldn't tell you.

Q Do you remember any discussion in the summer of 1911 as to the desirability of hastening the issuing of the Hoff patent? A No, I don't remember.

Q Don't you remember that Mr. Williams brought that matter to your attention in June, 1911, and discussed with you whether it was desirable to issue the Hoff patent as promptly as possible? A I wouldn't be surprised if he did, because the Hoff patent was an important patent, which would add to our Coleman patent.

Q Do you remember saying to Mr. Williams at that time, that everything was being held up to await the issuing of the two patents, which would give the desired monoply? A No, sir.

Q Do you say you didn't say anything of that kind to Mr. Williams? A No, I say "No."

Q I am talking about the two patents; I am talking about the Coleman patent and the Hoff patent. Do you remember saying anything to Mr. Williams about what the directors of the Asbestos Brake Company were waiting for with reference to the competitors in the business with reference to these two patents? A I never knew that they were waiting for anything.

Q You have no knowledge as to whether Mr. Williams communicated with Mr. Parker-Smith about your attitude with reference to the issue of the Hoff patent in the summer of 1911; do you remember anything about it at all?

A I don't know; if there was anything to communicate with him, I am sure he did.

Q You have no idea, but whatever he did, he did with authority? A I have no knowledge.

*The Court.* I think that is the third time that has been asked and answered.

Q How many meetings of the Asbestos Brake Company did you attend? A I attended in all four meetings; in May, July, August and January.

*By the Court.*

Q May, July and August of 1911, and January of 1912? A January of 1912; yes, sir.

Q Have you had any notice of any meeting since January, 1912? A Never did.

Q Have you heard of any meeting of the directors of the company since that time? A No, I didn't, except here in court as to the alleged meeting of November some time.

Q I mean since January, 1912? A Since January I haven't heard anything.

*By the Court.*

Q Do you mean by that, Mr. Hubert, that you didn't know of the alleged meeting of November 14, 1911, until you were here in Court? A Since Mr. Plant told me when he got the answer.

Q After the suit was commenced? A After the suit was commenced, when he received the minute, he told me.

Q Do I understand that you didn't know of the meeting, or that you didn't know of what was done at the meeting? A I didn't know of the meeting, and I didn't know what was done at the meeting, if there was such a meeting, and I received no notice of such a meeting.

Q If a notice was sent by the secretary of that meeting, you didn't get it? A I would have received it; I was in New York.

Q If a notice was sent by the secretary it didn't reach you? A It didn't reach me.

Q Did you receive any word of the report that was made by the four lawyers, as directed by the meeting in January, 1912? A No, I didn't.

Q You did not? A No.

Q Don't you remember that Mr. Williams sent you a copy of that opinion of the lawyers? A Do you mean of the four lawyers, that they were authorized to start suit?

Q No; you are thinking of the resolution, I am talking about— A Their original opinion?

Q Yes. A Yes.

Q Signed by the four lawyers? A Yes; I received a copy of that.

Q Do you remember how long it was after this meeting of January, 1912, that you got that opinion of the four lawyers? A I don't remember the date.

Q A couple of months afterwards? A A short time afterwards.

Q And you got it through Mr. Williams? A Yes, sir.

Q I think you said you had heard of no suits being brought in pursuance of the resolution of January? A I haven't heard of any.

Q And you have known all the time that no such suits were brought; you didn't just find that out today? A Except that the company may have brought itself a suit against somebody; I didn't know that; it didn't come to me direct; knowledge that any suit was brought.

Q You have known that all along? A I have known that all along.

Q You have known all along, too, have you not, that no royalties were being paid by the Stokes and Manville companies in accordance with the license agreement and

the schedule attached thereto? A Well, I assume they didn't pay.

Q Didn't you know it? A No, I wasn't treasurer, but I assume they didn't pay.

Q And you assumed that all the time? A Yes.

Q You knew that the license agreement called for monthly accountings from these two companies? A I did.

Q And you have known all the time that no such monthly accounting has been made? A I say I didn't know it.

Q You assumed it? A I assumed it because I wasn't in charge of the office.

Q You were a director of the company? A I was a director of the company, but we didn't have a meeting.

Q Couldn't you have called a meeting if you wanted to? A I couldn't, but I could have requested it, I suppose.

Q As a matter of fact, you didn't request the president to call a meeting, did you? A I did not.

Q When did you last talk with the president of this company about these matters? A I don't believe I have talked with him at all about these matters.

Q You have had no personal meeting with him since the meeting of the directors at which you were both present in January, 1912? A I met Mr. Stokes just socially.

Q You didn't discuss— A I didn't discuss any business.

Q Since the meeting of January, 1912? A I never did.

Q When did you last write to him with reference to the affairs of this company? A I didn't write to him.

Q As a matter of fact, you have not done anything with reference to the matters of this company, although you are a director of it and have been. from 1912, forward? A No, unfortunately, I wasn't able to do it.

*Conrad Hubert, cross.*

*By the Court.*

Q Why were you not able? A Your Honor, the same as I explained before; I would have never gone into this particular combination, if I would have been able to handle this brake lining business. I have undertaken for the last ten or twelve years, four times as much work as I could handle physically; I had all new problems on my hands, and I had to abandon a lot of them, some of them, perhaps, more important than the brake lining business, for the simple reason I took more than I could possibly carry out, and wasn't physically in a position to attend to certain things which I should have done. I have been at the head of half a dozen large companies, and all, more or less, new inventions, and it took up every minute of my time.

Q You have been attending to this multiplicity of affairs all these years? A Some of them I had to drop; I didn't have the time to attend to them all.

Q And the only reason you didn't pay any attention to those was lack of time? A Lack of time absolutely.

Q What did you say was the name of the subsidiary that is acting as agent of the Thermoid in San Francisco? A The National Carbon Company.

Q Is that one such as the Auto Improvement Company? A No, that is one of the companies of which I am a stockholder.

Q Why do you refer to it as a subsidiary, one of your subsidiaries? A Well, the Ever-Ready in 1914 consolidated with the National Carbon Company.

Q What has become of the predecessor, the Ever-Ready Company? A The Ever-Ready Company continued in existence; it is in existence now.

Q And still in the supply business? A The Pacific Coast branch is still representing the Thermoid Company.

*Conrad Hubert, cross.*

Q And this National Company which was the result of this combination you refer to, is now the local agent of the Thermoid in San Francisco? A Yes.

Q How long has it been so? A I believe three or four years.

Q And is still? A And is still.

*By the Court.*

Q I have not really understood that National Carbon Company. The Ever-Ready Company and the Auto Improvement Company were companies whose stock was practically all controlled by you? A Yes.

Q The National Carbon Company was not a company organized by you? A No, an old Ohio Company of the State of Ohio, and the National Carbon Company took over the Ever-Ready and controlled the Auto Improvement Company at the same time.

Q You have an interest, however, in the National Company? A Well, the National Company has been taken over recently by the Union Carbide Company; I am only a stockholder.

*Further cross examination* by Mr. Katzenbach.

Q The National Company that you say is now acting as Pacific agent for the Thermoid Company, is still operating independently, is it not? A Oh, yes.

Q And you control the Union Carbide and Carbon Company? A No, I haven't got enough money.

Q Does the Ever-Ready Company control it? A No, that is only a branch of the Union Carbide Company now.

Q Mr. Hubert, you said that you never manufactured brake lining yourself? A I did.

Q Subsequent to these transactions with respect to the Asbestos Brake Company, you bought some brake lining from the Thermoid Company? A No.

*Conrad Hubert, re-direct.*

Q The Ever-Ready Company bought from the Thermoid? A Well, they started, as I said before; they had started before we went into this agreement to sell as jobbers the brake lining, and whatever subsequent orders or re-orders they received, they got it from the Thermoid, and that was on a very small scale, and it was with the intention to give it up entirely.

*Re-direct examination* by Mr. McCarter.

Q You have spoken of the importance of the Coleman patent, of which you are the owner. I notice in this so-called pre-corporate contract, there is this provision that refers to division of stock: "Third. That as promptly as possible after the organization of the Asbestos Brake Company, each of the parties hereto shall make, execute and deliver an assignment to said The Asbestos Brake Company of the whole right, title and interest in and to each of the said inventions and of the letters patent to be obtained therefor, each such assignment to be in the form hereto annexed and marked 'Assignment,' and to have annexed thereto a form of license agreement such as is hereto annexed and marked 'License Agreement;' the consideration for such assignments to be the capital stock of the Asbestos Brake Company, of which 17½% of the common capital stock shall be received by the said Conrad Hubert, and 82½% of the common capital stock shall be received by the said Thermoid Rubber Company and the said H. W. Johns-Manville Company, and seven shares of the Preferred Capital Stock shall be received by each of the parties hereto, except," &c. How did it happen that you agreed to pay 17½% of the Common Capital Stock in consideration of the assignment of the Coleman patent to this company, or proposed company, when Messrs. Manville and Stokes for their respective companies were to get 82½%?

*Mr. Hardin.* That is objected to; those things are recited in the contract.

*The Court.* I shall make the same ruling as I made before, and for the same reason.

A My inducement was, that Mr. Manville and Mr. Stokes have been manufacturing and selling large quantities of brake lining, and they were supposed, naturally, to pay royalties from the first day after the agreement was signed; and in addition to that, they were to handle the whole Asbestos Company, Mr. Stokes to be President, and Mr. Manville to be the Treasurer, and they produce whatever the company is able to get, and I, by simply being the owner of the patent, I was perfectly satisfied to take 17½%, because I figured that is a proper royalty, and they can have the balance; but evidently, they wanted it all.

Q Then, evidently, it was a part of the inducement that led you to assent to that division of stock—it was the fact that they were to take out these license agreements and pay the royalties therein provided? A Right away.

Continued to Thursday, March 3, 1921, at 10:30 A. M., at the State House, Trenton, N. J.

## FIFTH DAY.

Testimony taken in the above-entitled cause, at the State House, Trenton, New Jersey, on Thursday, the third day of March, 1921, at 10:30 A. M.

Before Hon. Malcolm G. Buchanan, Vice-Chancellor.

Appearances as heretofore noted.

A. PARKER-SMITH, being recalled on behalf of the defendants, testified as follows:

*Direct examination* by Mr. Hardin.

Q Mr. Parker-Smith, do you remember receiving from Mr. Manville a letter in November, 1910, enclosing a copy

of letter he had received from Mr. Bonner? A Yes, sir.

Q And is that the letter? (Handing witness a paper.) A Yes, sir.

Q And is that the copy of the letter that was received with it? (Referring to another paper.) A That was a copy of it; that was a copy that was attached to the letter when I received it.

*Mr. Hardin.* I offer that letter in evidence.

*The Court.* Is there any objection because of its being a copy?

*Mr. Lowthorp.* We have no objection on the grounds of its being a copy.

Said letter is marked "Exhibit D. 20."

Mr. Hardin reads letter.

Q Will you tell us, please, what was the state of matters with reference to all these patents or patent applications in the Patent Office at the time that letter was received? A There was still an interference before the examiner of interferences.

Q What do you mean by that? A I might say, that the Patent Office is divided into forty-odd divisions, each of which handles applications for patents on specific classes of inventions; and when an application for a patent, say on an electric motor, comes in, it goes to Division 23, or whatever the number is of the division which handles applications on that class of inventions, and each of those divisions is presided over by a primary examiner, who has several assistants, and the primary examiner, operating with his assistants, examines the applications and deals with the applicant and allows or rejects the claims according as he finds whether or not they are patentable over prior publications which he has all classified and ready for reference. If he finds the application allowable and no interference, then the patent is issued; if he finds it not allowable, it is rejected; but if, while that

application is pending before the primary examiner, an application comes in from another inventor for a patent on the same thing, then the primary examiner declares an interference; or rather, he makes up an interference proceeding between these two parties; maybe, in some cases there are three or more; and after he has disposed of the preliminary questions as to the probable patentability of the claims which all these parties are making, then he sends the papers to the Interference Division. The Interference Division is presided over by the examiner on interferences, who is a judge to try these contested questions of priority of invention between applicants who are claiming the same thing; and when the examiner of interferences gets these papers, then he formally declares the interference and advises the parties that there is an interference; and then the proceedings go ahead under the rules of the office and the United States Equity Courts until it is finally decided on who is the prior inventor. Then they go back to the—

Q Are there any pleadings? A The preliminary statements, which are sworn statements filed by the applicants at the beginning of the proceedings, setting forth the things which they propose to prove, the date of the conception of the invention, its disclosure to others; its reduction to practice, and the making of drawings and written descriptions, and the dates for those things, those are filed first and are in the nature of pleadings, in that the respective parties are substantially held in their proofs to the things set forth in those statements.

Q Is there any notice from the primary examiner to the parties of the preliminary investigation? A Yes.

Q How is that given? A He takes up the case and examines it; then he writes a letter to the applicant, saying "Claim so and so is rejected, on such and such a prior patent," or "Claim so and so does not set forth a patentable invention," and a number of other matters.

Q Does he give notice of anything he finds in the record with reference to the patent? A No, that is all taken

care of by the primary examiner dealing with the applicants, *ex parte,* and after he has finally settled the question as to what claims are allowable. Then he makes up the interference on those claims which are allowable, and sends the papers to the examiner of interferences, who does not deal with the prior patents and publications. The simple question before him is, which of the various patents in that interference is the prior invention, that is, which of the various parties in that interference is the prior inventor.

Q How many of you were in interference over this group of patents at the time of the receipt of this Bonner letter? A There were then three or four interferences pending, which involved applications owned by the four of the parties; they were not all in the same interference, but there were three or four interferences which overlapped.

Q Had this British patent been brought to your attention prior to the time when Mr. Massie mentioned it to you as you have heretofore testified? A No.

Q Had the examiner of patents called the attention of anybody to the matter, so far as you know? A No.

Q I mean the primary examiner? A No, he had not cited it in any of his letters to the parties.

Q Now, what was the particular effect that might be had in this situation by the notice about this British patent? A If that British patent had been called to the attention of the primary examiner by anybody, he would undoubtedly have recalled all these applications from the jurisdiction of the examiner of interferences, and rejected all our claims on that British patent. That would have ended the interferences unless we could have got him reversed.

Q You agreed with Mr. Bonner's suggestion, then, so far as that was concerned? A Yes, that was substantially correct.

Q Did you communicate your views to your client, or Manville and Company, as to the possible effect of this British patent? A Yes.

Q And did you communicate it to the other gentlemen that were representing Mr. Hubert and the Thermoid Company? A Yes, sir.

*Mr. Hardin.* I gave notice to the other side to produce the original letters from Mr. Parker-Smith to Mr. Lowthorp and Mr. Williams enclosing the copy of the British patent; have you those letters?

*Mr. Lowthorp.* On my own part, I admit the receipt of the letters from Mr. Parker-Smith, but I don't find them.

*Mr. Hardin.* Mr. Williams' letter is dated November 4, and I think the other is the same date.

*Mr. Williams.* I received that letter; I admit the receipt of it.

Q I show you a carbon copy of a letter, November 4, 1910, to Henry D. Williams, 76 William Street, New York City; is that a copy of the letter you sent on that date to Mr. Williams? A Yes.

Q Enclosing therewith the copy of the British patent? A Yes.

Q The date on the letter is November 4, and the Bonner letter to Mr. Manville is dated November 12th. How long before the Bonner letter had you heard from Mr. Massie of the existence of the British patent? A The occasion was on the 14th or 15th of October, 1910, I am not quite sure which; but we took testimony in the interference in which the Bonner application was involved, on those days; and Mr. Massie and Mr. Bonner attended, and it was on one of those days that Mr. Massie presented me with a copy of this British patent.

*Mr. Hardin.* I offer that letter. A. Parker-Smith to Henry D. Williams.

Said copy of letter, dated November 4, 1910, is marked "Exhibit D. 21."

Mr. Hardin reads letter.

*Mr. Hardin.* I have a similar letter to Mr. Lowthorp; I will produce it later.

Q What had Mr. Massie said to you on the occasion when he gave you the copy of this British patent? A He said in substance—I don't remember his exact words—that—

Q As near as you can remember. A That British patent takes the heart out of the invention, and said "what would the primary examiner do to our applications if he had this before him."

Q And did you at any time afterwards talk with Messrs.—was any suggestion made at that time by Mr. Massie about getting together? A Yes, Mr. Massie and Mr. Bonner both concurred in making the proposition that they be taken in, and Mr. Bonner wrote me on the date of November 17, confirming that.

Q Did you later talk with Mr. Lowthorp with reference to the effect of this British patent, if brought to the attention of the primary examiner? A Yes.

Q And did he express any view about the effect of the British patent, if brought to the attention of the primary examiner? A Yes, he smiled and said it didn't leave very much novelty in the claim.

Q Did you talk to Mr. Williams also about it? A I don't remember any specific case, but I do remember that Mr. Williams said that it did not affect, in his opinion, the claims which were restricted to the combination of asbestos and wire; he admitted it anticipated the claims of the asbestos and woven alone.

Q Which one of the applications involved the matter that Mr. Williams reserved? A Those claims were in all three of the applications in the main interference, that is to say, the Hoff, the Coleman, and the Bonner main application, which was assigned to the Thermoid Company.

Q Is that the patent which was later rejected? A Yes, in that interference after Coleman was awarded priority, the Patent Office refused to grant any patent to Bonner.

Q Subsequently, there was the four-party agreement made? A Yes.

Q By which the Bonner interests came in with the other three; the interferences proceeded after the making of the agreement? A Yes.

Q And what time did they consume; how long were they going on? A Well, there was a decision in the main interferences in the winter of 1910-1911. To our great surprise, the examiner of interferences awarded priority on the broad claim, on the woven asbestos brake lining, and the asbestos and wire brake lining, to Mr. Bonner. All the counsel were agreed that no valid patent could issue to Bonner.

Q Did Mr. Massie agree to that? A Yes, and so we all went down and talked the thing over with the examiner of interferences, and he, knowing that all parties were interested solely in having the patent issued to the applicant who could sustain the patent, and we concluded as the result of that to take some additional testimony which would bring out more clearly the facts which were necessary to show that priority should be given to Coleman on that broad claim, and, consequently, we had the interference re-opened. We took this additional testimony and re-submitted, and then the final decision of the examiner was rendered, I think in 1911, awarding priority of that broad issue to Coleman; and thereupon, the Coleman patent was issued in May, later in due course.

Q Was there any delay after this British patent was brought to your attention in the conduct of the interferences pending your getting together? A Oh, yes; the negotiations ran on for some months.

Q With what effect on the conduct of the interferences? A Oh, the interferences were carried on in about

the same way, except that, of course, until we had a clear understanding with Mr. Bonner's interests, those applications controlled by that interest, or rather, the interferences in which those applications were involved, were handled a little more at arm's length after they came in.

Q Later, you proceeded peacefully among yourselves? A Yes, sir.

Q Was the British patent mentioned at any time in the conduct of this proceeding before the examiner of interferences, while these applications were being heard? A No, it would not have been at all relevant in that proceeding.

Q Now, I understand, that in the conduct of these interferences, you continued to look after the applications that had emanated from the Johns-Manville Company, and Mr. Lowthorp after the applications that emanated from the Thermoid Company, Mr. Massie after the applications that emanated from the Bonner interests, and Mr. Williams those that emanated from the Hubert interests? A Yes.

Q You say that the British patent was never brought to the attention of the examiner of interferences because it was not relevant to that proceeding; was it ever brought to the attention of the primary examiner, so far as you know? A No, it was not.

Q Was the effect of the Sherman law discussed, during the negotiations prior to the time the Bonner interests came in? A Yes, sir.

Q Did you discuss it with anybody? A Yes.

Q Did you advise your client of the existence of some danger by reason of the Sherman law? A Yes.

Q With whom did you discuss it, representing the other interests? A With Mr. Williams and Mr. Lowthorp.

Q How early did you have this question under discussion? A It was quite early in the year 1910, soon after the three-party negotiations began.

Q Did you and Mr. Williams exchange views in writing on the subject? A Yes, sir.

Q I show you a letter dated March 15, 1910; do you recognize that as a letter you received from Mr. Williams? A Yes, sir.

Q And there was an enclosure with it? A Yes.

Q Is that the enclosure; what was the enclosure? A There was enclosed a copy of an opinion prepared in Mr. Williams' office on the question of the rights of the patentees to make combinations in restraint of trade. That copy which was enclosed I subsequently sent to Mr. Lowthorp, and so far as my recollection goes, I have never received it back; I couldn't find it among my papers.

*Mr. Hardin.* I offer it in evidence.

Said letter is marked "Exhibit D. 22."

*Mr. Hardin.* On the head of the paper is: "Henry D. Williams, Attorney and Counsellor at Law, Solicitor of Patents, 76 William Street, Bishop Building, New York." (Reading letter.)

Q Did you reply to the letter of Mr. Williams? A I did.

*Mr. Hardin.* That letter I gave notice to produce, March 18th.

*Mr. Williams.* You may use the copy.

Q The letter has no signature; I suppose that was signed by you? A Yes, sir.

*Mr. Hardin.* I offer the letter in evidence.

Said letter from A. Parker-Smith to Henry D. Williams, dated March 18, 1910, is marked "Exhibit D. 23."

*Mr. Lowthorp.* We ask that they be produced, subject to comparison.

*Mr. Hardin.* Surely. I prefer the original, but haven't it.

*Mr. McCarter.* Do you propose to insert these exhibits in the record?

*Mr. Hardin.* I propose to give you copies, or I can put them in the record, just as the Court prefers.

*The Court.* I don't know that it makes any difference, so that the same scheme is followed throughout the testimony. I think there has been a lot offered and read into the record. Perhaps it would be well to have all in the record.

Q Did you and Mr. Williams, from time to time, after that, discuss this question of the Sherman Law? A Yes, I think it came up occasionally.

Q And there were sundry papers prepared before the final draft was reached, as I understand, of this three-party agreement? A Yes, there were several propositions and a good deal of discussion.

Q And in the consideration of those propositions, did you have the Sherman law in mind? A Yes, I had it before me all the time.

Q What is your recollection as to whether you and Mr. Williams discussed it with regard to the various forms of these different drafts? A Well, we discussed the forms of the contract and organization with reference to that law.

Q And how about Mr. Lowthorp? A I haven't such a clear recollection of discussing it with him.

Q I show you a letter dated May 16, 1911, from Mr. Williams; do you recognize that as a letter you received from Mr. Williams? A Yes.

Q Attached to this letter is a copy of a letter sent by Mr. Williams to Mr. Massie; is that the copy of the letter from Mr. Williams to Mr. Massie, referred to in the body of the letter from Mr. Williams to you? A Yes, sir.

*Mr. Hardin.* I offer this letter in evidence and the enclosure referred to therein.

Said letter and enclosure are marked "Exhibits D. 24 and D. 24-A."

Mr. Hardin reads said letters.

Q The letters from Mr. Massie of the 10th and 13th inst., referred to in this letter, were on what subject, do you remember? A As I remember it, they related to a claim which was in the Coleman application for patent—I forget whether it was issued then—which was without basis in the specifications.

Q Are those copies from your files, of the letters referred to?

*Mr. Lowthorp.* I object to this; I can't see it has any bearing on the case.

*Mr. Hardin.* I don't think they have, except in explanation; I don't want to be put in a position of ignoring the existence of the letters; they have nothing to do with this particular subject.

*The Court.* I will allow it.

A These are copies of the letters written to Mr. Massie this morning, to which reference is made in Mr. Williams' letter, and copy of letter to Mr. Williams of May 15th, referring to the same matter.

*Mr. Hardin.* I offer them in evidence.

Said letters from A. Parker-Smith to Mr. M. C. Massie, dated May 11, 1911, and from A. Parker-Smith to Henry D. Williams, Esq., May 15, 1911, are marked "Exhibits D. 25 and D. 26."

Q I show you a letter dated June 21, 1911, purporting to be from Mr. Williams to you; do you recognize that as a letter you received from Mr. Williams through the mail? A Yes.

*Mr. Hardin.* I offer it in evidence.

*Mr. Lowthorp.* I object to that letter; it is entirely irrelevant and encumbers the record.

*The Court.* You are not objecting to it on the ground of its not being properly proved?

*Mr. Lowthorp.* We admit it was written; it is simply unnecessary and is not relevant to the case.

*The Court.* I will admit it.

Said letter is marked "Exhibit D. 27."

*Mr. Hardin.* If your Honor please, this letter of Mr. Williams refers at the opening to a letter from Mr. Parker-Smith of the 12th inst., a copy of that letter I have. In order that there may be no suggestion of any desire to withhold that letter, I will offer that also, although I only have a carbon copy.

*Mr. Williams.* Such a letter was received. We admit that, subject to comparison.

Said letter from A. Parker-Smith to Mr. Henry D. Williams, dated June 12, 1911, is marked "Exhibit D. 28."

It is agreed that counsel may use a copy of the opinion desired to be used.

Q I now direct your attention to "Exhibit D. 19," which you told us was a copy of the opinion presented by counsel, dated January 29, 1912. That opinion followed a meeting of counsel for the discussion of the matters referred to in the opinion? A Yes.

Q Where was the meeting held? A In my office in New York.

Q Can you recall the date? A It was on January 27, 1912, as I remember it.

Q And who attended the meeting? A Mr. Williams, Mr. Massie and Mr. Lowthorp, as I remember it.

Q How did that happen? A Why, we substantially agreed upon the opinion that was to be rendered—the points—and it was left to me to draft it. On Monday, January 29, I did prepare a draft and sent it to Mr. Williams, with the request that he note his comments and

criticisms and sent it to Mr. Lowthorp and ask Mr. Lowthorp to send it on to Mr. Massie, with the idea that Mr. Massie would return it to me, with the concensus of criticisms and suggestions.

Q Did it ultimately get back to you? A No, that particular draft never did. The matter ran on for some weeks, until finally Mr. Massie, as I remember it, raised the question with me, either when he saw me in Washington or somewhere else, as to what had become of that opinion, and thereupon I started an investigation, the upshot of which was, that we found that Mr. Lowthorp had received from Mr. Williams the draft, and had assumed that it was a copy of the opinion sent him for his files, and had filed it away; and when we asked Mr. Lowthorp to dig it up and send it on its travels, he wrote me that he couldn't find it; thereupon, I rewrote the thing from my notes and again sent it on its travels around to counsel, and with one or two slight amendments, it was accepted; so I signed their names to it and my own name, and sent it to Mr. Manville, the treasurer of the corporation.

Q You left the date as originally, on the 29th of January? A Yes.

Q Do you recall any changes that were suggested, and if so, by whom they were suggested? A Yes, as I drafted the last paragraph, or one of the last paragraphs, I wrote it that the—(looking at paper)—that we were "of the opinion that the patents of your company have claims valid over the prior art so far as known to them, sufficient in scope to maintain substantial monopoly of asbestos brake linings." Mr. Massie suggested that the word "substantial" be changed to "commercial," and that was done before I sent the original to Mr. Manville, so that the clause read "sufficient in scope to maintain a commercial monopoly of asbestos brake linings."

Q Can you tell us what you mean by "commercial monopoly" or "substantial monopoly?"

*Mr. Lowthorp.* That is objected to.

*The Court.* Objection sustained; the letter speaks for itself.

Q Is there any difference—did you have any discussion among yourselves as to the use of the word "substantial" or "commercial?"

*Mr Lowthorp.* Same objection.

*The Court.* Yes, at the meeting of counsel the whole matter was discussed, of course, as to what we should say in the opinion, and at that time we came to the conclusion we could advise our clients that the scope of the claims was sufficient to establish a substantial monopoly of asbestos brake lining.

Q Distinguishing by "substantial" from what? A From absolute.

*Mr. Lowthorp.* That is objected to.

Q Is there a difference in patent law between an absolute monopoly and a substantial or commercial monopoly? A Well, there is, of course, a difference in fact between an absolute monopoly and a commercial monopoly; an absolute monopoly is one in which the patent covers every form of the invention, and is undoubtedly valid; so that an absolute suppression of all competition of any kind is possible under it. A substantial monopoly, it was understood between counsel at the time I made the original draft—

*Mr. Lowthorp.* Objected to.

*The Court.* The question was, what the difference was in the patent law.

A The difference would be that a substantial monopoly would be one which covered the best form, the practical form, but didn't cover all forms. The holder of the pat-

ent would be subject to competition by less perfect and satisfactory forms of the invention.

Q Were any particular patents discussed in this conference, as being the subject of this suggestion of counsel of a commercial monopoly?

*Mr. Lowthorp.* We object to that; it has no bearing on the matter.

*Mr. Hardin.* It has appeared that some of these patents in this group in the view of counsel were of no account under any circumstances; I want to find out what patents were the subject of discussion in this conference for the purpose of asserting this commercial monopoly.

*The Court.* I will permit the question.

Q (Stenographer repeats the question.) A Yes.

Q Which? A The discussion was mainly directed to the Hoff patent; of course, also, the Coleman patent was considered.

Q You, of course, were not unmindful of the existence of the British patent? A No, that was considered.

Q Coming back now to the original suggestion in the Bonner letter, in which I understood you to say you concurred, what was there that enabled you to distinguish the Hoff and Coleman patents from the British patent at that time? A The Coleman patent had some claims on the brake lining, made of wire and asbestos interwoven, and those claims were, of course, not squarely anticipated by the British patent, but there was a serious question whether there was any patentable invention in them over the British patent.

Q Were those the claims Mr. Williams had referred to when you called the attention of the British patent to him? A Yes, Mr. Williams always contended it was valid. The Hoff patent was much stronger, because it had a claim on asbestos treated with a binder, that is, some-

thing which would hold it together, and also make it more weatherproof; and as all commercial forms of brake lining made of asbestos had a binder with the asbestos, and no commercial brake lining had ever been put out, such as was shown in the Coleman patent, without any binder whatever, why, we hoped that the Hoff claim of the combination of asbestos with a binder for brake linings, might be sustained by the courts, and give our clients a substantial, or, as Mr. Massie phrased it, a commercial monopoly. We had made no complete examination of the prior art on which to base a fully considered opinion as to the validity of these patents. The opinion, as you see, is based on merely what was known to us at that time as a result of the prosecution in the Patent Office—

*Mr. Lowthorp.* We object to that.

Q I note in the opinion, that it says, "Of course, extensive searches made on behalf of defendants sued on the patents, may discover instances of prior publications or prior use, that will impair this monopoly, but that question can best be determined by actual litigation." Is that the matter in the opinion to which you refer? A Yes; we had made no extensive searches; our advice to our clients practically was, to put the patents in litigation and let the defendants do the searching and see what happened.

Q I show you a letter purporting to come from Mr. Massie, addressed to you, dated February 26, 1912. Do you recognize that as a letter you received from Mr. Massie? A Yes.

*Mr. Hardin.* I offer that in evidence.

*Mr. Lowthorp.* We object to it as not being material.

*The Court.* I will admit it.

Said letter from Mr. Massie to Mr. Parker-Smith, is marked "Exhibit D. 29."

*Cross examination* by Mr. Lowthorp.

Q At the time, Mr. Parker-Smith, that this British patent to Hutchins was called to your attention, were you having considerable difficulty, and we were, were we not, with the primary examiner, in getting our applications through interference? A No; at that time all those troubles were over; the trouble with the primary examiner arose about a year previous to that.

Q We had had considerable trouble in getting him to pass it, had we not? A Yes, as you remember, he recalled the applications from interference once, and rejected all the claims which formed the issue on the priority of the art as he knew it.

Q Two appeals were taken from his decisions, were there not? A There was one appeal taken from that decision to which I have referred, to which I was a party, I understand that previous to the declaration of the interference, you had taken an *ex parte* appeal in the Bonner application to the Board also; that, I had nothing to do with.

Q Is it not the fact, that the fear was expressed by all of us, that is to say, you, Mr. Williams and myself, that if the British patent was brought to the attention of the primary examiner, he would again recall the patent from the examiner of interferences, and there would be a delay for many months in obtaining our patents? A The fear was, that if the primary examiner got that patent in his hands he would immediately reject all the claims, and in that case the rejection would stick, and we would not be able to reverse him.

Q Who expressed that to you? A Well, that was my idea about the matter, and I think Mr. Massie clearly expressed the view to the same effect.

Q Did you hear any such expressions from Mr. Williams? A I don't remember any; Mr. Williams was always the optimist.

Q Did you hear any such expressions from me? A I can't remember any specific occasion where you expressed such an opinion.

Q Mr. Williams expressed the opinion at all times, did he not, that the claims of the Coleman application, limiting the construction to wire strands, incorporated in the asbestos, were valid in spite of that Hutchins' patent; is that not the fact? A That is my impression, that Mr. Williams claimed those claims were valid.

Q We all agreed, did we not, that the broad claims on which the interference had been declared, which made no reference to the wire strands in the asbestos, were met by the Hutchins' patent? A Yes, that was a self-evident proposition.

Q And they were withdrawn? A No, the patent issued with those claims.

Q Now, at the time—these opinions that were exchanged between you and Mr. Williams as to the effect of the Sherman Act, they were written, were they not, in view—I mean to say, your reply opinion. which is an exhibit here, was written, was it not, in view of the fact that you objected to the particular arrangement that was contemplated at that time for the different parties to the contract to pay into the Asbestos Brake Company which was to be formed, certain indeterminate royalties. You objected to that form specifically in your letter; that was because of that opinion on your part, was it not? A That was one of the things; the broad objection was, that it was a very doubtful question—

Q I asked you whether that was not the objection you made at that time in that letter? A That was the principal objection I made at that time.

Q That plan was changed, was it not, as evidenced in the agreement entered into on the 22nd of September, 1910? A That particular feature was amended.

Q Now, when after that, Mr. Parker-Smith, did you ever discuss the question of the effect of the Sherman Act with Mr. Williams? A I can't fix any special date, after the lapse of ten years.

Q I suppose not. Do you recall that it ever was discussed? A Well, I don't remember any specific instance of it; I couldn't put my finger on any particular occasion.

Q Was it ever discussed afterwards? A I think we discussed the matter—

Q Have you any positive recollection that you discussed it any time after that, or any place, or under any conditions? A No, I couldn't swear to any positive—

Q And did you ever discuss it after that date with me? A The same answer.

Q Did you ever discuss it after that date with Mr. Massie? A I will have to make the same answer.

Q You certainly never sent any communication to us in writing that you can refer to? A Not that I have been able to find.

Q You drafted that report to the directors of the company, which is dated January 29, 1912, and you made no reference at the time that was being done or discussed, to the possible effect of the Sherman Act, did you? A Yes, I think there is a paragraph in the first part.

Q Not what you think, what you remember. A As I remember it, there is.

Q Was that discussed at that time? A There is a reference to it in the opinion.

Q The Sherman Act? A Yes, a reference to the possibility of the contention that it would be an illegal combination.

Q In that opinion? A Yes.

Q Where is that; will you please point out in that opinion, any reference to the possible effect of the Sherman Act; what do you find in there to indicate that you had the Sherman Act in mind (handing witness paper)? A Do you wish me to read it?

Q Yes. A Beginning at the bottom of the first page, the opinion states: "If no licenses were outstanding during the prosecution of a suit on these patents, except those taken by the constituent interests, the defendant might say that we had merely pooled a lot of worthless patents under which we pay licenses into our own pockets, and were trying to dominate the trade by such combination, but if a ~~member~~ number of disinterested outsiders had taken licenses previous to the institution of the suit, and were paying considerable royalties to your corporation, it would create a situation that might well influence the Court in favor of the patents in considering any doubtful points that might arise on the question of validity"

Q That is all you find in there? A That was the clause I had in mind.

Q Was that intended on your part to bring to the attention of your clients that they were in danger of violating the Sherman Act if they went on with their arrangements? A That was intended to bring to the attention of the client the fact that the situation was rather a shaky one, and that, in our litigation we might be met with that proposition, and that it would be well to get bona fide licenses from outsiders who had accepted the patents in order to strengthen our position.

Q Was that way of expressing it a matter of discussion between yourself and Mr. Williams and Mr. Massie and myself, at the time we were discussing the draft? A I can't say it was; my recollection of the conference is very general.

Q Can you specify any date afterwards that anything was said by any of the other counsel who were partners to this report as to what it was intended to express? A I couldn't remember anything said by any particular counsel of that particular point. I remember that that general idea was the subject of discussion, and that I embodied it in the opinion.

Q What general idea was—getting outsiders to come in? A Getting outsiders to come in in order to validate the whole proposition.

Q Do you mean to say, that the opinion was expressed by the gentlemen present discussing this matter, that it was necessary to validate this proposition? A I wouldn't say they used the word "validate;" that occurred to me.

Q Wasn't it the fact that we all agreed that it was advisable to obtain licenses, if we could do so, for the purpose of providing persuasive evidence— A Of course, that was one of the—

Q Wasn't that the reason? A Not the sole reason.

Q What was the other reason? A The other reason was, that it would help on the question of whether this was a mere combination in restraint of trade under the alleged protection of a lot of shaky patents—the kind of thing which was done very generally at that time—or whether it was a genuine submission by interested parties to valid patents which could be enforced legally, and had to be bowed down to.

Q Do you mean by that statement you have just made, that that was your idea of putting that in there, or do you mean that was the idea of your conferees, as well as yourself, so expressed at that time? A That was my idea, and, as I understood it, I was also expressing the ideas of the others.

Q Was anything of that kind said by any of the other counsel that you were discussing the matter with at that time? A I could simply say that opinion was written at the time in the attempt to faithfully state the points that counsel had agreed on, and I cannot now remember any one counsel saying any particular thing.

Q You can't recall, for instance, that Mr. Williams expressed the opinion that this combination ought to be propped up in this way by obtaining licenses from the outsider on account of its being considered an interference or

violation of the Sherman Act? A I can't remember that, after ten years.

Q You can't say that Mr. Massie made any such expression of opinion? A I can't remember now that he did.

Q Can you say that you remember that I made any such expressions of opinion at that time? A I simply remember I was endeavoring to express the general opinion of the counsel, and as I remember it, that was the general idea.

Q Are you ready to say, that in expressing this, you were expressing the general opinion of counsel, that the arrangement was shaky, because it was probably, or possibly, violative of the Sherman Act? A As I remember it, that statement was designed to express the idea that we were on the ragged edge of the thing, and anything that would help should be done.

Q I am asking you whether you were attempting to express the expressed opinion of the other counsel who were conferring with you at the time, that this whole arrangement might be violative of the Sherman Act?

*The Court.* Counsel is entitled to a "Yes" or "No" answer to that question.

A No, I wouldn't put it as strong as that.

Q Please answer "Yes" or "No." A I have answered "No."

Q Mr. Parker-Smith, were you present at the office of the Johns-Manville Company on the 14th of November, 1911; that was the day on which the meeting, so-called meeting, was held, at which the resolution refusing to pay the royalties— A No, I wasn't present.

Q Were you cognizant of what occurred at that meeting; do you know, or did you know, what was going to happen beforehand? A No, I didn't know what happened afterwards.

*A. Parker-Smith, re-direct.*

Q When did you first learn of that? A After this suit was begun and the minutes were shown to me.

Q You were the patent counsel of Mr. Manville and of the Johns-Manville Company all the way through this period? A Yes, I had charge of their patent matters.

*Re-direct examination* by Mr. Hardin.

Q Did you ever attend any directors' meeting of the Asbestos Brake Company? A No, none.

*Mr. Hardin.* Your Honor may recall, that at the last session I made some suggestion about an endeavor to show by proof, which was thought to be too voluminous to take up the time of the Court, a reference to the continuation of the business of the Johns-Manville Company after the making of this agreement exactly as before, so far as the prices to the trade were concerned. We left it with the understanding that I was to prepare a schedule after such further investigation as we could make, and some time ago I did have such a schedule prepared with reference to one of the most popular lines of the brake band material. I sent a copy to Mr. McCarter. I have not received any reply from him as to whether it was agreeable or not; I don't know that he got it, except I sent it to him through the mail.

I am not complaining; I rather take his silence to mean acquiescence.

*Mr. McCarter.* It seems to be up to me to plead guilty to apparent discourtesy in failing to acknowledge receipt of the document, which I did receive. I forgot it.

Our view is this, your Honor, that the complainant is entitled to relief or it is not entitled to relief, and if it is entitled to relief so far as the recovery

of royalties due from the Johns-Manville Company to the Thermoid Rubber Company, the licensees are concerned, they are entitled to the royalties at the schedule rates specified in the agreement, and that, therefore, the figures which Mr. Hardin has prepared as coming from the books of the company, are utterly irrelevant and immaterial. If we are wrong in the legal proposition, then the figures he would offer would be relevant at an accounting; but in either event, it does not seem to us that they are relevant now.

*The Court.* That was not the theory upon which they were offered, or upon which the offer was considered by the Court.

The theory was, that the prices showed a course of dealing on the part of the Johns-Manville Company and the Thermoid Company, which was contended to be inconsistent with the idea, or was intended to be corroborative of the contention of the defendants that the whole thing had been dismissed—that the agreement had been set aside by a voluntary agreement to that effect on the part of all parties concerned. It is also for that purpose that I considered the entertainment of the evidence as offered. It was, for that reason, because it was not a matter of exact proof that I suggested the making up of the schedule and the arriving at some sort of a reasonable agreement between the parties as to what the facts would show.

*Mr. McCarter.* Well, that was our view with reference to the matter, and it doesn't seem to us, in the absence of any notice to us of what was being done by them contrary to their express promise.

If they saw fit to conduct this business at a loss, it ought not, as it seems to us, to militate against

our contention that they should keep their obligations.

*The Court.* That may be true, but I think they should have the opportunity to bring before the Court all they have bearing on the defences they have set up.

*Mr. Hardin.* Counsel may have overlooked, in being so busy lately, and I know that lately he has been unusually busy, may have overlooked what my letter contained. I said the material was in my office, ready for his examination, from which the schedule was made up; it was in an endeavor to reach an agreement, if we could.

I don't see why that particular evidence can't be taken elsewhere as well as here. I spoke to Mr. Lowthorp on Tuesday, and he also didn't seem to think there would be any trouble about it.

*Mr. Katzenbach.* I have had prepared the same kind of a schedule as Mr. Hardin, and I have proof to the same end as is tendered to the Court on behalf of the Johns-Manville Company. I would ask that the Court make the same ruling and grant us the same courtesy as is granted to Mr. Hardin.

Of course, your Honor, the manner of the production of this proof is burdensome, and, as the Court very frankly suggested, was a matter that might be taken before a Master; and it was only with a view of simplifying the situation, that these schedules were prepared, and we are asking to have a stipulation of this kind entered into.

*Mr. McCarter.* Will you pass that temporarily, Mr. Hardin, until after luncheon?

*Mr. Hardin.* Yes.

If your Honor please, it is admitted that the defendant, Johns-Manville Company, is engaged in business with relation to the matters involved in

this suit in interstate commerce. And likewise, the same admission with respect to the Thermoid Company.

*Mr. Lowthorp.* Selling goods all over the world.

*Mr. Hardin.* That is offered in evidence.

Said paper, being a certified copy of the records of the Patent Office in the matter of the abandoned application of Cutting and Jewett, serial number 441207, for improvement in brake blocks, dated September 28, 1920, is marked "Exhibit D. 30."

*Mr. Hardin.* I offer in evidence a certified copy of the claims allowed on the Cutting and Jewett application; I desire to substitute for "D. 17," a certified copy in place of the exhibit which was used, which was merely a carbon copy.

Said paper, serial No. 411599, is marked "Exhibit D. 17."

*Re-cross examination* by Mr. Lowthorp.

Q Mr. Parker-Smith, can you state why no patent issued upon this Cutting and Jewett application? A Because the final government fee of $20.00 was not paid.

Q Can you state any reason for its non-payment? A I was not instructed to make that payment when the application was allowed.

Q To whom did you look for instructions of that kind? A I notified the treasurer of the company, Mr. T. F. Manville.

Q The president of the Asbestos Brake Company? A Yes.

Q Which owned the application? A Yes.

Q How much notice did you give him of that; do you remember? A I advised him, I think, about a month or so before the six months' period for payment elapsed.

Q Did you receive any instructions about the matter at all? A The only reply I had was the statement he would take it up with Mr.—

*Robert J. Stokes, direct.*

Q Stokes? A Stokes, the president of the corporation.

*Re-direct examination* by Mr. Hardin.

Q Which company owned the Cutting and Jewett application? A That was one contributed by the H. W. Johns-Manville Company.

*Mr. Hardin.* We rest.

*Mr. McCarter.* We have stated two or three times, that at the close of Mr. Parker-Smith's testimony we have no objection to your inspecting that file. The file is there, and we are perfectly willing that you should look through it at any time agreeable to you.

*Mr. Hardin.* Thank you, I would be glad to do it.

Recess Until 2 o'Clock.

After Recess.

ROBERT J. STOKES, a witness produced on behalf of the defendants, being duly sworn, testified as follows:

*Direct examination* by Mr. Katzenbach.

Q Mr. Stokes, you are a resident of Trenton? A I am.

Q And connected with the Thermoid Rubber Company? A I am.

Q In what capacity? A Secretary of the Thermoid Rubber Company.

Q How long have you been secretary of it? A Since 1911.

Q And during the time that you have been secretary of the company, have you been closely and intimately connected with its management? A I have.

*Robert J. Stokes, direct.*

Q Are you in attendance at the office of the company performing duties of a managerial nature? A I have been.

Q In connection with your duties at the Thermoid Rubber Company, do you have a knowledge of, and anything to do with, the making and executing of contracts for sale of materials manufactured by the Thermoid Company? A Yes.

Q Did the Thermoid Company ever have any business with the American Ever-Ready Company? A They did.

Q Stretching over a considerable period of time, or just a brief period of time? A For several years.

Q I show you a contract, purporting to be executed by the Thermoid Rubber Company and the American Ever-Ready Company, and ask you if that is a contract which you have in the files of the Thermoid Rubber Company? A It is.

Q Did you, as secretary of the company, execute this agreement on behalf of the Thermoid Rubber Company? A I did.

Q Did the Thermoid Rubber Company receive this agreement from the American Ever-Ready Company through the mails? A It did.

Q Is there any mark upon that agreement which would indicate to you that it had been so received and when? A The mark on the top of the agreement is the stamp put on all in-coming mail, showing this contract was received October 23, 1913.

Q This agreement refers to a list price thereto attached. I show you a list price and ask you if that is the list price that was attached to this agreement? A Yes.

Q Is that the list price that was in effect with the Thermoid Rubber Company at the time of the execution of this agreement? A Yes.

Q Was it the only list price in effect? A The only list price we had.

*Robert J. Stokes, direct.*

Q And in referring to a list price, would the one simliar to the one you have in your hands be kept attached to this agreement? A It would.

Q It would be a copy of that which would be attached to the agreement? A Yes.

Q Was it, to your knowledge, such a copy? A Yes.

Q Did the Thermoid Company ever sell goods to the American Ever-Ready Company under the terms of this agreement? A They did.

Q In any quantities? A In fairly good quantities.

Q Fairly large quantities? A Fairly large quantities.

*Mr. Katzenbach.* I will offer the agreement.

*Mr. McCarter.* We object to the document because I think it on its face fails to carry out the suggestion that Mr. Katzenbach made with reference to its being relevant. My recollection is, that Mr. Hubert testified that he had an agency contract out on the Pacific slope with a company that was distinct from the arrangement that the license agreement bestowed upon him under its terms. This is as I read it, the agency or license agreement applicable to what is known as the Pacific slope territory, and has no bearing upon the point that Mr. Katzenbach suggested.

*Mr. Katzenbach.* In the pre-corporate agreement, which is executed by Conrad Hubert, he refers to the Auto Improvement Company, its successors and assigns; he also testified that the American Ever-Ready Company was a successor of the Auto Improvement Company. The agreement that I am offering is an agreement made between the Thermoid Rubber Company and the American Ever-Ready Company, a corporation of New Jersey, and delivered as recited in the contract. Now, then, the assignment, in order that it

may be perfectly evident that it applies to interests of Mr. Hubert—I propose to offer the the assignment from the American Ever-Ready Company, that is, the assignment of this specific contract from the Ever-Ready Company to the National Carbon Company, which is executed on behalf of the American Ever-Ready Company by Conrad Hubert, President.

*Mr. McCarter.* Our whole point is, that this Ever-Ready Company referred to in this agreement, is undoubtedly an enterprise with which Mr. Hubert was connected, but distinct from any other concern.

Perhaps the quickest way to do is to let it in subject to our objection, and we will take it up later.

*The Court.* It will be admitted then at the present time, subject to your objection.

Said agreement, dated October 8, 1913, and the said list, are marked "Exhibits D. 31" and "D. 31-A," respectively.

Q I show you, Mr. Stokes, what purports to be an assignment of the agreement between the Thermoid Company and the American Ever-Ready Company, assigning the agreement to the National Carbon Company, and ask you if that is produced from the files of your company? A It is.

Q Was that received by your company through the mail? A The stamp would indicate it was received on April 23, 1914, through the mail.

*Mr. Katzenbach.* I offer the assignment in evidence.

*Mr. McCarter.* The same objection.

*The Court.* It will be received, subject to the objection.

Said assignment, dated February 18, 1914, is marked "Exhibit D. 32."

*The Court.* I understand no objection is made to either of these documents from the standpoint of proper proof?

*Mr. McCarter.* No, we are not standing on that, your Honor.

Q What would you denominate the Ever-Ready Company in the trade terms as indicative of the kind of agreement they had?

*Mr. McCarter.* That is objected to.

*Mr. Katzenbach.* I will withdraw the question.

Q Will you examine this agreement, and tell me whether that was not an agreement that the Ever-Ready Company should act as distributor for your company in certain territory?

*Mr. Lowthorp.* That is objected to; it speaks for itself.

*The Court.* Objection sustained.

Q Will you read the second paragraph of this agreement?

*The Court.* What for? To inform the Court—

*Mr. Katzenbach.* That is the only idea.

*The Court.* Let me read it. (Court reads agreement.)

Q There are certain prices which are called for in that agreement; were those the prices that were generally given to the trade by the Thermoid Rubber Company?

*Mr. McCarter.* We object to that.

Q Were the discounts mentioned in that agreement, being 75-20—were they the discounts usually used in the trade generally? A Yes, sir.

Q And this was the list generally used in the trade of the prices that were principally used? A This was the list used by the Thermoid Rubber Company—our standard list.

Q And prices were made— A By quoting discounts from this list.

Q And the discounts quoted in the agreement with the Ever-Ready are the discounts generally used in the trade at that time? A Yes.

Q By you? A By the Thermoid Rubber Company.

Q Did you give any larger discounts during the period that that agreement was in force, to manufacturers? A We did.

Q You then gave larger discounts to others than the discounts mentioned in the agreement? A Yes.

Q Were the discounts mentioned in that agreement ever changed in any way during the continuance of the agreement? A Yes, they were changed from time to time.

Q Can you tell me the changes that were made?

*Mr. McCarter.* Objected to.

Q Did you trade under that contract until the expiration of it? A Yes.

*Mr. McCarter.* No questions.

Have you yourself personally examined the documents in your office to satisfy yourself that the figures given in this list of discounts are correct?

*Mr. Hardin.* I have had a conference with Mr. Hoff with the documents before us. The papers are so many. I have no reason to suppose they were incorrect. Mr. Russell tells me the figures are in accordance with the evidence.

*Mr. McCarter.* We would like to examine Mr. Hoff.

*Mr. Katzenbach.* The list I have made up was made by Mr. Baur, and he is here and probably will not be here tomorrow.

*Mr. McCarter.* We would like to examine him.

JOSEPH O. BAUR, a witness produced on behalf of the defendants, being duly sworn, testified as follows:

*Cross examination* by Mr. McCarter.

Q Mr. Baur, Mr. Katzenbach produces a paper headed "List Price and Discounts to Jobbers, Asbestos Brake Lining—1912-1918," and then it gives the list. Did you make that paper up? A It was made up under my supervision, yes; and I verified it after it was made up.

Q Well, now, what was involved in the way of examination or verification, in order to find the discounts for any given year? A Orders originally received from customers either direct or through salesmen, and in some cases our shipping documents that were found, that is, they were found, several of them were found—a large enough number to be able to determine that that was the price.

Q Well, did your prices vary—your discounts vary with different customers? A Yes.

Q Then, how can you say you found a sufficiently large quantity to satisfy yourself that the figures that you give for any given year were those that prevailed for that year, if you didn't have all? A The way they varied was, between manufacturers and jobbers and distributing prices.

Q These figures you give here refer to sales made by the Thermoid Rubber Company to three sets of customers or two sets of customers? A One set of jobbers.

Q Was a different set of figures or discounts applicable to manufacturers? A Yes.

Q And distributors? A Yes.

*By the Court.*

Q Is there any difference between jobbers and distributors? A Yes, there is some difference.

Q What is the difference? A. A jobber—or rather, a distributor, is really a customer that you classify as a larger purchaser than a jobber; he has a larger territory and has certain other agreements in his contracts; for example, they sell to the jobber and sell to the dealer; the distributor sells to the jobber and the dealer, while the jobber sells only to the dealer, and in some instances, I presume, direct to the customer.

Q There is a contract between the distributor and the Thermoid Rubber Company? A Yes, a contract between the distributor and the Thermoid Rubber, yes.

Q Is the discount rate to the distributor specified in this agreement? A Yes, the discount rate is provided in the agreement.

Q You haven't included them in this? A No.

Q Why not? A He is a distributor, that is a jobber; a distributor is not a jobber.

Q And I have asked you why you ignored the distributor when getting at your discounts?

*Mr. Katzenbach.* I asked Mr. Baur for the jobbers' prices; that being the chief line of prices, and upon the chief size of the brake lining; I didn't suppose you wanted to encumber the record with all the prices.

*Mr. McCarter.* We are trying to find out whether it is a fair way of doing it.

Q So you have ignored your discounts to your manufacturers and your distributors, and confined your analysis solely— A To the jobbers.

Q You have different discount rates to these other sets of purchasers, haven't you? A Yes.

Q Well, now, confining ourselves then entirely to the jobbers, you have—

*By the Court.*

Q Before you do that, let me ask you: the discount rates to the distributor were larger or smaller than the discount rates to the jobbers? A The discount rates to the jobber were, in some cases, in many cases, the same as to the distributor.

Q There was a variance, however, you have intimated in a number of cases. Now, where that variance occurred which got the better price, the distributor or the jobber? A The jobber in many cases got the same as the distributor; in many cases there was no variance; many jobbers got the same price.

Q Pay attention to the question. I ask you—you have said there were instances of variations between the jobbers and distributors. Now, notwithstanding the fact that in many instances the price to the jobber and the distributor was the same, in those cases where there was a difference, which way was there a difference? A The smaller jobber paid a larger price.

Q The jobber? A The smaller jobber.

Q The jobber paid a large price than the distributor? A Yes.

Q And as to the difference between the jobber and the manufacturer, was the same difference, where a difference existed, true? A Yes; there were two classes of jobbers.

Q Then, there are really four classes of customers in this list you have made up, which you said was the price to jobbers, to all jobbers. Is that the list of prices to the small jobbers or the large ones? A Both.

Q Then there was no difference? A There is a difference.

*Mr. Katzenbach.* There is a range of the prices and an annotation on the list, so that both the large and small jobbers are considered on that list.

Q Well, what did you have to examine in order to prepare this statement at your office? A Orders received from the customers, either direct or through a branch office, and papers for which the customer was billed for the goods.

Q Your books wouldn't show these figures? A We haven't the books.

Q Eh? A The recent books show them, but the older books we haven't.

Q How recently do your books show them? A I think about six or seven years.

Q This only includes seven years; do your books cover all this? A I took it from the other papers.

Q Young man, what is your position down there? A Bookkeeper.

Q Then pay attention. Did you take this from the books? A The books show them.

Q Why didn't you take them from the books? A Because we took them from the original papers that came in.

*Mr. Katzenbach.* The Thermoid doesn't keep books indefinitely; I presume no business concern does. The first couple of items upon that necessarily had to be made, therefore, from the bills which they found in the office, and which exhibited in considerable quantities the exact data from which the books had been made up in those years. I then asked Mr. Baur to go over the lists to his customers to satisfy himself from the data received, that the orders had the discount marks upon them. He

is confused as to the books relative to the first portion of that period; that goes back to 1912—

*Mr. McCarter.* Seven years listed on this paper. It is our view, and I think this paper confirms our view absolutely—but I don't care to have anything slipped over on me—this paper does not purport to be what it ought to be; for instance, it says brake linings 2 x 3/16″ as being selected as a popular size during these years.

Q Is that right? A Yes.

*Mr. McCarter.* I understood they were to take from the documents the actual discounts. They have chosen what they want from what they have actually sold among certain classes, and taken the popular size, as they call it, as the discount that prevailed.

*Mr. Katzenbach.* As an example of the discounts that prevailed.

*Mr. McCarter.* They say they gave a lot of discounts that were below the figures under this contract. We are not trying to shut out anything on that question, although we think it is immaterial, but we think it should be evidence.

*The Court.* You are right, but I assumed what they had done here was to select an example—a size which would serve as an example—for all the articles sold. That is merely my assumption. Until that is proved, your objection is sound.

*Mr. Katzenbach.* We selected a size with a view not to producing too much testimony; we selected one size and took the discounts prevailing upon that size.

*The Court.* Yes, but you have not proved that it is a fair example; you have not had the opportunity. There isn't any proof before the Court that the

prices or discounts upon the samples shown in the list were the same prices and discounts which were actually used and given by the Thermoid Rubber Company during the years in question on all of their brake lining product. You don't say the same thing applies to other lines.

Q Did not your cost of manufacture increase in the year 1916 over what it was in the years immediately preceding? A The cost of manufacture, I am not familiar with that.

Q You have no idea about that? A Not about the costs.

Q As bookkeeper of this institution, you have no idea whether it would cost more in a given year than the previous year? A I don't recall it.

Q What? A I don't know. In 1916 as regards the present time?

Q As bookkeeper have you anything in mind, or do you keep any information as to the cost of manufacture at any time? A Yes.

Q Well, during the war has it cost you any more to manufacture? A Yes.

Q You know that, don't you? Wages have gone up? A Yes.

Q Raw material has gone up in your business? A Yes.

Q Now, I ask you if it is not a fact that in the year 1916, the cost of manufacture in your concern increased over that that prevailed in the years immediately preceding? A I don't recall in 1916.

Q Well, how about 1917? A 1917, in comparison with what year?

Q Two years before. A After the war they went up, I recall that.

Q Do you know when the war broke out? A 1917, as far as this company is concerned.

*Joseph O. Baur, direct.*

Q Did your prices go up before we got into the war? A I don't recall.

Q The costs, I mean; now, isn't it a fact, that when cost does go up, you reduce the discount? A When costs go up you should get a greater price, yes.

*By the Court.*

Q And the way you get that greater price is by reducing the discount? A Yes.

Q Then, why don't you say so?

*Mr. McCarter.* I have no objection to that document, for what is it worth, going in.

*Mr. Hardin.* What I wanted to do was what was suggested by the Court. There are four or five different kinds of discounts; I picked out the jobbers as covering a more representative class than any other kind. I picked out a popular size, and thinking it would be typical, I sent it to Mr. McCarter, and I haven't heard from him. I will willingly try to give every size from 1 to 4 inches, if I can. I supposed that typical information would be just as good as all the details. If they think we ought to be more particular, we will try and be more particular.

*The Court.* The list of discounts that you have made out here, are specified as having been taken from the records of the concern as to brake lining of the size of 2 by 3/16 inches. Now, do you know whether or not the discounts upon other sizes of brake linings were the same as the discount upon this size you have selected?

*The Witness.* I believe they were; I am not positive.

*Direct examination* by Mr. Katzenbach.

Q Mr. Baur, you have been with the Thermoid Company how many years? A 13 or 14 years.

*Louis R. Hoff, direct.*

Q And what is your position with the Thermoid Company now? A Chief accountant.

Q How long have you occupied that position? A Between eight and nine years.

Q As chief accountant, do you have access to the records and knowledge of the records with respect to discounts given by the Thermoid Company on brake lining? A I do.

Q When you prepared this list with respect to 2 by 3/16 size of brake lining, did you use the records of the company for the purpose of such preparation? A I did.

Q And the records of the company you used were the original records from which the books are made up? A They were.

Q And taking those original records you found marked upon them the discounts given for each year? A Yes.

Q And the discounts you give here are the discounts given to jobbers during 1912 to 1918 upon 2 by 3/16 brake lining? A Yes.

Q You are able to prepare for each size of brake lining a similar list?

*The Court.* I presume he is, if he was able to prepare that one.

*Mr. Katzenbach.* I ask to introduce this in evidence.

Said list of prices is marked "Exhibit D. 33."

LOUIS R. HOFF, being recalled on behalf of the defendants, testified as follows:

*Direct examination* by Mr. Hardin.

Q I think you told us when you were on the stand before, you were the General Sales Manager of the Johns-Manville Company? A Yes.

Q And had been so for how long? A Nine years.

*Louis R. Hoff, cross.*

Q Beginning in 1912? A 1912.

Q So that you were General Sales Manager during the period of 1912 to 1918, inclusive? A Yes.

Q Did you make up, at my request, the list prices and discounts for jobbers for asbestos brakes for 1912 to 1918, inclusive, covering the size 2 by 3/16? A I did.

Q And what were the sources generally speaking, of your information? A From original orders received from customers, and copies of invoices I have received from customers, files covering as large a range of customers and localities as it was possible to get.

Q Did you succeed in digging up any discount prices? A I found from our files the actual trade discount list used during that period, from our regular files.

Q This paper I show you; do you recognize that as containing the results of the examination requested by me with reference to that size—jobbers' prices? A I do.

*Cross examination* by Mr. McCarter.

Q Did your prices have anything to do with your competitors' prices? A Not to any great extent.

Q Who was your chief competitor on brake lining 2 by 3/16 inches in the year 1912? A To the best of my belief, the Raybestos Company.

Q Was the Thermoid Rubber Company a competitor? A Yes.

Q They had a license under similar patents, didn't they? A I presume so.

Q Don't you know? A From the evidence here.

Q Did their price affect your price at all? A No, sir.

Q Not at all? A No, sir.

Q They didn't compete with you? A Yes, sir.

Q Did you keep track of their prices? A Not generally.

Q Well, specifically? A No, nor specifically.

Q Didn't you pay any attention to it? A Not very much.

Q Any? A Possibly in a general way I was familiar with it, but it had absolutely no influence on the prices of the goods, the prices we fixed.

Q The fact that in the year 1912 their list price for the particular size of brake lining was the same as yours, would you say was a coincidence—90 cents? A I can't account for that, except it is a general practice for manufacturers to have a similar list price, but that has no effect on the net—

Q You needn't argue with me.

*The Court.* I don't think that was his intention.

Q I am asking you if it was a fact that the list price per foot in the year 1912, and in every other year on the same article of goods, was identical, was a mere coincidence? A I can't answer that question.

Q Well, did your price have any reference to their price or list price? A Not in any way I can account for.

Q Now, in the year 1913, I see that the discount figured in that exhibit already introduced by the Thermoid concern was 75% to 75-20%; does that mean, as you understand it, that some customers got 75% and some 75% plus 20? A I don't know anything about what their discount means.

Q You had no concern with it? A No.

Q Where did you get the figure that your discount in 1913, from your price list of 90 cents, was from 75 to 80%, where did you get those figures? A If those figures are in that sheet, they were gotten from the original copies of invoices and the original orders I got from our files and other sources.

Q What are these other sources? A By going to customers during that period, and asking them to produce copies of the orders they had submitted, if possible, or the original invoices at which we had billed the goods

to them; and those are the papers from which this list was made up.

Q You have nothing in your possession which would enable you to give those figures? A I have now in Mr. Hardin's office.

Q At the time that you went to your customers to get those papers— A I testified—

Q I am asking you what the fact is? A We had some in the files and got others from the customers.

Q Your books show nothing? A No.

Q Where did you get 60% in 1912? A The same source.

Q The same source exactly? A Copies of orders we had in our files, and also from copies of invoices we secured from our customers.

Q Are they the ones in Mr. Hardin's office? A Yes, sir.

Q How did it happen that in 1912 there was no variation at all, it stood at 60%? A I don't remember.

Q How does it happen that that seems to be the only year when there was no variation? A I don't remember.

Q I think you had better produce tomorrow the documents that you say will show the figures you give here, and I will, with the Court's permission and that of counsel, defer the further cross examination until then.

*The Court.* Very well; that may be done.

*Mr. Hardin.* As I think I stated before recess, I have no further evidence. I said to the Court that it was my purpose to offer evidence at the hearing as to the invalidity of these patents. My belief is, that in this particular matter the confidence of the parties in their patents, or the contrary, is of more importance than the exact question of validity or invalidity, and I am, therefore, not intending to offer evidence on that question. I desire to inform your Honor that it is the purpose

of the Johns-Manville Company when the receiver is duly qualified, without yielding our contention with reference to this whole matter, to surrender this license to the receiver.

*Mr. Katzenbach.* The Thermoid Company followed exactly the same course.

*Mr. Lowthorp.* I can say to your Honor with respect to that, that the receiver has no authority to accept the surrender of these—

*The Court.* Whatever may be done in that behalf the Court can deal with when it comes up. I cannot see that that can have any effect upon the determination of the issues before the Court in this suit.

*Mr. McCarter.* Then, do I understand, that with the exception of the testimony of Mr. Hoff tomorrow concerning this particular discount question, you close your case?

*The Court.* The testimony is your cross examination?

*Mr. McCarter.* Yes.

*The Court.* It might well appear on the record whether or not you have made the examination you wanted.

*Mr. Hardin.* Yes. I have gone through that list—that file—I confess I should like a little more opportunity, but so far as I can see, I have no objection if your Honor takes the whole file. There is nothing in there that I am not perfectly willing your Honor should hear and see. There are two letters in there, I should specifically like to put in evidence if I can find them.

I offer in evidence what purports to be a copy of a letter from Mr. Massie to Mr. Lowthorp, dated May 5th, 1911, and Mr. Lowthorp's reply dated May 8, 1911.

Said letters are marked "Exhibit D. 34" and "D. 35," respectively.

(Mr. Hardin reads letters.)

*Mr. Hardin.* There is another letter in that file I should like to direct your attention to. It is a notice to Mr. Hubert of a meeting in November. My recollection is, that he said he never received it.

It is dated November 7, 1911.

Said letter is marked "Exhibit D. 36."

(Mr. Hardin reads letter.)

HENRY D. WILLIAMS, a witness produced on behalf of the complainant, being duly sworn, testified in rebuttal as follows:

*Direct examination* by Mr. Lowthorp.

Q Do you live in New York City? A I do.

Q What is your occupation? A I am a lawyer, practicing and specializing in patents; I am also a mechanical engineer, although I do not practice that profession now.

Q Will you state, briefly, such experience and learning as you have acquired, which would qualify you to act as an expert in interpreting letters patent, as to the scope of their claims, and comparing them with other patents as to features that they contain? A For a period of ten years, from 1878 to 1888, I was first a student and apprentice, and then practiced mechanical engineering, machine designing, patent office drawing work, and some work in connection with patent soliciting. I then took up the study of the law, was admitted to the bar, working in the office of patent lawyers, and I have been at that ever since. During my student period I attended the scientific course of Cooper Union, and received the degree of Bachelor of Science, and also a post graduate student and an instructor of geometry. Just before I took up the study of law, I was an instructor of mechanical drawing

in the evening school and high school, and held that position for several years until my work at the bar enabled me to devote myself entirely to my practice. I have practiced as a lawyer, especially in patents, for about 35 years, and 28 years since my admission to the bar. In this work, of course, I have been engaged daily in the study of patents, their explanation, and all things connected therewith. I might also mention that I am a graduate of Columbia College Law School, with the degree of Bachelor of Laws.

Q You are acquainted with Conrad Hubert, one of the parties to this suit? A I am, and have been for many years.

Q And you acted as his adviser in patent matters back in 1910 and '09? A I did before and after, and up to the present time.

Q Do you know Mr. Clyde J. Coleman? A I do, and have known him for very many years.

Q When did you first have anything to do with Mr. Coleman in connection with the application for his patent on brake linings in this suit? A At the time I prepared the application for the patent, which was shortly before November 1, 1907, the date of the filing of the application (looking at paper).

Q Did he come to you through Mr. Hubert? A No, he was my client before he came to Mr. Hubert, and Mr. Hubert was my client before he met Mr. Coleman; but at that particular time I believe they were united in interest.

Q You afterwards found that the application of Mr. Coleman was in interference with applications made by Mr. Hoff and Mr. Bonner for brake linings? A Yes, we were first notified by the Patent Office, with a suggestion that certain claims should be asserted if we desired to contest as to the originality of invention as to those claims, and we asserted those claims and the

result was, two interferences, one between Hoff, Bonner and Coleman, and the other between Bonner and Coleman.

Q Do you recall also an interference in which Cutting and Jewett were involved? A I was informed of that interference, but my clients were not parties to it.

Q How long have you known Mr. A. Parker-Smith? A About thirty years.

Q When did you first run across him in these interference proceedings? A After the interference had been declared, and after, I believe, the filing of preliminary statements. I met him and I met you. Details are not very clearly outlined in my mind now, but I do particularly remember a meeting at which you and he were present, and at which we discussed the desirability of the settlement of conflicting claims of the various applicants for patents.

Q Who proposed that? A Mr. A. Parker-Smith was the first record I have (looking at paper), and I am inclined to accept it as the fact. I have a letter from A. Parker-Smith to me, dated October 21, 1909.

*Mr. Lowthorp.* I offer this letter in evidence, dated October 21, 1909, addressed to Mr. Williams.

*Mr. Hardin.* No objection.

Said letter is marked "Exhibit C. 12."

*Mr. Lowthorp.* "Dear Mr. Williams:—Mr. T. F. Manville, president of the H. W. Johns-Manville Co., which corporation is the assignee of the application of L. R. Hoff involved in interference with the applications of Mr. Coleman and Mr. Bonner, will, at my suggestion, be glad to see Mr. Hubert who is Mr. Coleman's backer as I believe you stated, and talk over the situation with a view to seeing if there is any possibility of avoiding the present contest, so far as the respective claims of Mr. Hoff and Mr. Coleman are concerned.

New Jersey State Library

Mr. Manville expects to be in his office, 100 William street the rest of this week, so far as I know, and if Mr. Hubert will communicate with him, or if you will advise Mr. Manville as to where he can reach Mr. Hubert, I think we can safely leave these gentlemen to thresh the thing out between themselves.

Very sincerely,

A. Parker-Smith.''

Q Did you learn, or were you informed of any proposition by Mr. Manville for the purchase of the rights under the Coleman patent at that time—the Coleman application? A I was; there was correspondence in relation to that; I wrote to Mr. A. Parker-Smith on October 23, 1909; I have here a copy of my letter to him. I wrote to Mr. Manville on October 23, 1909, and I reported to Mr. Hubert on October 21, 1909. These letters tell the whole story.

*Mr. Lowthorp.* I offer them in evidence.

*Mr. Hardin.* I make no objection on the ground of their being copies. I notice that the letter from Mr. Williams to Mr. Manville, purports to make an appointment. I can see no reason for putting into the record the long letter from Mr. Williams to Mr. Hubert.

*Mr. Lowthorp.* I won't bother any further.

Q No arrangement was made for the sale of the application of Mr. Coleman to Mr. Manville? A Nothing came of those negotiations. I was advised by Mr. Hubert that they had failed, and then I now recollect, my memory being refreshed, that on November 26, 1909, there was a conference at which you and Mr. Parker-Smith and I together discussed a settlement involving all three parties to the interference, and that was the first intimation to me of that kind of a settlement.

Q And the suggestion was to combine the applications in such a way as—in a general way as subsequently followed out? A Yes, the proposition was to unite the interests of the three patents in one corporation and grant licenses to the individual members.

Q Did you advise Mr. Hubert to adopt that plan? A I did.

Q What reason did you give for proposing such an arrangement or acquiescing in it? A The invention of Mr. Coleman, which I was satisfied was the earliest invention of the lot, was of a brake band composed of asbestos with interwoven strands of wire to strengthen it, making a fabric of wire and asbestos. I knew Mr. Coleman had used that brake band in a very satisfactory manner, but I was also advised that the brake band that was now being manufactured, and that the public accepted, involved also the use of a binding material in connection with the asbestos and the wire. Mr. Coleman was not the inventor of that part of the invention, and the other applicants, the Hoff and the Bonner applications, included that feature; therefore, although I was sure that Mr. Coleman could dominate the entire asbestos brake band art by his patent, it was perfectly obvious that he could not manufacture the kind of brake band the public wanted, whereas, on the other hand, with the Coleman Hoff and Bonner inventions united, a brake band could be made such as the public wanted. I, therefore, strongly advised Mr. Hubert to enter into the combination, and it was subsequently brought about.

Q Then went on the interference in the Patent Office, as has been shown. And did you not experience considerable difficulty with the primary examiner in getting allowances of the claims as valid at all? A Yes, the primary examiner on two occasions in the course of the history of these applications, rejected all the claims as anticipated by prior patents, and it was necessary to

appeal to the Board of Examiners in Chief, and they reversed him. That occurred before the interference had started, and during the interference, and there was great difficulty in securing his consent to the allowance of the claims.

Q Now, when did you first know of the existence of the British patent of 1896 to Hutchins? A There is a letter in evidence to me from Mr. A. Parker-Smith; I don't recall its exact date, that gave me the first knowledge of the existence of the patent.

Q And you received a copy of the patent, did you, from him? A I did.

Q You examined that? I did.

Q What conclusion did you come to after examining it? A I came to the conclusion that it anticipated two of the something like 23—let me be accurate (looking at paper)—two of the twenty-two claims of the Coleman application.

Q No others? A No others.

Q Was it at that time or prior to that time that the examiner of interferences had first passed upon the priority of invention between the three applicants, in which the priority was awarded to Bonner? A I will give you the date of that (looking at paper). That was quite some months prior to the decision, the first decision of the examiner of interferences. The decision of the examiner of interference was rendered on March 3, 1911. That decision awarded priority of invention to Bonner.

Q And then further depositions were taken, were they not, by the contestants? A Yes, and as Mr. Parker-Smith, has testified, you and I and Mr. Parker-Smith went down and saw the examiner of interferences, and told him that in our judgment he had made a mistake, and asked to have a reconsideration of the matter, and suggested we would like to take a little additional testimony. Then we made a formal motion, and that motion for

reopening was decided on March 11, 1911, and we thereupon proceeded to take some additional testimony, and thereafter reargued the case and got a decision, awarding priority to Coleman.

Q Now, the primary examiner, having in charge this application, these applications—was not notified of our discovery of the British patent to Hutchins, was he? A He was not, to my knowledge.

Q For what reason?

*Mr. Hardin.* That is objected to.

*The Court.* For failure to connect up all the parties?

*Mr. Hardin.* Yes.

Q Was there any consideration between the parties as to the advisability or inadvisability of letting the examiner know anything about that patent? A There was.

Q And what was the conversation? A In substance, that the opposition of the primary examiner—

*Mr. Hardin.* We don't want the conclusions.

*By the Court.*

Q Give us the substance of the conversation. A The substance of the conversation, as nearly as I can recall it is, that the primary examiner, having caused us so much trouble in the allowance of the claims, if this matter were called to his attention, would undoubtedly again reject the application and we would again have to go to the Board of Examiners in Chief, and that would mean a very substantial delay in the issuance of the patents. The monopoly of the patent does not commence until the patent issues, and the business was going on then, and until the patent issued there was no monopoly to control that business, and no control

whatsoever. We decided it was desirable to issue the patents as early as possible. We gave consideration to the two claims that were anticipated by the British patent, and we decided that it would not be advisable to mention the application, even to the extent of striking out those claims, because it would result in delay, and therefore we agreed not to call the matter to the attention of the patent office examiner, and agreed not to strike out those two void claims.

Q I will ask you, too, whether or not in these interference proceedings in the patent office, the depositions and issues are printed before being presented to the examiner of interferences? A Yes.

Q I show you a pamphlet here and ask you if you can identify that as being anything to do with this interference we are talking about? A That is the printed copy of proofs in behalf of Louis R. Hoff in the interference proceedings of Hoff *vs.* Coleman.

Q That contains the depositions taken on behalf of Mr. Hoff? A And the exhibits printed in connection therewith.

Q I call your attention to a copy of an exhibit on page 6 of that pamphlet, which purports to be a copy of a memorandum or bill rendered by the Johns-Manville Company to the Royal Equipment Company. That was testified to in the interference proceedings as—

*Mr. Hardin.* I don't think that is the proper way to prove this. If counsel will tell me what his purpose is, I may be able to help him out.

I recall that I started to go into this subject, and the other side objected, and I was not permitted to develop the matters with respect to the early history of these patents. If we are going into the subject generally, then, perhaps, it ought to be gone into thoroughly.

*Henry D. Williams, direct.*

Q I show you another pamphlet and ask you to identify that. A That is a printed record in behalf of Coleman in the same interference, and also in the second interference Bonner *vs.* Coleman.

*Mr. Lowthorp.* I offer them in evidence.

*Mr. Hardin.* Objected to, if counsel means to offer them in evidence. I thought they were being offered for identification.

*The Court.* What is the purpose?

*Mr. Lowthorp.* To show the records in these interferences with a view to showing how those two patents worked in together. This record of Hoff's shows what was delivered to the Raybestos Company or the Royal Equipment Company on September 19, 1906, as the stuff used by that company.

*The Court.* How is that material except upon the validity of these patents?

*Mr. Lowthorp.* It shows what was delivered. Mr. Hardin put in a letter written by Mr. Massie to me, and in there Mr. Massie stated that there was certain kind of stuff that was delivered there by Hoff to the Johns-Manville Company, and to the Royal Equipment Company, and this shows it was something different.

*Mr. Hardin.* Is it to contradict the letter of Mr. Massie?

*Mr. Lowthorp.* Yes.

*The Court.* The thing that you want to contradict is out of the case.

*Mr. Hardin.* Out of the case, your Honor?

*The Court.* So far as the fact of the proof by that letter of the delivery.

*Mr. Hardin.* Yes.

*The Court.* I will not exclude the letter, but that portion of the letter as proof of that particular fact.

Q On March 15, 1910, it appears that you sent to Mr. Parker-Smith an opinion upon the possible effect of the Sherman Act upon this proposed combination of interests, and you received from him a counter opinion, did you not? A I did.

Q Did that interchange of opinions result in any change in the plan of the combination? A Yes, the subject matter that Mr. Parker-Smith criticised was eliminated.

Q And the final arrangement made appears in that agreement of— A Yes.

Q After this interchange of opinions was the subject of the possible effect of the Sherman Act upon this combination ever brought up with you by any of the counsel to the parties, Mr. Parker-Smith, Mr. Massie or myself? A It was not.

Q Did you ever hear of it again from anybody until this suit had been begun? A No discussions or statements in connection with the matters as to the Sherman Act thereafter.

Q You signed the opinion delivered by the four counsel to the office of the Brake Company, that Mr. Parker-Smith testified to this morning? A I approved of it. It came to me with a typewritten signature, and I approved of it.

*By the Court.*

Q And authorized it to be signed by Mr. Parker-Smith? A I had previously authorized the preparation of such a document. It came to me with a typewritten signature, and I approved it.

Q Why, on your part, did you advise the granting of licenses to outside, independent parties before the beginning of any litigation? A For the purpose of

strengthening the presumptions as to the validity of the patent.

Q What was the effect upon a patent by the taking of licenses? A We call it acquiescence, and it is very frequently the basis for preliminary injunction.

Q Now, anything contained in that opinion which you signed, did you see or think of anything that indicated in any possible way that the licenses which had been granted to the Thermoid Rubber Company and the Johns-Manville Company were unlawful as a part of an unlawful organization in view of the Sherman Act? A Absolutely no.

Q You had no such thought? A No mention of any such matter was made.

*By the Court.*

Q And you had no such thought? A And I had no such thought.

Q Now, it has been testified that the four counsel had a meeting to consider this opinion. Was there any discussion of the Sherman Act there? A No.

Q No reference to it whatever? A None at all.

Q Are you perfectly clear about that in your memory? A About as clear as I can be. The fact that in that considered opinion to our clients there was no reference to it, and my recollection as clear as it can be at this time so many years later, all make me as sure as I can be now, that there was no consideration of the Sherman Act at all at that conference.

*By the Court.*

Q Well, how sure is that? A Why, in mundane things we can't be sure.

Q Do you feel perfectly sure of it? A Yes, I feel perfectly sure of it.

Q In the concluding paragraph of this document, it is said: "In conclusion, counsel are unanimously of the opin-

ion that the patents of your company have claims valid over the prior art, so far as known to them, sufficient in scope to maintain a commercial monopoly of asbestos brake linings." What purpose did you have in mind when you signed that? A The Coleman patent with broad claims for a brake composed of wire and asbestos, and the Hoff patent with broad claims for a combination for a brake band having asbestos fibre and a binder—those two patents.

Q When the papers were formulated in which this combination of interests was based, that is to say, the agreement of September, 1910, and the subsequent modifying agreement of March, 1911, when the Brake Liners Company was coming in, and when the forms of the assignments of patent, and the certificate of the proposed corporation—holding corporation—and the by-laws, and the license agreements were drafted, do you recall who took part in the preparation of those papers? A I am quite sure that the four of us, counsel for the four parties, participated in the preparation of those papers; I am very sure of it.

Q Did they pass back and forth suggestions and criticisms? A Yes; you took the burden of the work, and the others criticised.

Q Was there any talk at that time, or any other time, that you ever heard of, of any condition upon which those license agreements were to be delivered, that was not expressed in the agreements themselves? A Absolutely none.

Q You never heard of it? A No.

Q And there was no such talk by anybody in your presence at any time? A Never.

Q When did you first hear it? A At the taking of testimony in this trial when I happened to be here last summer.

Q July? A Yes, sir.

*Henry D. Williams, direct.*

Q Do you recall that the condition which was to be annexed to the assignments of patents, regulating the ways in which licenses should be granted and annulled, that it originally required four directors to vote for the granting of licenses, as well as to require four directors to vote for annulling of licenses?

*Mr. Hardin.* Can't you be a little less leading?

*Mr. Lowthorp.* I will try to be.

Q Did you receive a letter from me, dated August 24, 1910? A Yes, I have the original letter received from you, dated August 24, 1910.

*Mr. Lowthorp.* I offer that in evidence.

*Mr. Hardin.* No objection.

*Mr. Katzenbach.* In referring to your clients, do you refer to the Thermoid Company?

*Mr. Lowthorp.* Yes.

*Mr. Katzenbach.* Then I think I should object, as you ceased to represent the Thermoid Company and to write letters with reference to their affairs; it was a letter written upon the advice given by the Thermoid Company, and written to a third party.

*The Court.* I do not see any force to the objection; he at that time represented the company. The objection is overruled.

Said letter is marked "Exhibit C. 13."

Q Did you make a reply to that letter of the proposed change in the condition? A I did, by letter dated August 26, 1910, which I mailed to you.

*Mr. Lowthorp.* I offer that letter in evidence.

*Mr. Katzenbach.* We make the same objection.

*Mr. Hardin.* I have no objection.

*The Court.* I will admit it. There is even less force in that objection.

Said letter is marked "Exhibit C. 14."

Q Now, I show you "Exhibit D. 13," which is a patent to W. T. Bonner, No. 1141606, and ask you if you are sufficiently familiar with that to state whether or not in the construction disclosed, the Coleman construction—the construction of the Coleman patent—might be embodied?

*Mr. Hardin.* That is going into the debate in the Patent Office.

*Mr. Lowthorp.* This is going into the very essence of the case. It is my proposition to show, that all of these patents which Mr. Williams will be asked to testify about, covering more or less different forms of the asbestos brake lining, in the construction shown, there could be embodied the construction of the Coleman patent, a proposition which is in all cases. In other words, the Coleman patent dominated all of these; some of them show constructions which omitted the dominating thing of the Coleman patent, but they disclose constructions which would be benefited and improved by embodying the Coleman patent in them, and it could be done without any violence of the dominating patents; and where that is the case—

*Mr. Hardin.* You don't want us to consent that that is the law on the subject. We think the law is very different from that.

*Mr. Lowthorp.* Well, I suppose we disagree on the law sometimes, or we wouldn't be here.

*The Court.* I will permit it.

Q (Stenographer repeats the question.) A Well, the Coleman invention is embodied in the construction which is here disclosed, because this is a patent for a wire reinforced asbestos fabric, and that is the subject of the Coleman invention, with a plurality of plies impregnated with drying oil—it is here, "a plurality of plies of wire reinforced asbestos fabric, said plies being impregnated with drying oil, and the outer ply being faced with a rub-

ber composition." That is to say, this is an improvement upon Coleman, an improvement upon Hoff, which embodies the wire reinforced asbestos fabric and a binder in a special form.

Q I show you "Exhibit D. 16," patent to Hoff, No. 1012356, and I ask you to state what, if any relation, that has to the Coleman patent; in other words, whether it is independent of it or not? A This again is an improvement patent, which combines the features both of the broad Hoff patent and the Coleman patent, in that it is for a brake provided with a liner comprising a layer of asbestos fabric impregnated with a drying oil, and having a wire reinforcement.

Q I show you "Exhibit D. 9," patent to Bonner, No. 980481, and ask you to state whether or not that discloses a brake lining which does, or might with advantage, embody the Coleman construction? A This is again an improvement upon those two patents, in that there is here both an asbestos fabric strengthened by a wire reinforce, and the use of a binder. In this particular instance the binder is a pitchy petroleum residue.

Q I show you "Exhibit D. 15," patent No. 997498, to Frank A. Headson, and ask you whether or not the Coleman construction could be embodied in that to its advantage? A In this instance, that is undoubtedly true, because here we have a brake band lining, composed of woven asbestos impregnated and faced with finely divided iron, and the iron is a cementing substance or binder, and the disclosure lacks the wire reinforce. Put in the wire reinforce, and the invention would be very greatly improved, so that by combining with it the Coleman invention you have a structure greatly improved over that—and I think the only practical structure.

Q I show you "Exhibit D. 12," patent No. 997818, to Louis R. Hoff, and ask you to state whether or not that does or could embody the Coleman construction to advantage? A This does not, but could to advantage embody the struc-

ture of the Coleman patent. This is the broad Hoff patent, its broad claim is, "As an article of manufacture, a brake lining comprising a woven asbestos fabric and a binder." The word "comprising" means "including;" a fabric including—a brake including a woven asbestos fabric and binder would be vastly improved by incorporating in it the wire reinforce, which was part of the Coleman invention.

Q Why do you say it would be vastly improved by embodying the Coleman wire reinforce? A Because asbestos is a material of very little strength, not at all adapted, when used without reinforcement and strengthening, for the very heavy work of brakes, and especially automobile brakes, to which it is very particularly related.

Q Do you know whether or not the common form of these brake linings today and for years past, since these patents were issued, are constructed with the Coleman interlacing wires or wire cords for the asbestos threads, and woven into a tape, and then the asbestos fixed with a binder?

*Mr. Hardin.* He is going outside these patents now.

*The Court.* I will permit that question.

A Yes.

Q What is the fact? A The fact is, that all the asbestos brake liners with which I have been familiar—and I am quite familiar with that art in which asbestos is used---are reinforced with wire and contain a binder.

(Continued to Friday, March 4, 1921, at 10:30.)

SIXTH DAY.

Testimony taken in the above-entitled cause at the State House, Trenton, New Jersey, on Friday, March 4th, 1921, at 10:30 A. M.

Before Hon. Malcolm G. Buchanan, Vice-Chancellor.

Appearances as heretofore noted.

*Mr. Lowthorp.* I understand that Mr. Hoff is here, with the papers spoken of yesterday.

LOUIS R. HOFF, being recalled for further cross examination, testified as follows:

*Cross examination* by Mr. McCarter.

Q Mr. Hoff, have you the data with you that were left at Mr. Hardin's office from which this price list and discounts prevalent during the years 1912 to 1918, inclusive, was prepared? A Yes, sir.

Q I understand from your previous evidence, and I want you to correct me if I am wrong, that the reason why you had to get out into the field and get information from customers rather than from your own records, was because your own records previous to six years from the present time, for want of convenience, are destroyed? A Yes, sir.

Q So, naturally, you have no records for the year 1912 in your possession; is that correct? A Yes, sir.

Q Now, exactly what did you do in order to collate the information with reference to discounts that prevailed in the year 1912? A I wrote to various of our sales branches to make a search of their files for any possible records that might not have been destroyed, such as orders or copies of invoices; also sent several men to call upon those companies to whom we had sold brake lining

during those years, to see if it were possible to secure copies of orders or original invoices from their files.

Q The result is, that you did obtain some information? A Yes, sir.

Q Exactly what information did you get; to what extent did this information exist, with reference to 1912, I am speaking? A I secured copies of orders and invoices amounting to the neighborhood of twenty, from various sections of the country.

Q Twenty different sales? A Yes, sir.

Q Your sales in a given year, 1912, would aggregate about how many in number? A I couldn't answer that.

Q I know you couldn't answer specifically, but you could tell us whether it would be 1,200 or 12,000 or 12,000,000? A It would be nearer 1,200 at that time.

Q You had about twenty sales? A Yes.

Q Were you with the company in 1912? A Yes, sir.

Q So that the information that you have collated, and upon which you seek to form a conclusion as to the prevalent discount in 1912, is information based upon the records of about twenty sales? A Yes, sir.

Q Was your practice the same as that that prevailed in the Thermoid—having one price to jobbers, another price to small jobbers and another price to distributors? A Our practice in those days, and it has continued, is to sell only to jobbers, and we recognize jobbers of only one class. We have no distributors, and at that time we didn't solicit manufacturers of automobiles.

Q Then, do I understand that you had but one type of customers, namely, jobbers? A Yes, sir.

Q You are quite sure about that? A Quite.

Q And the twenty instances that you collated were instances of jobbers? A Yes, sir.

Q Were the brake liners at that time sold for any other purpose than automobiles—1912? A To the best of my recollection there were some sold for industrial purposes,

heavy machinery, cranes, etc., direct to manufacturing companies.

Q You didn't pursue them? A No.

Q Still, you were selling brake liners to them? A That is my recollection. I am not sure of it, and it would be impossible from that date to attempt to locate those, for I wouldn't know who they were sold to.

Q Then it is true that your inquiries were confined entirely to the jobbers to whom alone you sold your brake liners for automobile use, whereas you were selling brake liners to manufacturers for mechanical work? A To the best of my recollection we sold some.

Q Is the same thing true with reference to your having ignored the manufacturers to whom you sold direct for mechanical purposes in the following years, '13 to '18, inclusive? A Yes.

Q What have you before you relative to the twenty jobbers from whom you obtained information touching discounts in the year 1912? A Copies of invoices. We secured some of them from our files and some from our customers' files.

Q Then it was not true that all your own documents were destroyed after six years? A I didn't say that it was. I said there were a few, but in general the complete files were destroyed. It is quite possible that some of these invoices became separated for various purposes, and got into the following year, so that they became available, and have not been destroyed.

Q You have the twenty different copies of invoices? A Yes. To be exact, I think there are nineteen.

Q Then, how many came from your own files and how many from outsiders? A Nine from our files and ten from the outside, as I count them.

Q Will you let me look at these nineteen copies of invoices which you have there? A 1912?

Q Yes, 1912. A (Witness hands papers to counsel.)

*Louis R. Hoff, cross.*

Q The cost of manufacture increased during the war, did it not? A To some extent.

Q Did that increase commence about 1916? A I should think so.

Q And I observe on this document that you have prepared, the discounts in 1916, 1917 and 1918 decreased from those that prevailed in the preceding years from 1913 down. That was because of the increased costs? A Yes, sir.

Q Now, do you say that the Thermoid Rubber Company was not a competitor of yours in these goods? A No. They were a competitor.

Q They did a large business, did they not? A Yes, sir.

Q They had a license to use the very same patents? A Apparently so.

Q I have already called your attention to the fact that the price lists per foot for the same article during the same years were identical. That was a mere coincidence? A What do you mean?

Q I am adopting your phrase. A If you mean price list, I would have no recollection whatever of there being any understanding between the two companies of adopting the same list.

Q You think, then, that they were a mere coincidence—that they were the same? A It is quite possible that one or the other may have adopted the list of the other.

Q If that was so, then the discounts would have some relation to one another? A Not necessarily.

Q Wouldn't they naturally? A No.

Q Not at all? A No, because it has never been the practice of the Johns-Manville Company to agree upon the net discounts with any competitor.

Q Well, whether you agree or don't agree, you have got to ascertain what your competitors are discounting

at, and regulate your discounts somewhat, accordingly, have you not? A Yes.

Q Do I understand you to contend that during this period of seven or eight years your discounts were made entirely regardless of what your competitors were doing? A Not entirely regardless, but they were made with an understanding of the conditions in the trade, and what was necessary to effect sales.

Q I notice in every year here on your list the discounts are very nearly, if not identical, with those of the Thermoid, except the year 1912. How do you account for that fact, if it be true? A I can't account for it.

Q How long before 1912 does your recollection go back to the history of the Johns-Manville Company in connection with these brake liners 2x3/16 inches? A Well, originally, to the time of the origin of the sale of the material back about the time the patents were being considered.

Q You are the Hoff of the Hoff patent? A Yes.

Q How did you happen to choose the 2x3/16, as the size? A That is most largely used. Because 2x3/16 is the one size that is most largely used by all automobile manufacturers, and is merely indicative. The records you have before you are various sizes, and the discounts are absolutely the same on all the lists.

Q Did you hand us that package of nineteen documents as covering the year 1912? A 1912, yes.

Q Well, don't they, in fact, apply to the year 1913? A I picked the wrong files (handing counsel other papers).

Q You now produce the file of 1912? A Yes, sir.

Q These are apparently about twenty in number. Will you let me see the 1913's, please? A Yes, sir (handing counsel papers).

Q Now, Mr. Hoff, I understand your testimony to be to the effect that, owing to the difficulties spoken of, you got about twenty copies of invoices for the year 1912, and

that they showed a discount of 60%, and that, therefore, you put on your schedule a discount rate of 60%; that is, 60% from the list for the year 1912? A Yes, I found—

Q You have answered my question. This list is the list of 1912? A Yes.

Q Do you say they are all 60%? A No, sir.

Q Didn't you tell us so before? A I don't think I made that statement.

Q Well, I find one here, "Western Motor Car Company, 12/12/12, 60 plus 10. I find one here, the Mack Motor Truck Company, 65%. I find one here to MacAlman, of Boston, 65%. I find another one to MacAlman, 1912, 65% plus 10. I find another one here to MacAlman, July, 1912, 65% plus 10; I find another one here, Gross Hardware Company of Milwaukee, 8/12/12, 70%; The Walker Vehicle Company, Chicago, 5/31/12, 70% plus 5. I find another one, McGuire, of Boston, November 30, 1912, 75%; and I find another one of the Washington Auto Supply Company of Washington, Illinois, 7/16/12, of 75 plus 5." Will you please tell me why you put, in view of those figures, which constitute about one-half of those you produce for the year 1912—why you put that as 60%, as the prevalent discount? A In making up the original list for Mr. Hardin, I overlooked a number of original invoices, and last evening when I checked them over I made a further list of all of those invoices.

Q You didn't call our attention to that correction before you submitted yourself to cross examination, did you? A No, sir.

Q Now, I want to know, Mr. Hoff, why it was you handed your counsel, and permitted him to hand me for use in this case, as symptomatic of the discounts you were charging in the year 1912, a list in which you put the sale discounts for 1912 at 60%, when the data show with half of them more than 60% and that half is only about one-tenth of one per cent. of all your sales? A Because I

overlooked them. I didn't find them until I went through the files completely last night.

Q Don't you know that file has been in Mr. Hardin's office for several weeks? A Yes.

Q Don't you know he sent me some time ago the document that had been made up as the result of it? A I understand he did, with the privilege of checking the data from which that had been compiled.

Q I don't suppose you were anxious to show that your discounts for 1913 were higher than they were for 1912; that was not your object, was it? A No, sir.

Q Now, bearing in mind some of the figures to which I directed your attention in your list of 1912, let me call your attention to 1913. This list of 1913 gives the prevailing discount 75% and 80%, don't it? A Yes, sir.

Q Now, you have handed me a list of these invoices for 1913, the first one we look at is 60% discount; how do you account for that when you told us the lowest discount was 75%? A I took the average discount of all the invoices.

Q Have you told us that before? A I don't think I have.

Q Then some were higher and some were lower than 75% to 80% in 1913, and you averaged them? A Yes.

Q Did you average them in 1912? A No.

Q Why didn't you? A Because, at the time all the invoices I used in making the statement showed 60%; the others were mislaid in the file.

Q Is this list of 1912 invoices—has that been added to since you made the calculations? A Yes, sir; those additional invoices were discovered last night and appended to the file.

Q Then, the file you are producing today of 1912, is not the file that has been lying in Mr. Hardin's office and subject to my inspection? A It is, with some additions.

Q Well, when were the additions discovered? A Last night.

*Louis R. Hoff, cross.*

Q Where? A After I secured the whole file.

Q Where? A At my home.

Q At your home? Do you keep at your home in Paterson, the documents that belong to the H. W. Johns-Manville Company? A I secured the file from Mr. Hardin's office last evening and took it home and went over it thoroughly in order to give you the facts you asked for yesterday.

Q Then, they were all at Mr. Hardin's office and you took them home? A Yes.

Q Then the complete list was at Mr. Hardin's office? A The complete file, yes; that was all in that one package.

Q Then, how do you account for the fact, if you have made up your list of discounts for the year 1912, and had left with Mr. Hardin the documents in support of it, that you utterly ignored about one-half of them which are in excess of 60%, and on the other hand, when you got the 1913, when your purpose as you concede, is to have a higher rate of discount—

*Mr. Hardin.* He doesn't concede that; he said it was not his purpose.

Q The fact is, is it not, that the discounts for the year 1913, according to your list, are higher than they apparently were in 1912? A For a few of the items, and others are very much lower.

Q I am referring to the list.

*The Court.* It is obvious; the list of 1912 is 60% and 1913 is 75%.

Q They are higher? A Yes.

Q This list signifies that the discounts were higher in 1913 than they were in 1912, doesn't it? A No, sir; the discount in 1912 was 60%; the discount in 1913 is 75 to 80%; the discounts are lower.

*Louis R. Hoff, cross.*

*By the Court.*

Q How can you say they are lower? A I should explain that the net price was lower.

Q Mr. McCarter asked you about discounts. A They are higher discounts in 1913 than in 1912. In the language of the trade, we don't speak of it as a higher discount; in giving a larger discount it is spoken of as a lower discount or lower net price.

Q May I ask you who originated the document, a copy of which you hold in your hand, which is the discount table for these years; did you do it? A Yes.

Q You made up the heading "Discounts and Price Lists?" A Yes

Q I am adopting your tabulation. Looking at it for a moment, it is a fact, isn't it, that the discounts there noted for the year 1913, are from 15 to 20% higher than the discounts you give for 1912? A Yes, sir.

Q Now, I ask you why it was that you did not average your prices on the file for 1912, and you did average your prices for 1913? A In making up the list for 1912, as I have already stated, we overlooked the several invoices that carried a larger discount, and made up only those which every one of them showed 60%, until I discovered these mixed up in the file last evening.

Q May I ask you this question: did you disclose that fact to Mr. Hardin before you came here? A This morning?

Q Yes. A I don't recall that I did.

Q And you didn't undertake to correct the impression before I interrogated you with reference to the matter? A No, sir.

Q And when I asked for the file for 1912, you gave me the file for 1913, didn't you? A Yes.

Q That was because you were afraid I might possibly find out something or other about these things? A Positively not; the complete file was brought here for you.

*Louis R. Hoff, re-direct.*

Q Now, turning to the file for 1913, my attention is directed to the fact, as I have already indicated to you, that the very first one on that file is to J. Q. Goodwin, on June 20, 1913—a 60 per center? A Yes.

Q And the very last one, January 27, 1913, is one to some rubber company in Boston of 80 plus 10? A Yes.

Q Now, we have not had time to run through these, but they seem to vary, 80 and all sorts of different figures; the way you reached the figures you gave for the year 1913, was by an average? A Yes, sir.

Q And is that true of the other years except 1912? A Yes, sir.

Q Apparently, therefore, judging from the appearance of these two files for these two years, '12 and '13, there was no sytsem, consistent system, of discounts, but each customer apparently was given a certain discount, and, in other words, the traffic stood all it could bear; was that the situation? A The discounts were made to meet the conditions.

*Mr. McCarter.* I offer those files.

The file for 1912 is marked "Exhibit D. 37."

The file for 1913 is marked "Exhibit D. 38."

*Mr. Hardin.* I offer in evidence the files for 1911, '14 and '15.

Said files are marked "Exhibits C. 15, C. 16 and C. 17," respectively, for identification.

*Re-direct examination* by Mr. Hardin.

Q I don't find any file for 1916? A The data for 1916-17 were made from sales bulletins to our salesmen and branches, and not from copies of invoices, as they are more general and cover the entire range of sales.

Q Are these the papers for 1916 to which you refer? A Yes, sir.

*Mr. Hardin.* I offer them in evidence.

Said papers are marked "C. 18" for identification.

*Henry D. Williams, direct.*

Q Is that the group of orders for 1917 (showing witness papers)? A Yes, sir.

*Mr. Hardin.* I ask to have them marked.

Said papers are marked "Exhibit C. 19" for identification.

Q In 1918 you had a bunch of orders? A The 1918 list was made from the sales bulletin dated January 7, which I have here.

Q Two of them, one January 2, and the other August 24? A Yes.

*Mr. Hardin.* I ask to have those marked.

Said papers are marked "Exhibit C. 20" for identification.

HENRY D. WILLIAMS resumes the stand.

*Direct examination* (continued) by Mr. Lowthorp.

Q Mr. Williams, when the attention of yourself, Mr. Parker-Smith and myself was drawn to the British Hutchins' patent of 1896 by Mr. Massie, please state your recollection of what was said and done by the several counsel? A We conferred in regard to the matter, and there was quite some discussion. The subject of that discussion, to the best of my recollection is, that in view of the fact—

*Mr. Hardin.* That is not an answer to the question. It becomes objectionable as a statement of a conclusion. I am objecting that the witness starts to tell us a conclusion, whereas, I think we are entitled to the conversation.

*The Court.* Objection overruled.

A Mr. Bonner was one of the original inventors of the inventions which were dominant, having filed an application which was put into interference with Hoff and Coleman, and had, since the making of that invention, quar-

relled with, or had some difficulty with, the Thermoid Company, who were his backers as to that invention, and had since been in a position of opposition; and in view of the fact that we contemplated litigation and here was a man who was in a condition of oppositon and might be a very important witness it was by all means desirable to bring him to a friendly attitude; in fact, at the time of filing the preliminary statements in these original interferences Mr. Bonner had refused to file the statement, and it was necessary to get the permission of the Patent Office to have Mr. Stokes file a statement.

*By the Court.*

Q Is this all part of the conversation that took place at that time? A This is all part of the conversation that took place at that time. And, therefore, it was by all means desirable to have Mr. Bonner in a friendly attitude; and then again, there was a situation that we had had so much trouble with the Patent Office examiner, and any new disclosure of a prior patent would certainly result in a great deal more delay, and might at that time upset the whole interference, because the situation then was that we hadn't had any decision. We discussed these things and agreed that it would be desirable to take into the corporation that we proposed to form, the interests of Mr. Bonner as represented by Mr. Massie in these other interferences, and there was also the fact that Mr. Bonner had inventions which might be quite important. We considered all those things and for that reason we thought it desirable to take in this new interest.

Q It appears from the testimony that has been given here, that there are one or more claims, one or two, perhaps, or three, in the Coleman patent as issued, which are void, either in view of the prior Hutchins'

British patent or in view of the non-disclosure in the Coleman patent of the broad claims. Please state whether or not, under the law, that would avoid the patent, or whether it is a matter that can be corrected. A It is a matter which can be corrected under the statutes, which give permission to owners of the patent to file in the Patent Office a document which is a disclaimer, and there is a penalty if you don't file the disclaimer before suit, but if you do, there is no penalty, and you are in the position of having a perfectly valid patent and a perfectly good cause of action, so far as that is concerned.

Q And that disclaimer may be made by the holder of the legal title of the patent? A Yes, he merely prepares a document and files it in the Patent Office.

Q I show you the defendant's "Exhibit 31," being a contract made between the Thermoid Rubber Company and the American Ever-Ready Company, organized under the laws of the State of New Jersey. Have you personal knowledge of that Ever-Ready Company of New Jersey? A Yes, I have acted as counsel for that company.

Q Do you know of any other American Ever-Ready Company than that New Jersey corporation? A Yes, the American Ever-Ready Company of New York; I have also acted as counsel for that company.

Q Do you know whether or not Mr. Conrad Hubert is the president of either of those companies? A I know that in 1912 and for some time thereafter, Mr. Oakes, who signed this document as president of that company, was the president and manager of the company. Mr. Oakes is a resident of San Francisco.

*By the Court.*

Q Which company? A The American Ever-Ready Company of New Jersey. Mr. Oakes was a resident of San Francisco, and the company has a factory there and does its business there; and I

have acted as counsel for that company in settling up some patent litigation in San Francisco.

Q Are the two Ever-Ready Companies dependent or independent concerns; in other words, is one a branch of the other? A I know there is a business relation between the two concerns, but I know they were separate organizations and separately managed and directed. Mr. Hubert directed the one of New York, and Mr. Oakes directed the American Ever-Ready Company of New Jersey, having its factory and office in San Francisco.

Q I show you defendant's "Exhibit D. 30," being a certified copy of the allowed application of Cutting and Jewett for brake blocks. Will you please examine the specifications and papers of that patent, and state what you find to be disclosed and claimed?

*The Court.* I suppose the exhibit speaks for itself. The witness' answer can only be a recital of the wording of the patent itself.

Q Will you read the two claims into the record, please, the allowed claims?

*Mr. Hardin.* The application is in evidence.

*The Court.* What is the purpose of it?

*Mr. Lowthorp.* I want to show what uses the subject matter of that patent could be put to.

*The Court.* The same kind of a comparison you were making yesterday of the uses or possible combinations of the patents?

*Mr. Lowthorp.* Yes; I want to show it covers a non-competing article.

*The Court.* I should think that would be evident from the patent itself.

*Mr. Lowthorp.* I take it not.

*The Court.* Then ask the witness whether he does understand—

Q Do you understand those claims, Mr. Williams, to cover an article of manufacture which would enter into competitive use with the asbestos brake bands or linings for brake bands which are disclosed in the Coleman patent and the Hoff broad patent, and the other patents— A I don't so understand the things disclosed and claimed in this application.

Q What do you understand to be the use of the article disclosed and claimed there? A The use of this brake block is for stationary machinery and for clutches, for holding parts of machinery in engagement during operation, such, for example, as the clutch on an automobile, or the clutch of some other bit of stationary machinery. This is a hard block of compressed material, and not in any sense a flexible brake liner or band such as used in automobile brakes.

Q What kind of machinery do you understand that to be useful in braking action? A Stationary lifting machinery.

Q Hoisting engines? A Hoisting engines, things of that sort.

Q Now, you speak of clutches; clutches are used for transmitting power? A Yes.

Q Do you so read in those claims that they could be construed to cover clutches made of that material? A Undoubtedly.

*Mr. Lowthorp.* I think I would like to offer in evidence as an exhibit a catalogue of the Johns-Manville Company, bearing copyright stamp of 1920, with reference particularly to the contents of page 38; I would like to offer that in evidence.

*Mr. Hardin.* No objection.

Said catalogue is marked "Exhibit C. 21."

Q Did you ever hear any conversation, and statement made by anybody, or did you ever see any writing or any communication of any character whatever, before the com-

mencement of this suit, in which anything was indicated that these license agreements held by the two defendants, the Johns-Manville Company and the Thermoid Rubber Company were accepted by them upon any condition which was not expressed in the license agreements themselves? In other words, that their acceptance or operation or effectiveness was in any way dependent on other persons coming in and taking licenses under patents of the Asbestos Brake Company? A I never did.

*Cross examination* by Mr. Hardin.

Q Isn't it a fact, Mr. Williams, that the woven asbestos of the Coleman patent is also used for clutches. A Undoubtedly it is capable of being made into blocks that may be used for clutches.

Q And when this license agreement refers to asbestos brake bands or lining or friction members embodying or containing the inventions shown, that description, friction members, is descriptive of clutches, isn't it? A Yes.

Q As well as brakes? A Yes. Friction members is a very broad term, which would cover either brakes or clutches.

Q When was the disclaimer filed for these two or three claims that you say was made void by the Hutchins' patent? A It has not been filed.

Q I misunderstood you? A I said it was capable of being filed any day by filing a document in the Patent Office.

Q What would be the effect if it were not filed? A If a suit were brought for infringement and the Court found those claims void, the plaintiff would not recover costs, and he could not get a judgment until after he had filed his disclaimer, if those claims were involved in that suit.

Q You did discuss, as I understand it, before the three-party contract was made in this case among the counsel, the question of the effect of the Sherman Law? A Yes.

Q And all of the counsel participated in those discussions? A Yes, sir.

Q And they were oral as well as written? A Undoubtedly, more largely oral than written.

Q And continued down to about what time? A They only lasted during the period of that correspondence which is in evidence.

Q That was in March, 1910, if I recollect the letters. The letter which you sent to Mr. Parker-Smith and his argument in reply, both those letters were in March? A Yes, sir.

Q Do you recall writing a letter in April, 1910, to Mr. Lowthorp, a copy of which you sent to Mr. Parker-Smith April 1, 1910? A Yes, I have a copy of the letter in my file; I don't remember its contents.

Q Does this seem to be a copy? (Handing witness a paper.) A Yes, sir.

Q And does the reference at the end of that letter, in which you say, that it is best not to try a new experiment, particularly in view of the fact that "we are sailing close to the wind in other respects," refer to the Sherman Law? A I think it does.

Q Have you any recollection of any other reference that it might have? A I think not, in 1910, I think that was the only law that would be applicable to matters of this sort in such a way as to make it a thing to be avoided.

Q When you use the expression "we are sailing close to the wind in other respects," you undoubtedly had in mind the Sherman Act? A Yes.

*Mr. Hardin.* I offer that in evidence.

Said letter from Williams to Lowthorp, dated April 1, 1910, is dated "Exhibit D. 39."

Q Now, you say there was no further discussion of this question from that time forward?

*The Court.* Meaning discussion concerning the Sherman Act?

*Mr. Hardin.* Yes, sir.

A No further discussion of that question among counsel in this case from the time that I originally mentioned.

Q That is, in April, 1910? A 1910.

Q Were there not changes from time to time made in the form of the proposed three party agreement? A During the period in which it was being formed in shape, there were undoubtedly changes from time to time until it reached its final form.

Q And these different drafts were passed back and forth between counsel and were the subject of conferences? A Yes, sir.

Q And the object was, to get a final draft free from the Sherman Law? A Of course.

Q When was the draft finally signed up? A I don't know.

Q September 22, 1910? A I accept that as the time when the final draft was passed; I may say that during the period when these drafts were passing back and forth we didn't meet frequently, if at all; that matter was very largely in correspondence. The correspondence will show about all that was done in the way of criticism and suggestion.

Q You did meet occasionally? A We met occasionally.

Q Didn't you meet in Washington, from time to time, when these matters were going on, or were they in abeyance? A Well the testimony was taken somewhere about that time; that was taken in New York City or Trenton. Then we went to Washington to argue the cases once, and we went again to—

Q When was that? A To the best of my recollection the hearing, the argument at Washington, was on October 26, 1910.

Q What was the subject of that hearing? A The question of originality of invention as between Hoff, Bonner and Coleman.

Q Before whom? A The examiner of interference at the Patent Office.

Q All the counsel attended at that meeting? A Yes, sir.

Q That was after the making of the three party agreement? A Yes, sir.

Q Now, you make some reference in your testimony to an appeal that had been taken? A Well, no, no appeal. The decision was rendered on March 3, 1911, and we found that it was so erroneous that we persuaded the examiner to do it over again.

Q That was the decision on the question of priority of invention? A Yes.

Q Following the argument you mentioned on October 26? A Yes.

Q Prior to that, however, I understood that there had been some recall of the interference by the primary examiner, or some overruling of applications which had resulted in an appeal from the primary examiner? A That was long prior to that, after the interference had been started, and shortly after primary examiner called the interference to reject the claims.

Q Was it before the negotiations were opened in the early part of 1910 between the Manville Company and the Thermoid Company and Hubert? A No, it was after we had come together and generally agreed upon the general plans of the union of the affairs, and so we each advised the other and to some extent co-operated in fighting the rejection.

Q And that was the rejection that recognized the Bonner application? A No, that was the rejection on some further prior patents that the examiner had discovered; that was on November 27, 1909, that the primary

examiner was given jurisdiction to consider the question of patentability.

Q That had all been straightened out before the three parties got together? A No, it was just about that time this action came, and when we replied to it we were together; this was November 27, 1909. We had our first interview November 29, 1909.

Q This agreement that resulted in the three party contract was in the course of formation for a year, practically? A Yes, sir.

Q Now, if you never had any further discussion while the three party contract was under way, or at any time subsequent to April 1, 1910, with reference to the Sherman Law, how do you account for the fact that on May 16, 1911, you wrote the letter to Mr. Parker-Smith, "Exhibit D. 24," in which you wound up with this sentence: "Probably Mr. Massie was convinced upon simultaneously receiving both of our letters, that we had acted for the best interests of our new-born corporation, which I trust, in the light of reason will not be held to be in undue restraint of trade." You recognize that as your signature? A Yes, and the reason I said that, so far as I now remember is, that I had fresh in my recollection the opinion of Mr. Justice White in the Standard Oil case, in which that matter was stated. I very nearly quoted him when I said that.

Q So that even if you had not been discussing this matter with counsel, you still had the Sherman Law in mind? A Yes.

Q With reference to this transaction? A Yes, with reference to every transaction I carried out of that sort in my practice.

Q In response to the question addressed to you by Mr. Lowthorp when you were talking about the various patents that were finally transferred to the Asbestos Brake Company, did you mention all of the patents? A My attention wasn't called to all of them, I believe.

Q What patents were so assigned, to which your attention was not called? A (Looking at papers.) There were certain patents of Mr. Bonner for an all wire friction member or brake liner.

Q Are those the patents, "D. 7" and "D. 8" and "D. 14?" (Handing witness a paper.) A "D. 7, 8 and 10;" you handed me "D. 9;" that was called to my attention and I commented upon it. "D. 14" you didn't hand me.

Q Here it is (handing witness "Exhibit D. 14"). A I can't remember for the moment whether my attention was called to 1117774, which is "D. 14."

Q How many so-called Bonner patents were assigned to the Asbestos Brake Company? A To the best of my recollection, about five that issued as patents.

Q Now, the three patents, "D. 7, 8 and 14," were not mentioned in your discussion with Mr. Lowthorp? A No, not the two patents "D. 7 and 8," I am not sure of "D. 14."

Q Isn't "D. 14" the same class? A No.

Q How does it differ? A It includes the use of elastic cement as a binder for the wire, but it is true, that it does not include asbestos, and to that extent it is in the same class; I guess those are the three to which my attention was not called.

Q Now, these patents cover brake linings, linings for friction members? A Yes.

Q All three of them? A They cover friction members; I don't think all of them cover brake lining. (Looking at paper.) "D. 7" does not strictly cover a brake lining made of any peculiar material, but the disc, which co-operates with the brake lining and friction member for clutch and friction members generally. "D. 8" covers a brake liner as well as friction member generally; "D. 14" the same.

Q Articles manufactured under those patents would be competitive with brake linings manufactured under the

Coleman patent? A Yes, if they could be sold, but I don't think they are practicable.

Q Articles made under the Cutting and Jewett claims as allowed, I think you have already said would be competitive with articles made under the Coleman patent? A I don't remember just what I said, but it is undoubtedly true that you could combine in one structure articles made under both of those patents; but the articles described in that Jewett application are not adapted for linings, and would not be competitive with brake linings. They are brake blocks for use in a different field, but the Coleman patent is a broad patent, and the moment you get the combination of a wire reinforce with an asbestos material, you get the Coleman invention; and I think that invention would be somewhat improved if you tried to work it out in the brake liner form by putting in the wire reinforce. In fact, I think it would need it.

Q Don't you know, as a matter of fact, that asbestos block is being used now for automobile brake purposes? A No, I don't; there are certain varieties of automobile brakes, safety brakes, in which sometimes they use block forms. It is conceivable that it is usable in that particular kind of brakes. An automobile has two brakes, the safety brake and the working brake; the safety brake sometimes is in a block form.

*Further cross examination* by Mr. Katzenbach.

Q Mr. Williams, I believe you said you had acted as counsel for the American Ever-Ready Company, a New York corporation? A Yes.

Q And also as counsel for the Ever-Ready Company, a New Jersey corporation? A Yes.

Q You said the New Jersey corporation did business in the State of California? A Yes.

Q And that Mr. Oakes had been president of that company? A He was president of that company from

1912 to 1916 or '17; I know from having visited him there and taken instructions from him.

Q You are not yourself, of course, an officer of that company? A No.

Q Were there any more American Ever-Ready Companies than the two you have mentioned, to your knowledge? A Not in this country.

Q In other countries? A There was a British Ever-Ready Company and a German Ever-Ready Company?

Q And they are inter-related? A In the matter of general ownership.

Q And Mr. Hubert is a controlling factor in that? A Controlling so far as the ownership is concerned, but he put these concerns under the management of a director in Germany and a manager in London, as well as the manager in California.

Q And all of these Ever-Ready Companies were ultimately absorbed by the National Carbon Company; do you know that? A No, I do not, but I do know the California Ever-Ready Company was absorbed by the National Carbon Company; I think I might also conclude that from the assignment you put in evidence.

Q Mr. Hubert was, as a matter of fact, an officer of the Ever-Ready Company of New Jersey, was he not? A I didn't know that he was at the time an officer of that company, as a matter of knowledge, or even a matter of information.

Q Do you know he was not an officer of the company? A No.

Q I show you an assignment marked "Exhibit D. 32," purporting to be signed by the American Ever-Ready Company, and I ask you if that refreshes your recollection as to Mr. Hubert's connection with the Ever-Ready Company of New Jersey? A No, it does not; I have no knowledge at this period; it may be he did act as president.

Q Do you know he acted as Vice President for a considerable period of time? A That I don't know.

Q But you do know—you are familiar with Mr. Hubert's signature? A Yes. I recognize that signature as the signature of Mr. Hubert.

Q And if Mr. Hubert signed that as an officer of the American Ever-Ready Company of New Jersey, you have no doubt he was such officer? A At that particular time I have no doubt he was president, or whatever the officer is, of that company at that time.

*Re-direct examination* by Mr. Lowthorp.

Q Will you please look once more at claims 1 and 2 of the certified copy of the allowed application of Cutting and Jewett, and please state so we will understand clearly what breadth of application you assigned to the words "brake block?" A The term "brake block" is applicable to any friction member which is thick, very nearly rigid, and something that is capable of being applied to a metallic surface. It is used to distinguish it from the bands, largely flexible in nature, which constitute liners, for instance, of brakes. An example of brake block, for instance, would be such as you have in railroad cars, where there is a metallic block held in a socket as a brake, and where you wanted to apply a rigid brake you would apply it to the machinery. It describes the rigid form of solid block mass as contrasted with flexible bands.

Q Do you understand the term "brake block" to have as broad a significance as a block friction member? A Yes, I think a block friction member and a brake block, ought to be deemed to be equivalents, although there are some shades of difference in the meaning.

*Re-cross examination* by Mr. Hardin.

Q Are brake blocks all of one thickness? A No.

Q And they may be thin? A No, thick, but when you talk of thickness you can commence at one inch and go up to ten inches.

Q And there are also molded brake liners? A No, blocks.

Q And also molded brake linings? A No.

WILLIAM T. BONNER, a witness produced on behalf of the complainants, being duly sworn, testified as follows:

*Direct examination* by Mr. McCarter.

Q Mr. Bonner, you live where? A Trenton.

Q And are you the Mr. Bonner that has been mentioned so frequently as the owner of one of the patents that went into this combination? A I am.

Q And who was your attorney in the early days of that patent? A Mr. K. B. McElroy and Mr. M. C. Massie.

Q I show you "Exhibits D. 8" and "D. 14," which I believe are copies of the patents issued to you on, respectively, August 24, 1909, and November 17, 1914; please look at that, and after having familiarized yourself with them, state in the first place if you are the William T. Bonner named in those patents? A I am.

Q You, of course, are familiar with them? A Yes, sir.

Q Did the inventions which are described in those patents get into practical use?

*Mr. Hardin.* Objected to as immaterial; they were turned over to these companies as part of this arrangement; it isn't material.

*The Court.* I will admit it.

A They were put into practice

Q Under what circumstances and when, describe fully.

A I made an arrangement with Mr. Horace DeLisser,

who was then president of the Ajax Rubber Company. That arrangement was a tentative proposition or arrangement on our part, beginning I think, in March, 1909, by which they were to try it out for a period of six months, and in which they were to pay me a minimum royalty of $100.00 a month, or $25.00 per week, I am not positive, but one of the two; and if at the expiration of that time they were fully satisfied that it was a commercial proposition, they would either purchase or take it on further royalty. It was manufactured by them through their manager, Mr. Destraibats, who is now also the manager, with myself present in making up those liners. They were put on several cars, and I think one was on the president's car, Mr. DeLisser; and about, I think, three months after our arrangement went into effect, they decided it was thoroughly impracticable, and that they could not and would not use it. I went over the situation with them, and was rather forced to admit that their contention was true. The trouble seemed to be that a bare wire folded back and forth in a similar way as to which a wire reinforced with asbestos fibres, would be made—made in the same way in which the ordinary type of brake liners would, but not reinforced with fabric on the outside, was apt to be very rigid and not proper in its curves, for bending around a curve in braking engagement, and as they would wear through, they would drop down between the brake band and the brake chain, causing the brake to jam or stick.

Q They gave it up? A They did.

Q About when was this, Mr. Bonner? A I think the arrangement began sometime in March, 1909.

Q And continued— A It was six months' arrangement.

Q And before the six months expired? A They stated they had reached a conclusion, and it was not required to take six months to determine it.

Q Has it ever been in use since then? A Not to my knowledge.

Q Now, in view of your experience with the Ajax people touching the patents I have already referred you to, I now ask you to look at "Exhibit D. 7," which is a copy of a patent also issued to yourself, and tell us whether that has been a practicable invention?

*Mr. Hardin.* Same objection.

*The Court.* Same ruling will be made.

A This patent was never put into use; I thought when I took out the application, that my original ideas of that same application could possibly be attached to it, but it was never reduced to practice, not even in my process for applying for a patent and the granting of one; I never attempted to put it into commercial use afterwards.

Q Has it any commercial value? A None that I know of; I wouldn't consider it of any commercial value; it is expensive to make and value doubtful.

Q Now, what position, if any, did you have in the Brake Liners Company? A I was president of the Brake Liners Company.

Q And at the time of the transfer of the patents to the Asbestos Company, at which time you have already told us Mr. Massie was your counsel, were you ever advised either by him or by anyone else, that there was any danger from the Sherman Law at the time of the transfer? A I don't recall ever having heard any mention made of the Sherman Law.

Q Now, the minutes of the Asbestos Brake Company have been offered in evidence, and it appears that at some of the meetings you were present, and I want to direct your attention more particularly to the meeting, the so-called meeting, held at the office of Mr. Manville, on the 14th of November, 1911; do you remember that meeting, that so-called meeting? A I do.

*William T. Bonner, direct.*

Q How did you happen to go to that meeting? A I was connected with the Empire Tire and Rubber Company, on construction work for them, and the matter of getting the Empire to accept a Brake Company license had been left with me, being associated there with them, and there had been various discussions of the matter, and various objections raised by the Empire in not accepting the license until they had gone into it carefully they had further objections later on. One of their objections, as I recall, was that they claimed along in the latter part of the summer of 1911, they claimed that the schedule that had been adopted as part of the license schedule or list, a discount on the brake liners to be sold, was not being lived up to by the two licensees.

Q I don't care to go into that. What impelled you to go into this meeting— A I had been negotiating whether they should accept the license, and they gave that as a reason, that they understood they were not observing and were selling at the old list and at very large discounts off from the list, and, therefore, they felt they wouldn't be under any obligation if they took out a license, and I went to meet Mr. Massie, who was our director of the Brake Liners, in the Asbestos Brake Company, and to meet him, but he wasn't there.

Q Was Mr. Lowthorp at that meeting? A No.

Q Did you act as secretary? A I did not.

Q Did you vote? A I did not.

Q What is your recollection as to what occurred on that occasion? A My recollection was, after I had stated to Mr. Stokes and Mr. Manville that the Empire had decided not to accept the license and give their reasons, to the best of my recollection, they both agreed that they didn't feel they should pay any royalties under their licenses.

Q What occurred after what you have just recited? A They decided that they would hold a meeting, as I understood it, and cancel or suspend those licenses.

Q Who were they? A Mr. W. J. B. Stokes and Mr. T. Frank Manville.

Q Who were present? A No one in addition to them, except myself.

Q Now, you have already told us you did not act as secretary; was any request made that you should? A There was.

Q What position did you take with reference to that request? A I stated to them that I was neither a stockholder nor an officer in the Asbestos Brake Company and didn't see how I could act.

Q And you did not act? A I did not act.

Q Did you hear anything with reference to this resolution of so-called rescission? A Well, my recollection of it is, that they agreed that they would not pay any royalties; in other words, that they would suspend those licenses.

Q Who agreed? A Mr. Manville and Mr. Stokes.

Q Which Mr. Stokes? A Mr. W. J. B. Stokes.

Q What attention or credence did you give to that action? A I didn't know; I was waiting there for my counsel and representative; I was in rather a peculiar situation; they requested me to act and I didn't see how I could act, and Mr. Manville had his secretary.

Q Did you have any ideas with reference to the validity or invalidity of a resolution passed under those circumstances you have detailed?

*Mr. Hardin.* Objected to.

*The Court.* I will permit it.

Q What was your view with reference to the— A I didn't consider that the thing was at all binding or legal in any way; I knew there was only one director present there, and that was Mr. T. Frank Manville.

Q Did you take any part in the resolution, vote one way or the other, or anything else? A No, sir. I wish to qualify that; there was an informal discussion; we discussed the matter there.

Q The minutes further show, on motion duly made by Mr. Bonner and seconded by Mr. Manville, "Further resolved, that Mr. Stokes be authorized to see Mr. Penny as to what his charges would be for an opinion as to the validity of the patents held by the Asbestos Brake Company;" did you make any such motion as that? A I have no recollection of making any such motion. I remember the question come up in discussion as two or three men will talk, but I have no recollection of making any motion.

Q You were not a stockholder? A I was not.

Q And not a director? A No, sir.

Q And you were aware that you had no right to take any part? A No, sir.

Q And so stated? A I so stated that fact.

Q Now, recurring to the time that the licenses were taken out by the Thermoid and the Johns-Manville Company, did you ever hear it stated or suggested by anyone, that they were not bona fide licenses? A Never in my life, to my knowledge.

Q That they were stool pigeons or decoy licenses? A I never understood it.

Q Or that there was any secret or covert understanding to the effect that they were not binding? A I never heard of that until I was in the court room here last July.

Q Or any gentlemen's agreement to the effect that they were not to be carried into operation and effect? A No, sir.

Q Was there anything ever said in your presence, or did you ever hear, prior to the giving of the testimony in this suit, of any condition having been attached to the delivery of those licenses; that they would not become operative or binding until other licenses were obtained? A I have no knowledge of it.

Q Now, Mr. Stokes, I think, testifies on page 124, that at this meeting of November 14th, you agreed that if the

concern couldn't get licenses you might as well rescind or pass the rescinding resolution; is that so; did you make any such statement or agreement? A No, sir.

Q Mr. Manville testifies on page 172, that on some of the occasions when you were calling on him, in making requests for action under these licenses, that he, Manville, said, "I stated that he (that is, you) knew that we hadn't any money to start in with such suits; he also knew we had been advised that it was against the Sherman Act to proceed with this undertaking;" did Mr. Manville ever make that statement to you? A I don't remember him making that statement to me; he did discuss the validity and non-validity of the patents.

Q Mr. Stokes testified in the case, that at this so-called meeting of November 14th, you stated that you would undertake to acquiesce in or vote for this proposed resolution, by virtue of your control of the Brake Liners Company, or words to that effect? A Mr. Stokes asked me if I controlled the Brake Liners Company, and I stated I had a majority of the stock, but I didn't control, as I had given my attorney, Mr. Massie, a power of attorney in fact, and had no authority in the matter.

Q Did you further state, that by virtue of your alleged control of the Brake Liners Company, you would vote, although you were not technically a stockholder of the Asbestos Brake Company? A I don't remember making any such statement.

Q What was this relation of Mr. Massie with reference to the Brake Liners Company? A Mr. Massie was a stockholder in the Brake Liners Company, and he and his assistant, Mr. McElroy, when they formed the company to turn everything over, as a matter for my own protection as well as theirs, I executed for Mr. Massie a power of attorney, as they described, a power of attorney in fact, as being something different from an ordinary power of attorney, and that I executed; I don't know what that means.

Q That representation by Mr. Massie of you never was with respect to the stock of the Asbestos Brake Company? A It was in respect to the general conduct and management of the Brake Liners business, and the expected relations with the Asbestos Brake Company, and he was to hold the stock as trustee.

Q Now, it did appear in the case, through the evidence of both Mr. Manville and Mr. Greenwood, that you on several occasions were in their office and were asking for action in the matter. How many visits and such requests did you make? A I haven't any idea; it extended over a period from 1912 to 1920, both in visits and various letters I wrote.

Q What satisfaction did you get? A He always wrote he was going to see Mr. Stokes, and I never heard nothing afterwards unless I saw him again or wrote to him.

Q Were you in a position, prior to the commencement of this suit, on your own initiative to employ counsel to compel action? A No, sir.

Q What was the pecuniary situation of the Brake Liners Company in that respect? A They had no money.

Q Were you able to, or was the Brake Liners Company able to, pay and employ counsel for that purpose prior to the commencement of this suit? A They were not.

*Cross examination* by Mr. Hardin.

Q Mr. Bonner, have you mentioned in the testimony thus far, all of the patents that you turned over, or that the Brake Liners Company turned over to the Asbestos Brake Company? A I have only been shown three.

Q How many did you turn over? A Two or three, and sufficient applications to make five, finally came to issue, which they now own.

Q Do you know what the other applications referred to besides these three you have mentioned are? A Yes, in a general way.

Q Do you know whether they have reached the patent stage? A The patents have been issued, and the patents are the property of the Asbestos Brake Company.

Q And if so, they are in evidence in this case? A I presume so.

Q What do they generally relate to? A One of them relates to a brake lining made of cloth, which has been impregnated with the pitchy petroleum residuum, and folded and stitched and put on the stretcher. I think that is specified last; I think it is friction first with rubber surface, and joined together by stitching and vulcanizing. The other patent is treating cloth, asbestos cloth, with a wire reinforcement.

*By the Court.*

Q Treating with a drying oil? A Treating with a drying oil, and the cloth then dried and then surfaced with rubber folded and stitched and vulcanized. The purpose of the drying oil in there was, to sufficiently bind it together, which rubber does not always accomplish, and so increase the strength and friction, as well as wearing value.

Q Were these patents or applications for patents, which the Brake Liners Company assigned, or did they represent inventions which had been tested out in use at the time they were assigned to this Asbestos Brake Company? A One of them, I think, had, the one that was treated with the drying oil, but not the one with the pitchy petroleum residuum.

Q That never has, has it? A I think not.

Q The one with the drying oil was tested out in use? A Yes.

Q Where? A Here. We manufactured that with the drying oil at the Empire for some little time, I think for a period of about six months or more, under the brand of "Embestos," I think.

Q What happened after six months. A I say six months; it perhaps, might have been longer, but they grad-

ually went out of the brake lining business; they expected to have been some factor in it, and I don't know; it's one of those things of general management as to whether they would continue or not, and they didn't push that in proportion to what they did the others; I don't know; my connection ceased with them in 1912.

Q The manufacturer of that particular invention of yours ceased also as far as you know? A Yes, as far as I know.

Q Had it been resumed anywhere, so far as you know? A Not to my knowledge.

Q Are there any other of these inventions that have ripened into patents, or are in commercial use? A I think we have named the five.

Q You have named them all? A I have named them all.

Q And these patents you have discussed with Mr. McCarter and that you have now discussed with me, represent everything by way of value that was turned over by the Brake Liners Company to the Asbestos Brake Company as a part of the participation of the Brake Liners Company in the organization of the four-party crowd? A So far as I know, yes.

Q Do you recall having brought the Hutchins' patent to the attention of Mr. Manville? A No, I don't remember whether I brought that to Mr. Manville's attention or not.

Q Do you remember having brought it to Mr. Parker-Smith's attention? A Mr. Massie brought it to his attention in an interference we were having at No. 2 Rector street.

Q Were you there? A Yes.

Q And you were present when Mr. Massie told Mr. Parker-Smith about this British patent? A I was present.

Q I show you "Exhibit D. 20," do you have any personal recollection of that letter from Mr. Bonner to Mr. Manville? A Why, yes; I recognize that.

*William T. Bonner, cross.*

Q You recall now that you brought the English patent— A Yes, I remember that it had been brought to his attention as I understood, before I ever took that up. I supposed, of course, that Mr. Parker-Smith would immediately bring it to his attention.

Q What made you think that Parker-Smith would bring the patent to Mr. Manville's attention? A Because he was Mr. Manville's patent attorney.

Q Of course, you intended when you spoke about it to Parker-Smith, that it should reach Mr. Manville? A I didn't speak about it to Mr. Parker-Smith.

Q Didn't I understand you to say you were present when Mr. Massie mentioned— A I didn't speak to Mr. Parker-Smith about it. Mr. Massie, my attorney, presented him with a copy of the British patent while I was present.

Q And you expected Mr. Parker-Smith to bring that to the attention of Mr. Manville? A I did.

Q You handed it to him for the purpose of bringing it to the attention of Mr. Manville? A I don't know; I expected it to be taken up by all parties concerned.

RECESS UNTIL 2 P. M.

AFTER RECESS.

Q You kept in very close personal touch, did you not, Mr. Bonner, with the matter of the inclusion of the Brake Liners Company in the proposed combination? A Yes.

Q And you didn't content yourself at all with leaving the whole matter to Mr. Massie? A Why, I think we both were in co-operation with each other in that.

Q You spoke about giving a power of attorney to Mr. Massie; you didn't regard that as divorcing yourself from any interest in the matter? A From a commercial standpoint, no.

*William T. Bonner, cross.*

Q It was your business and you looked after it accordingly? A It was, in part, mine.

Q Weren't you accustomed to keep yourself advised of the meetings of the Asbestos Brakes Company during the summer of 1911? A Yes, I think so.

*The Court.* You mean the directors' meetings?

*Mr. Hardin.* Yes.

Q You knew when they were taking place, and the character of the matters that were under discussion at the meetings of the directors during the summer of 1911? A Yes.

Q Did you attend any of the meetings? A Yes, I think I did.

Q And wasn't it Mr. Manville's custom to send you notices of meetings? A No, sir.

Q You got your information from Mr. Massie? A Usually from Mr. Massie.

Q Did you have any written communications with Mr. Manville during the summer of 1911? A I suppose so; we had been in more or less communication for some time previous to that and during and after that period.

Q Now, you recall you have told us about the meetings of November 14, 1911, at which you were present, and the reason you expressed to Messrs. Stokes and Manville at that meeting, of your inability to participate was because of the power of attorney you had executed to Mr. Massie? A I did.

Q Did you say anything on that particular occasion about the illegality of the meeting? A I did not.

Q You didn't dissent for any reason except you felt you were not authorized to represent your company on this occasion, because of this power of attorney? A I felt I had nothing to do with the meeting.

Q Was this power of attorney executed by the Brake Liners Company or by you personally? A That I don't recall.

Q When was the Brake Liners Company organized? A I think in 1909.

Q And was the power of attorney you have mentioned, given prior to the organization of the Brake Liners Company or afterwards? A That I can't recall. Whether it is before or immediately afterwards, I can't state.

Q You were president of the Brake Liners Company? A I was.

Q Who was secretary? A Mr. Houghton.

Q Who were directors? A Mr. McElroy, Mr. Houghton, Mr. Massie and myself.

Q Do you know whether Messrs. McElroy and Massie were associated together in patent practice? A They were, I think, at that time.

Q Under the firm name of McElroy and Massie? A Under McElroy and Massie, or Massie and McElroy, I have forgotten which.

Q I think you have told us you thought there was a meeting following the meeting of November 14th, a meeting of— A I don't recall making that statement.

Q Did you expect there would be another further meeting of the directors in the matters under discussion at that meeting? A I did expect there would be a meeting. I expected there would be meetings.

Q You didn't think they were finally disposed of by the assent of Messrs. Manville and Stokes, as expressed at that meeting? A No, sir.

Q You did get a notice, did you, of the January meeting following? A I did not.

Q Perhaps that will refresh your memory, if you will look at it (showing witness a paper). A That slipped my memory.

Q Does that refresh your memory? A Yes, that refreshes my memory.

Q Do you recall replying to that letter? A I do not.

Q Will you look at that (handing witness paper) and see if that refreshes your memory? A Yes, sir; it does.

Q Mr. McElroy was not a director of the Asbestos Brake Company, was he? A He was not.

Q What did you mean by the suggestion that Messrs. Massie and McElroy should represent your company at the coming meeting of the directors?

*Mr. Hardin.* I will withdraw the question and read the letters.

Mr. Hardin reads the letters and offers them in evidence.

Said letters, one written by the H. W. Johns-Manville Company to Mr. William P. Bonner, dated January 6, 1912, referred to on the previous page to refresh the witness' recollection; and the other letter from Mr. Bonner to T. F. Manville, dated January 8, 1912, are marked "Exhibits D. 40 and D. 41," respectively.

Q Had you, before that time, heard anything further with reference to consultation of special counsel with reference to the prosecution of suits for infringement against outside infringers? A I don't remember.

Q Was there discussion at this meeting of November 14th, of the employment of special counsel? A Not as special counsel, but someone to inquire into the validity of the patents.

Q And do you know what particular special counsel it was? A Well, in the discussion Mr. Penny's name was suggested.

Q Did you make any subsequent objection to the employment of Mr. Penny? A No.

Q Did you talk to anybody on the subject—either Mr. Manville or Mr. Stokes—with reference to the futility of such a course? A I don't recall.

Q For the purpose of refreshing your memory, I refer you to a letter which I find in the so-called secretary's file, addressed by you to Mr. Massie; that letter is in your handwriting? A It is.

(Mr. Hardin reads letter from Bonner to Massie, dated 12/17/11.)

Q You remember writing that letter? A Yes.

Q Now, the desired end was to get all of the outside manufacturers of brake lining to come in and take licenses? A That was the general desire, I think.

Q What was the desired end that you refer to in your letter? A The desired end, as referred to in the letter, was to get all those we possibly could in.

Q Now, Keasby and Mattison you specifically mention, they were very large operators? A They were.

Q Did you talk to Mr. Bonner directly about this opinion of yours, and that it was not any use to get any preliminary opinion from counsel? A I might have, I don't recall it.

*Mr. Hardin.* I offer the letter in evidence.

Said letter is marked "Exhibit D. 42," being the letter from Mr. Bonner to Mr. Massie, dated 12/17/11.

Q You do recall, do you not, that there was finally a suggestion made, that instead of getting an opinion of outside counsel, that the four lawyers who had represented the four different interests, should be asked to take up the matter for the purpose of an opinion? A Yes.

Q And you learned of the action of the directors at their January meeting, which seems to have been held the 17th of January, 1912, resolving that the four attorneys of the company be authorized to consider the question of whether suit should be brought on the patents? A I wasn't apprised of it directly; I may have heard of it through Mr. Massie.

Q You were subsequently advised of the opinion? A Yes, I was subsequently advised of the opinion.

Q You got that promptly after it was rendered? A I don't recall.

Q Your recollection would be, that Mr. Massie kept you informed of what was going on? A My recollection is, that there wasn't a great deal of correspondence passed between Mr. Massie and myself in 1912, and he may have informed me promptly, or he may have not.

Q The opinion is dated January 29; the testimony in the case, as I recall, is, that it was passed around between counsel and not finally delivered before February. Can you give us any idea of when you got that opinion? A No, I could not.

Q You had other matters, did you not, besides the Asbestos Brake Company matters, in which you were in communication with Mr. Manville? A Yes, some business between Mr. Manville and myself in regard to a Canadian patent on brake lining.

Q And some of the correspondence and some of the interviews between you related to that matter? A A great many of them, yes.

Q And that resulted in the purchase by Mr. Manville of your Canadian patent? A Yes.

Q For how much money? A It was to have been for $500; there was $250 paid on it, and when I signed the receipt for that, there was a clause in there reserving the other until a decision by the Canadian courts in favor of it should be sustained.

Q Did you keep copies of your letters to Mr. Manville? A When possible I did; when written by hand, I did not.

Q And did you keep the letters that Mr. Manville wrote to you? A As far as possible; a good many have been lost in that time that has elapsed.

Q I find that I have in my possession a letter from you to Mr. Manville, or what seems to be a letter from you, to

Mr. Manville, dated February 3, 1912, and what purports to be a reply thereto of February 5. Just look at those; they have entirely to do with the Canadian matter and have no reference to the subject of this litigation? A Yes; it has no connection with the present case.

Q Perhaps I can refresh your recollection as to when you heard about the opinion of counsel, by referring you to a letter which I find in this secretary's file, which seems to be, and I take it is, a copy of a letter written to you by Mr. Massie (handing witness the file). A Yes, I recall that letter now.

Q You were at once advised? A Yes, I was at once advised.

*Mr. Hardin.* I offer the letter in evidence.

Said letter to William T. Bonner, dated February 28, 1912, is marked "Exhibit D. 43."

(Mr. Hardin reads letter.)

Q Had you been familiar with the efforts made during the summer of 1911 to induce people to come in? A To some extent.

Q You knew that formal notice had been sent, formal requests, to consider the license of the Asbestos Brake Company to many different manufacturers? A I was informed of that fact.

Q After receiving that letter from Mr. Massie enclosing the opinion, do you know whether any further efforts were made to bring outside people in? A No, I don't.

Q Did you hear of any further meetings of the directors of the Brake Company after the January meeting of 1912? A I did not.

Q You continued to be in touch with Mr. Massie? A Yes, from time to time; not so often as I had previous.

Q And with Mr. Manville? A And with Mr. Manville.

Q And possibly with Mr. Stokes? A No, I don't think I was in communication with Mr. Stokes, to the best of my recollection.

Q Going back for a minute to the meeting of November 14, you received notice of that meeting in advance of it, did you not? A I think I did.

Q And you inquired before the meeting where it was to be, so that you might attend? A I knew it was usually held at Mr. Manville's office.

Q Well, you were specifically informed by Mr. Massie, were you not, that the meeting was to be— A Yes.

Q The time and place you were notified of? A Yes, sir.

Q Can you give us any idea of the time with reference to February 28, 1912, when you received a copy of this opinion and intimation from Mr. Massie that there would be, probably, a further meeting of the directors; can you give us an intimation of the time when you yourself next called anybody's attention to the matter of the Asbestos Brake Company? A No, but I think it must have been sometime during the early part of that year, possibly in the spring.

Q Of? A 1912.

Q I find that I have a letter, two letters, in fact, from you to Mr. Manville, dated August 26, 1912. Can you recall any communication with Mr. Manville between March 1st or February 28th, and those letters? A No, I can't; all of these letters apparently were written without copies.

Q One of these letters refers only to the Canadian patent? A Yes, sir.

Q The other relates to the Asbestos Brake Company matter? A Yes.

Q You recognize it as in your handwriting? A I do.

*William T. Bonner, cross.*

*Mr. Hardin.* I offer that in evidence.

Said letter is marked "Exhibit D. 44."

(Mr. Hardin reads said letter.)

Q There again the thing desired by the company was to bring in these outside infringers, as before? A That was evidently the thought in mind.

Q That letter was a reply by Mr. Manville on August 28, 1912 (handing witness paper)? A Yes.

*Mr. Hardin.* I offer that letter in evidence.

Said letter from H. W. Johns-Manville Company to Mr. Bonner, dated August 28, 1912, is marked "Exhibit D. 45."

(Mr. Hardin reads said letter.)

Q Do you recall whether you acted upon Mr. Manville's suggestion that you talk to Mr. Stokes? A I don't recall it. Mr. Stokes was J. O. Stokes, the president of the Asbestos Brake Company, who was in New York most of the time.

Q You don't remember talking with him? A Yes, I may have talked to him during the interval, but I can't recall the date. I have seen him several times in the last seven or eight years.

Q You can't recall you took the matter up at all? A No.

Q Do you know where Mr. Massie was? A I don't know; Mr. Massie has been in the habit of taking quite long trips at times, and he was often away from Washington.

*Mr. Hardin.* I offer in evidence a letter from Mr. Manville to Mr. Massie, dated May 14, 1912.

Said letter is marked "Exhibit D. 46."

(Mr. Hardin reads "Exhibit D. 46.")

*William T. Bonner, cross.*

*Mr. Hardin.* There was a reply to that letter by Mr. Massie, under date of May 17th, 1912, and I offer that in evidence.

Said letter is marked "Exhibit D. 47."

(Mr. Hardin reads said letter.)

*Mr. Hardin.* I have another letter, which is dated July 4, 1912, preceding this letter of August 26, "D. 44," from Mr. Massie's office, addressed to the Johns-Manville Company, under date of July 4, 1912. I offer that in evidence.

Said letter is marked "Exhibit D. 48."

(Mr. Hardin reads "Exhibit D. 48.")

Q I find I have a letter from you to Mr. Manville, dated December 4, 1912; do you recall any communication on your part from August to December? A No, I don't.

Q Do you remember that letter (showing witness letter)? A I can't recall that I wrote it.

Q (Counsel shows witness another letter.) Do you recognize that is a copy of the answer you received? A Yes.

*Mr. Hardin.* I offer those letters in evidence.

Said letters, one from Mr. Bonner to Mr. Manville, dated December 4, 1912, and the other, a reply thereto, dated December 6, 1912, are marked "Exhibits D. 49 and D. 50," respectively.

(Mr. Hardin reads said letters.)

*Mr. Lowthorp.* I move to strike out this reference to the letters from the record. It is simply taking up the time.

*The Court.* I am inclined to admit the entire course of correspondence between Mr. Bonner and Mr. Manville; it has to do with the issue of laches or acquiescence.

*William T. Bonner, cross.*

*Mr. Lowthorp.* I have no objection to the whole correspondence going in.

Q Will you look at this and see whether you recognize the papers as letters you have written and received? A These are all—I admit those; I acknowledge those.

Q The reply to the last of these letters is dated July 3, 1913; do you recall any other letters than those I show you, as passing between Mr. Manville and yourself, from the date—from August, 1912? A From October or from September 15, 1912, until the spring of 1918, my business was in Canton, Massachusetts, and what correspondence was in that interval was conducted from there; and before that, coming home week-ends, I would drop in and see Mr. Manville in New York and see what was to be done. In place of correspondence I kept up a contact with him during the interval of years.

Q Do you recall any letters down to this date of July 3, 1913, passing between yourself and Mr. Manville? A Yes, I think I wrote him sometime in 1916.

Q I haven't got to 1916; you have examined your files of letters to see what you have? A I had no file; everything was bunched in packing cases. I only searched to find what I could.

Q You have made an effort to find what you could? A I have.

*Mr. Hardin.* I offer in evidence the letter from Mr. Bonner to Mr. Manville, dated January 25, 1913; the reply, dated January 27, 1913, and a letter from Mr. Bonner to Mr. Manville, dated June 29, 1913, and the reply of July 3, 1913.

Said letters are marked "Exhibits D. 51, D. 52, D. 53, D. 54," respectively.

Q You have made reference to a letter in 1916; do you remember any letters between 1913 and 1916, to or from Mr. Manville? A No, not specifically; they may have

been, but they are not in my mind at this time—any specific instances.

Q What was the date of this letter in 1916, to which you refer? A I don't know what part of the year that was written in.

Q Have you got it? A I think it is in our files.

Q Is it here? A I don't know.

*Mr. Hardin.* Is it here?

*Mr. Lowthorp.* Not to my knowledge; I don't know anything about it.

*Mr. Hardin.* Is there any reply to it here?

*Mr. Lowthorp.* I don't know of any; we don't seem to have it. Here it is (producing letter).

Q I am handed by counsel for complainant what purports to be a copy of a letter from Mr. Bonner to Mr. Manville, dated October 14, 1916; will you look at that, please? A (Witness examines letter.) Yes, I recognize that as a copy.

Q Is that the letter you had in mind? A Yes, that's the letter I had in mind.

Q And did you receive a reply to that letter? A I think there is a letter from Mr. Manville attached to that letter; there are two, one to explain his absence, and another by Mr. Manville himself; as usual, he referred the matter to Mr. Stokes, and I heard no more from him.

*Mr. Hardin.* I desire to offer these three letters. Said papers, one being a copy of a letter from Mr. Bonner to Mr. Manville, dated October 14, 1916; another, a letter from the H. W. Johns-Manville Company, signed by George C. Readbrook, and dated October 23, 1916; and the other, from Mr. Manville to Mr. Bonner, dated October 25, 1916, are marked "Exhibits D. 55, D. 56 and D. 57," respectively.

Q That letter has a lead pencil signature? A That is my signature in lead pencil.

Q Is that your own handwriting? A That is my own handwriting; I generally make it a practice to sign or initial my carbon copies to put away.

Q Now, do you recall any other letters? A I don't; yes, those that I wrote in 1920 or 1919, which you have placed in evidence here, I think.

Q Those letters were the letters written shortly before this litigation was instituted? A Yes, that you read into your last argument in relation to the receivership.

Q You recall no written communication passing between yourself and Mr. Manville with reference to this? A If there is any between 1916 and '19, you mean?

Q Yes. A I don't recall any between those dates. There might possibly have been; I probably saw him in New York.

Q The 1919 letter was only written in August? A In July I think it was written, July 12th, if I am not mistaken.

Q Now, you talked with Mr. Manville many times, too, on the subject in the meantime? A Yes, I have seen Mr. Manville may times in the interval.

Q And was the subject of your conversation of the character in these letters generally? A That is the general character; couldn't something be done.

Q All looking to bring in the outside people under the patents of the Asbestos Brake Company? A Getting the thing in shape by which we could get some money out of it.

Q The desired object, as expressed in the letters, was, to get in the outsider, Keasby and Mattison and others, so that they might contribute according to the original plan? A That was my idea.

Q The letter of July 9, 1919, is that a copy of it? (Handing witness paper. ) A That is the original, I take it.

Q You got a reply to that letter? A I did.

Q Is that it? (Handing witness another paper.) A That is a copy of the reply.

Q And is this another letter from you? (Handing paper to witness.) A Yes, that is mine, also.

Q And is this (another paper) still another from you? A That is mine.

Q And is that a reply? (Handing witness still another paper.) A Yes, I received the original of that.

Q And you wrote still another on August 2nd? (Showing witness paper.) A That is mine.

Q Did or did not a meeting result out of this correspondence? A There was no meeting.

*Mr. Hardin.* I offer them in evidence.

Said letters, one from Bonner to Manville, dated July 9, 1919, and the reply thereto, dated July 10, 1919; another, from Bonner to Manville, dated July 16, 1919; another, from Bonner to Manville, dated July 30, 1919, and the reply, dated July 31, 1919; and another, from Bonner to Manville, dated August 2, 1919, are marked "Exhibits D. 58 to D. 63," inclusive.

Q Do you recognize a letter in this secretary's file, purporting to be written by you to Mr. Massie, dated August 30, 1911? A Yes, I recognize that as my handwriting, and I also recognize that as my handwriting (indicating).

*Mr. Hardin.* I offer that in evidence, letter from Bonner to Massie, dated August 30, 1911.

Said letters, consisting of three sheets of handwriting, is marked "Exhibit D. 64."

Q Did you have anything to do with the Hammerstrom negotiations? A I don't know what you refer to.

Q In the summer of 1911, there was some talk of having Mr. Hammerstrom as manager of the Asbestos Brake

Company? A I remember hearing that discussed by Mr. Massie.

Q You had no part in that? A No, I had no part in that.

*Re-direct examination* by Mr. Plant.

Q Mr. Bonner, I want to go back to the time when you first came into the Asbestos Brake Company, when you first began the negotiations. Isn't it a fact, that the pre-corporate agreement of September 22, 1910, had already been executed? A I don't know; I can't answer; I should say—

Q Don't you recall that the agreement under which your Brake Liners Company came into this organization, was in the following spring, in March, 1911? A Yes, we came in subsequent to the tripartite agreement.

Q I think that I am correct in saying, that when you went into the negotiations, the original pre-corporate agreement had been executed? A Yes, I suppose negotiations began about that time; I don't know the dates.

Q When you entered into the amended agreement of March, 1911, you knew of the pre-corporate agreement? A Yes.

Q And you knew of the provisions contained therein? A Yes.

Q You saw the form of license attached to the pre-corporate agreement? A Yes.

Q Now, did you consider those license agreements and the moneys that would flow from them into the coffers of the Asbestos Brake Company when you came to enter into the agreement with the Asbestos Brake Company of March, 1911? A Yes, sir.

Q That was one of the inducing causes, was it not? A Yes.

*Mr. Hardin.* That is objected to.

Q Was it or was it not, an inducing card?

*Mr. Hardin.* That is objected to as leading, and the document speaks for itself.

Q At any time before the agreement of March 11, when your Brake Liners Company came into this organization, was any intimation given to you by anyone, any attorneys or parties connected with this Asbestos Brake Company, that there was any condition attached to this license agreement? A No, sir.

Q Did you rely upon those license agreements? A I did.

Q Now, referring once more to the patents, what is the construction of the brake lining which is in common or commercial use at the present time? A There are two types in general commercial use; one type is known as woven or braided, and the other is folded or stitched, made in the form of belting.

Q Which predominates in the market? A The woven, tape type.

Q Is that the same construction as under the Coleman and Hoff patents? A Both contain wire reinforced asbestos.

Q So I am correct in saying, am I not, that there is no other construction in commercial use except what would be under the Coleman and Hoff patents? A I know of none that is not common in one or the other, or both.

Q You have been in the business for many years? A I have been engaged in friction engineering for twelve or fifteen years, in connection with that; that has been a part of my business.

Q Has the Coleman invention, as improved by the Hoff invention, ever come into use for stationary engines? A For what?

Q For stationary engines. A For stationary engines?

Q For stationary engines, yes. A In some instances, yes.

*William T. Bonner, re-direct.*

Q The Cutting and Jewett block, is that in general or commercial use for automobile brakes; has it ever come into such use? A Not upon the average type of automobiles; it might in isolated cases on heavy trucks, but I have never seen one in operation.

Q Now, as I understand it, you tried, after May, 1912, to procure some action by the Asbestos Brake Company; is that correct? A That is correct.

Q And it was with that in view that you wrote the various letters that have been introduced in evidence by Mr. Hardin? A That was my purpose in writing.

Q Did you ever receive any letters from Mr. Manville, to whom you addressed your communications, authorizing you to do anything, as you request in one of your letters permission to do? A No, sir.

Q Did you have any funds to do anything with? A I did not.

Q Were any funds supplied you by Mr. Manville or Mr. Stokes, or any other officers of the Asbestos Brake Company? A No, sir.

Q Now, I am now referring to a letter written by you to Mr. Manville, of October 14, 1916, in evidence as "D. 55;" do you recall that letter? A Yes, I do.

Q What was your situation at that time? A I was then in Canton; I had developed a process of the extraction of crude rubber from scrap fibres, and had put up a plant for that purpose in connection with the Plymouth Rubber Company in Canton, and I was also operating that place for them, and some other stock brokers in Chicago were very insistent that they would use my name in the organization of the new rubber company, embodying the use of asbestos in part of the construction of tires. It appeared to me to be responsible, as they had floated another company, and I gave my permission to do so; and after negotiations had progressed to where I thought a satisfactory conclusion, I suggested we might possibly get hold of the Asbestos Brake Company, as no one seemed

to be doing anything with it, and see what we could do in enforcing the patents in that company; and it was with the object in view that I wrote Mr. Manville on that date.

Q Was that the object you had in referring to a new license to be issued to the Thermoid and Manville Companies? A Yes, as a means of compensation for obtaining the company.

Q And you were to get their stock in the company? A Yes.

Q This letter which you have written was not written, was it, for the Brake Liners Company? A Oh, no, absolutely independent; simply with an idea that if I could get any approach out of Mr. Manville, I would take it up with the rest of them; it was absolutely independent. I was acting as an individual.

Q Is that true, also, of a letter which was written to Mr. Manville in July, 1919? A It was.

Q Containing a similar proposition? A It was.

Q Are you familiar with the products of the Thermoid Rubber Company? A No, only in a general way.

Q Have you seen their asbestos fabric for brakes? A Yes, sir; and also their finished brake bands.

Q Do they contain the invention of the Hoff and Coleman patents? A They have both, with the wire reinforced asbestos and binder.

Q And the Manville Company, do they also combine the Hoff and Coleman inventions? A They do.

*Re-cross examination* by Mr. Hardin.

Q The Brake Liners Company has never been active in the manufacturing business? A It has not.

Q It is a paper company? A A holding company, holding patents.

MITFORD C. MASSIE, being recalled on behalf of the complainants, testified as follows:

*Direct examination* by Mr. McCarter.

Q You have already been sworn? A Yes.

Q It is stated on page 69 of the record in this case, by Mr. Stokes, that before and after the licenses were signed by the Thermoid and Johns-Manville Companies, respectively, it was stated by Mr. Stokes and Mr. Manville to all the parties, including yourself, that the only object in signing the license agreement was to have a moral effect, inducing other licenses to be signed or procured, and that the license agreements were only to become effective when such other licenses were procured. Was any such statement as that ever made in your presence by either Mr. Stokes, Mr. Manville or anybody else? A Never.

Q The same witness says, on page 71, that it was further stated and agreed to by you all, that the Johns-Manville and the Thermoid people were to be permitted to manufacture, but it meant they were not to pay any royalties until the Asbestos Brake Company were able to have other companies recognize the patents. Is that a correct statement of the situation, or was there any such statement made at the time the licenses were designed, in your presence? A I never heard of it.

Q Did you advise, or did you hear any other attorney advise the company, the Asbestos Brake Company, that if the company prosecuted anybody for infringement, that they would be in danger of bringing in the alleged violation of the Sherman Act? A Never.

Q It was testified yesterday by Mr. Parker-Smith, referring to "Exhibit D. 19," which is the opinion signed, or purporting to be signed, by the four attorneys, including yourself, that the clause in that opinion, which reads as follows: "If no licenses were outstanding during the prosecution of a suit on those patents, except those taken

by the constituent interests, the defendant might say that we had merely pooled a lot of worthless patents under which we pay licenses into our own pockets, and were trying to dominate the trade by such combination, but if a number of disinterested outsiders had taken licenses previous to the institution of the suit, and were paying considerable royalties to your corporation, it would create a situation that might well influence the Court in favor of the patents in considering any doubtful points that might arise on the question of validity." Did you, in signing that opinion, or in authorizing it to be signed, and in concurring in its conclusions, mean by that clause to refer in any way to the Sherman Act? A No, sir.

Q Now, was the Sherman Act a subject of discussion between you four gentlemen immediately before the time when this opinion was prepared or signed? A I don't remember any such thing.

Q Mr. Manville, on page 164, testified as follows: "Ques. Will you tell us, please, what was said by yourself and by the other gentlemen with reference to this license agreement at this meeting of May 3rd, at a meeting between Mr. Hubert, Mr. Massie, Mr. J. O. Stokes and Mr. Manville? Ans. When these license agreements were presented at this meeting, I called attention to the fact, which we had discussed many times, that they all understood the reason for this license agreement; the condition of the trade as to profits was very difficult; we knew we couldn't induce anybody to come in and accept these license agreements, except the Johns-Manville Company and the Thermoid Rubber Company, and accept licenses under this agreement; we knew very well, that if we should undertake— Ques. Is this what was said? Ans. That is our conversation; I made this statement; we all understood— Mr. McCarter. Objected to. Ans. I understood— Mr. McCarter. I object to that. The Court. The witness is saying what he said. Ans. They fully realized that for us to put that agreement into force would

be suicidal—for anybody to sell goods under this new schedule and pay a royalty. We obtained nothing by signing this agreement, and nothing was to be followed out unless we could get the signatures of other manufacturers, unless we could get them to come in and increase the price list and have a uniform selling price—nothing was to be accomplished unless we could get the consent of other manufacturers to come in, increasing the price list, and to have a uniform selling price, there was no incentive for Mr. Stokes or myself to sign this agreement." Did any such conversation occur in your hearing? A There was not.

Q On page 176, Mr. Manville said, in reply to an interrogation by the Court, having already testified as follows: "Mr. Massie came to my office in reply to a letter. I said I wanted that note paid; at that time he stated he didn't have the money and didn't know when he could pay it. I then called attention—he spoke of the Asbestos Brake Band Company and what had happened to it. By the Court. What did you say? Ans. He said he realized—Ques. No, you said you spoke of the Asbestos Brake Band Company and what had happened to it. Did you merely say, 'Well, you know the Asbestos Brake Band Company and what has happened to it;' or, did you say anything particular as to what had happened to it? Ans. Yes, that it could not—that we were unable—I said, 'You know, Mr. Massie, we were unable to do anything with the Asbestos Brake Band Company on account of our finances, and on account of the legal complications in connection with the Sherman Act;' this he said he understood was true; that is all the conversation relating to that point." Was any such remark as that made by Mr. Manville, in your presence, and did you make any such reply, and did you understand that was true, that the company could not do anything because of financial complications and legal complications in connection with the Sherman Act? A Absolutely not; it is false from beginning to end.

Q On the same page, 176, Mr. Manville continues: "Ques. Now, how long or how often did you talk with Mr.

Massie on this subject? Ans. I am unable to recall; I think at least two or three times. Ques. To the same effect? Ans. Yes, sir." Did he have any two or three such talks with you, Mr. Massie? A On that subject?

Q Yes. A Never at any time.

Q Mr. Manville, on page 198, was asked: "Ques. Did you tell Mr. Parker-Smith that it was understood that it wasn't to be binding? Ans. Yes." (That is the license agreement.) "Ques. Why didn't you have that put in there? Ans. It would have spoiled the entire effect of the license. Ques. Why didn't you have another paper with that in? Ans. It was a gentlemen's agreement; we all understood what it meant. Ques. Mr. Bonner understood it? Ans. Yes. Ques. Mr. Massie understood it? Ans. Yes." Did you so understand it, Mr. Massie? A I certainly did not.

Q Did you have any particular inducing cause, Mr. Massie, for recommending going into the Asbestos Brake Company? A Certainly.

Q What was it? A Why, here were two companies already manufacturing brake linings that were already paying royalties, and we would have an income at once.

Q Did you ever see Mr. Manville between the meeting of January 17, 1912, and when he appeared in this court room? A My recollection is, that I did not. There is a case of one meeting on a matter between Mr. McElroy and himself, that was about that time; I don't know whether it was just after January 17th or just before, but I haven't seen him since then until he came in this court room.

Q Was anything said at that meeting about that $300 note—the meeting that you have just referred to with Mr Manville? A No. I would like to explain about that note; it was a note of the Brake Liners Company that was given for its share of the preferred stock, and it was understood it was to be paid out of its share of royalties. As there wasn't any royalties, the note came due and Mr.

Manville wanted it, and we told him it was to be paid out of the royalties. As a matter of fact, there was one renewal of it, and sometime prior to that last meeting it became due again, and he refused to pay it; it wasn't my note. Mr. McElroy called to see him, not about the note, but some independent personal business in relation to some chemical matter.

Q I show you a copy of a letter in this file from you to Mr. Manville, dated August 23, 1911; please look at it and see if you sent such a letter to Mr. Manville? A Yes, the letter seems familiar to me; I think I wrote that.

*Mr. McCarter.* I offer that letter in evidence.

*Mr. Hardin.* No objection.

Said letter is marked "Exhibit C. 22."

(Mr. McCarter reads letter.)

Q Now, I want to call your attention to a letter of March 27, 1912, from Mr. Manville to yourself; did you receive this letter from Mr. Manville, dated March 27, 1912, which is in the files? A Yes, sir.

*Mr. McCarter.* I offer that letter in evidence.

Said letter is marked "Exhibit C. 23."

(Mr. McCarter reads letter.)

Q Did you reply under date of March 28th, the very next letter, as there indicated? (Showing witness paper.) A Yes, sir.

*Mr. McCarter.* I offer that in evidence.

Said letter is marked "Exhibit C. 24."

(Mr. McCarter reads letter.)

*The Court.* Those letters appear in the files of correspondence of the Asbestos Brake Company?

*Mr. McCarter.* Yes, sir.

*By the Court.*

Q They were written, then, as secretary of the Asbestos Brake Company? A Yes.

*Mr. Hardin.* That does not follow; there is a lot of personal correspondence there.

*By the Court.*

Q What is the fact? A I have tried to preserve the distinction between the letters of the company and something that might be considered private matter; sometimes it would be hard to decide, or the clerk in filing away the letter might get in an extra letter.

Q These carbon copies do not contain any indication as to how they were signed? A No.

Q Did you ever receive any authority from the Board such as spoken of in that letter? A I never did.

Q Did you make any effort to induce a Mr. Mattison to become a licensee? A No.

Q Did Mr. Mattison ever give any reason why he would not become a licensee? A I never met Mr. Mattison; I don't know anything about it.

Q Did you have any complaint from proposed licensees whom you approached, or reasons given that you can recall, why they would not take licenses with reference to Mr. Manville? A I remember that there were some of the people that I met that were acquainted with Mr. Manville, and they said they objected to going into any company with which he was connected; and when I said that he was merely the treasurer of the thing, they snorted and laughed, and said that Manville wouldn't keep any agreement, anyway, and it was no use going into it.

Q Do you know anything about the appointment of Mr. Hammerstrom? A Not of the appointment, but of the attempt to have him appointed. Mr. Stokes had some sort of a plan based on the proposition that Mr. Hammerstrom was very familiar with this proposition, and I wasn't; and that they ought to employ him and let him look after this matter. His proposition finally came around to the point that the patents were to be assigned

to Mr. Hammerstrom as a trustee, and he was to run the business, and he was to be guaranteed $5,000 a year and a certain percentage of the profits, and Mr. Manville objected to that.

Q Was Mr. Bonner, or the Brake Liners Company able to pay you, Mr. Massie, for the legal services that would have been necessary during the next few years to have compelled the performance of these agreements? A Absolutely not; they had no money at all. The few trips that I made to New York to the meetings, the expenses were paid by Mr. McElroy privately, and after awhile he got tired of advancing that money, and it was a case where there was no money for doing anything.

Q So you attended to your other legal business? A Yes, I had to.

Q When you signed, or authorized the signature of your name to the four-counsel opinion of January 29th, what patents did you, personally, rely on as being valid and effective patents? A I considered, of course, the Bonner second application, or patent on the second application, naturally as being absolutely valid; there was no question in my mind about that. As to the Hoff patent, I was convinced by the argument of the gentlemen there, that that was perfectly valid. As to the Coleman patent, I always maintained that there were two of the claims in there that were too broad, in view of the prior art; and as to the other claims, I considered they were valid and good enough to protect the situation. I didn't consider the other patents, because they were too trivial.

*Cross examination* by Mr. Hardin.

Q Mr. Massie, do you remember this letter of August 23, 1911, to Mr. Manville, which was marked "C. 22," to which Mr. McCarter directed your attention with reference to giving some licenses to the outsiders? A In a general way, I remember I wrote such a letter, or at least, it seems familiar.

Q This letter is dated August 23, 1911; wasn't that action which you recommended in that letter, ripened into

formal action of the directors at the meeting held on August 29, 1911, a few days later? A Unless I had the minutes of that meeting I wouldn't be quite sure.

Q I show you this paper, that is supposed to be a copy of the minutes? A I don't believe I understand you on that, Mr. Hardin.

Q I understand this letter to refer to— A I think that was on the same subject.

Q An intended action in accordance with your recommendation? A I think so, yes.

Q Now, have you any letters to or from Mr. Manville since January, 1912? A I think so, but I believe they are all on that file.

Q Have you written him any letters since March, 1912? A I think that there were some letters from him, and they have been answered. I am depending on the file there.

Q I put in some letters relating to a formal meeting or suggested meeting in the summer of 1912, about the time of your absence in Europe. I introduced in evidence a letter, "D. 46," from Mr. Manville to you with reference to a meeting of the company, this letter being dated May 14, 1912; and your reply, which is "D. 47," of May 17, 1912. I also introduced in evidence a letter from your office with reference to your absence in Europe, which was "D. 48." I should like to pick up, if I can, any correspondence between you and Mr. Manville with reference to the Asbestos Brake Company matters that has not already appeared in evidence. I call your attention to the fact that I have two letters which are not in evidence, and which I do not consider of sufficient importance in this matter, except for the purpose of exclusion, and so far as I know, those are all the letters which are not already in evidence. What I want is, to get at your recollection whether there are any communications passing between yourself and Mr. Manville after March 7, 1912, other than those to which your attention has been di-

rected? A I have no recollection of anything unless it is there in that file.

Q And if there was anything, it related, so far as you can recall, to formal matters. Do you recall any letters that you have written to Mr. Manville? A No, I don't. I am simply in a position that I won't say that there might have been a letter or two, but I think not, unless they are in that file.

Q You don't know of any communication, oral or written, with reference to the Asbestos Company— A I am sure there are none oral, but there might have been one more or so, but I think that is about all.

FRANCIS C. LOWTHORP, a witness produced on behalf of the complainants, being duly sworn, testified as follows:

*Direct examination* by Mr. McCarter.

Q Mr. Lowthorp, as already appears in the case, you are the Francis C. Lowthorp who was active in the formation of this Asbestos Brake Company? A Yes, sir.

Q It has been testified to quite positively by both Mr. Manville and Mr. Stokes, that you were present at a meeting of November 14, 1911, and were aware of what transpired thereat, and at the meeting gave some advice. I ask you whether or not it is true that you were present at that meeting? A It is not true; I was not present at that meeting.

Q Mr. Stokes testified that you and he went over on the train together from Trenton to New York; is that a fact? A It is not a fact.

Q Are you able to tell his Honor, the Vice-Chancellor, where you were on that day? A Yes, I am.

Q Where were you? A In Cincinnati, Ohio.

Q What have you been able to find that refreshes your recollection upon that point? A I find in my day book covering that period—

Q Which you hold in your hand? A Which I hold in my hand—the statement that on Saturday, the 11th of November, 1911, I started for Cincinnati to try the appeal of the Sheffield Car Company *vs.* Frank P. D'Arcy, in the United States Circuit Court of Appeals for the Sixth Circuit. I find then following the next item, Monday, 13th; Tuesday, 14th; Wednesday, 15th; Thursday, 16th; Friday, 17th, and Saturday, 18th, Sheffield Car Company *vs.* D'Arcy in Cincinnati, with a *per diem* charge and expenses.

Q So, that you didn't get back to the vicinity of Trenton until when? A I didn't reach Trenton, until, as I remember it, about two or three o'clock on Saturday afternoon—on Saturday, the 18th.

Q The 18th of what? A The 18th of November. I might state, that I have here a certified copy of the minutes pertaining to my presence in Cincinnati in court, signed and sealed by Mr. Arthur B. Mussman, Clerk of the Circuit Court of Appeals. The items were taken from the Court minutes. The first is, "Order entered November 13, 1911. On motion of counsel, Mr. Francis C. Lowthorp, of Trenton, New Jersey, and Mr. Hugh K. Wagner, of St. Louis, Missouri, are admitted to practice in this court." The next entry is on November 16, 1911, "The Sheffield Car Company *vs.* Frank P. D'Arcy, No. 2155, before Warrington, McCall and Sanford, Judges." "This cause is argued in part by Mr. Francis C. Lowthorp for the appellant, and is continued until tomorrow for further argument." The next is an entry of November 17, 1911, "The Sheffield Car Co. *vs.* Frank P. D'Arcy, No. 2155, before Warrington McCall and Sanford, Judges. This cause is further argued by Mr. Francis C. Lowthorp for the appellant, and by Mr. Fred L. Chappell, for the appellee, and is submitted to the Court."

*Mr. McCarter.* I offer that certified copy of the minutes in evidence.

Said paper is marked "Exhibit C. 25."

A I might state, my client had been defeated in the District Court of the Western District of Michigan, and that unless the Court could be reversed on appeal, my client was in a condition to be ruined by virtue of the alleged infringement he had been guilty of. I took the appeal, and on either Friday night, the 10th of November, 1911, or Saturday morning, the 11th, I received a telegram from the Clerk of the Court, informing me that I would best be there on Monday morning following, because of the probability of my appeal coming up. It was found that two cases preceded me on the calendar, which were likely to be settled or go off for the term. I took the Chesapeake and Ohio express at 6:35 Saturday evening, and reached Cincinnati at about half-past four Sunday afternoon, and went to the Gibson House and obtained a room, and the next morning attended court. I met my friend, Robert Parkinson, of Chicago, in court, and he moved my admission for practice in court.

Q You were there all that week? A I was there every day, and in that court room most of the time for fear my case would go on.

Q When did you first learn of what transpired, or purported to have transpired at the so-called meeting of November 14, 1911? A I first heard it in a rather uncertain way sometime in July; late in July or early August, of the year 1919.

Q And when was your information made certain with reference to the occurrence? A Well, I might say it was not made absolutely certain as to all the facts of the occurrence until the testimony of Mr. William J. B. Stokes was given here on the 14th of last July in Court. I never had seen the resolution; I had seen what purported to be a copy of the resolution of rescission, as they called it, and I inspected some papers Mr. Plant had shown me, but I was not sure that was a correct copy until I saw the minute book on the 13th of July; and I never knew positively that Mr. William J. B. Stokes was there instead

of Mr. J. O. Stokes, until he admitted it on the 14th of July.

Q The information you received from Mr. Plant was after the commencement of this suit? A Yes, some time.

Q Were you at the meeting of May 2, 1911? A Yes, sir; in Trenton.

Q Was anything said at that meeting about the delivery of the license agreements being conditional or subject to any gentlemen's agreement, or any condition that they would not be binding or valid unless licenses from outsiders were obtained? A No, sir; nothing of the sort.

Q Or was anything of that kind stated at the meeting at Mr. Hubert's office in New York on the 3rd of May? A Not in my presence, sir.

Q What position did you have in the Thermoid Company at that time? A At that time I held common stock of the company to the par value of $20,000, and I was one of the directors of the company.

Q As a director or counsel, or either, did it ever come to your attention while you continued such, that any such condition was attached to the making and execution of that agreement between the Asbestos Company and the Thermoid Company? A Nothing of the sort; I would be amazed to have heard it.

Q When did you first hear of any such idea? A When the answers were filed in this cause; even then, I didn't understand what they meant.

Q So that, as I understand it, for some time thereafter, you continued in the Board of Directors of the Thermoid Rubber Company, and you never heard any corporate action taken with reference to the alleged conditional character of the licenses, or never heard it mentioned by any official of the company? A Never, sir.

Q Did you ever hear anything at all of that kind with reference to the license to the Johns-Manville Company? A No, sir; until this suit.

Q On page 69, Mr. Stokes makes the statement, that both before and after the licenses were signed, it was stated both by him and Mr. Manville, in the presence of all, including yourself, that the only object in signing the license agreements was, to have a moral effect of inducing other licenses to be signed and secured, and that the license agreements were only to become effective when such other licenses were procured. Did you ever hear any such statement as that made anterior of the testimony in this case? A Never.

Q In other words, that these licensees were to be permitted to manufacture, but it meant that they were not to pay any royalties until they were able to have other companies recognize the patents. Was there any such understanding as that, that you ever heard of? A Not that I ever heard of, before the trial of this cause.

Q Mr. Lowthorp, at the meeting of May 3rd, it was testified, I think, by Mr. Stokes, that you advised that you were in danger with reference to the Sherman Act, on account of these assignments; did you give any such advice as that? A I never gave such advice to anybody; I didn't believe it at all. I had read carefully all the Federal Court opinions referred to in the exchange arguments between Mr. Williams and Mr. Parker-Smith, and I was absolutely convinced that there was nothing in it at all; that we were not infringing in any way.

Q When did you reach the conclusion that you have just stated? A Before the agreement of September 22, 1910, was drafted.

Q Won't you give what transpired with reference to the Sherman Act, and what reasons induced you to believe it would not, and have ever since induced you to believe, that the Sherman Act had no relevancy to this situation? A Well, I can tell you with absolute certainty, that I read carefully the exchange opinion between Mr. Williams and Mr. Parker-Smith that are in evidence here, that were exchanged back quite a while before that

agreement was drafted and signed, and I studied the decisions referred to, with the exception of the State decisions—I studied the Federal Courts decisions only, and I came to the conclusion that we were absolutely safe, with no danger of violating the Act at all in the papers drawn or the proceedings, and I have been of that opinion ever since.

Q What did you think differentiated from the dangers of the Sherman Act? A Well, we were in a situation where there was the greatest doubt as to who would obtain the basic patent, so far as this particular situation—the dominant patent I would call it—and I knew, as being interested in and representing the Thermoid Rubber Company, that Mr. Coleman's preliminary statement showed that he had conceived his invention long before any of the other parties in interest; I knew that if Mr. Coleman got the patent with the broad claims, and we couldn't get a license, we would be cut out of the market and couldn't sell our product at all, and I felt we were perfectly justified under the decisions of the Court in composing those differences by taking the exact course I took, and that we were not unduly restraining trade at all, and no such effect.

Q Do you know how early Mr. Parker-Smith became aware of the situation? A Well, it is a little hard for me to tell you that now; I can't recall just the date of the ascertainment or fixing of the interference, but it wasn't until after that.

Q Did you receive a letter, dated July 13, 1910, from Mr. Parker-Smith? A Yes, sir.

*Mr. McCarter.* I offer that in evidence.

*Mr. Hardin.* No objection.

Said letter is marked "Exhibit C. 26."

(Mr. McCarter reads letter.)

Q Won't you give very succinctly the history of the patent litigation and the interferences which led up to the

making of this agreement, in chronological order as you understand it? You represented whom? A I represented the Thermoid Rubber Company—

Q Whose patent did they hold? A Well, they evidently held the application of Mr. Bonner, which was in interference with the application of Mr. Hoff and Mr. Coleman. I was requested to file the application for the patent, which I did, and after the matter had been in the office for some time, I don't remember now how long, I was notified, as I remember, to put in my application a claim, which had been formulated by the primary examiner, for the purposes of bringing on an interference, with whom, of course, I didn't know. That claim, as I recall it, was put in, and that brought on the interference, and in due time I was apprised of the other parties and who their attorneys were.

Q And they were? A Clyde J. Coleman, who had assigned to Mr. Hubert, and Mr. Louis Hoff, who had assigned his application to the Johns-Manville Company. I can't remember dates, but it was not very long after that before, in some way, I was brought into contact with Mr. Parker-Smith and Mr. Henry D. Williams, in an effort to get the protection of the patent which might be granted to the first inventor, whoever he was, of the subject in dispute—we didn't know who it would be; and that remained in that state while we were fighting out the thing in the patent office. We had considerable difficulty with the examiner, who was very perverse in his attitude towards us, and from whom he had to take two appeals, in which cases he was reversed by the examiner in chief; and the matter went on until, finally, Mr. Coleman was adjudged to be the prior inventor. Before that adjudication occurred, as I recall it, Mr. Parker-Smith communicated to me the discovery of the British patent to Mr. Hutchins, 1896; I think it was November 4th that he sent the thing to me, as he did to Mr. Williams, as I discovered afterwards. That led to the patent being taken out as allowed, with two or three claims in it that ought not to

be there, and which can be excised by disclaimer, because we knew perfectly well that if the examiner discovered this Hutchins' patent he would pull us in again, and we would be tied up for months; and we didn't want to lose the opportunity to get out patents and put them in force; so when it was suggested that the Brake Liners interest be taken in, in order to prevent the annoyance we would suffer and the loss we would suffer if we were held up in the patent office again, we consented to take them in exactly as Mr. Williams has related. Besides, we believed they had one or two good patents that were dominated by the Coleman claims.

Q Now, won't you briefly show what was involved in these various patents that were assigned? A Well, I can state generally and shortly, that with the exception of the application of Cutting and Jewett, on which no patent issued, and with the exception of the three patents for wire construction that were granted to Bonner, all of the patents that were taken over, were embodied in an asbestos cloth construction treated with a binder. Some of them explicitly embody the Coleman construction of interwoven wire strands, and some did not; but all of them would visibly be improved by embodying the Coleman construction, and I believe that has been invariably done in practice throughout the country. They were all dominated, with the exception of the three wire patents, which we paid no attention to, and, in fact, considered worth nothing.

Q Why were they considered of no use? A They would be troublesome to make and costly to make, and that is all I know of them, except what Mr. Bonner has testified to here himself; nobody uses them, as far as I know.

Q Did the Asbestos Brake Company own, after their acquisition of these patents, any invention which could possibly compete with the brake lining made by the Brake Liners Company? A No, as I understood it, or understand it today, we thought we had the best patents.

Q Now, I think you have already told us you were present at the meeting of May 3, 1911, at which Mr. Manville, Mr. Stokes, Mr. Massie and Mr. Hubert were present? A I was.

Q Were you in the company of those gentlemen until they all separated? A Continuously from the time they met until they all separated.

Q Was any suggestion made by Manville or Stokes to the effect that the license agreements were to be delivered to, or accepted by, the Johns-Manville Company and the Thermoid Company upon any condition whatever? A Absolutely none.

Q Do you know of any other meeting of the directors of the Asbestos Brake Company than that? A I never attended one, sir; never was invited.

Q Now, you were familiar with the progress of events leading up to the preparation and signature to the opinion of January 29, 1912? A Well, as they have been related here; I didn't know anything about what occurred at these meetings, because I wasn't present. I was requested to join in formulating a report.

Q What personal connection did you have? A Well, I was counsel of the Thermoid Rubber Company, and Mr. Williams was counsel for Mr. Hubert, and Mr. Massie was counsel for the Brake Liners Company, and Mr. Parker-Smith was counsel for the Johns-Manville Company. We were all called upon to act together for the Asbestos Brake Company.

Q Did you co-operate in the preparation of that opinion? A Well, I can't recall; we did more than attend a conference or possibly two conferences. Mr. Parker-Smith wrote the opinion, and I don't recall criticising it; I think I was satisfied with it as it stood orignally.

Q At the time that opinion was prepared, to which your name is affixed, did you yourself entertain any doubt as to the applicability or inapplicability of the Sherman Act in the situation? A I had no doubt upon that point, but thought we were clear of it.

Q Did you hear Mr. Parker-Smith, Mr. Williams or Mr. Massie, state in any conference that led up to the preparation of that opinion, that they had any fears as to the Sherman Act? A I am sure I did not; I don't recall it; I would have been surprised if I had.

Q Mr. Parker-Smith yesterday stated that the following clause which I shall now read to you from "Exhibit D. 19," the opinion of January 29, 1912, was meant to refer to the Sherman Act. I will read the clause, and then ask you if you so understood it: "If no licenses were outstanding during the prosecution of a suit on these patents, except those taken by the constituent interests, the defendant might say that we had merely pooled a lot of worthless patents under which we pay licenses into our own pockets, and were trying to dominate the trade by such combination; but if a number of disinterested outsiders had taken licenses previous to the institution of the suit, and were paying considerable royalties to your corporation, it would create a situation that might well influence the Court in favor of the patents in considering any doubtful points that might arise on the question of validity." Did that clause mean, or refer in any way, to the Sherman Act, as far as you understood it? A Not as I understood it; not as I signed it. I understood it to mean what it seems to me it means on its face.

Q What construction do you put upon that language? A I put the very reasonable construction, I think, that if we had outsiders coming in to take licenses under these patents, besides ourselves, it would be in effect a public recognition of the validity of our patents, which is always a desirable thing to have, and persuasive evidence of a patentable novelty.

Q Mr. J. O. Stokes, on page 79 of the stenographic report, says: "I know Mr. Lowthorp attended many of our conferences over there. Ques. What did Mr. Lowthorp say, in the presence of the directors, with reference to the enforcement of these patents? Ans. That we should go very slow in trying to force anybody into our organiza-

tion, only in a general talk. Ques. Do you remember what Mr. Lowthorp said? Ans. He advised us against trying to force anybody into the organization. Ques. What reason did he give for that advice? Ans. I understand— Ques. What reason did he give? Ans. That we were contrary to the Sherman Act, to enforce them was contrary." Was any such advice ever given by you? A Never, never.

Q On pages 82 and 83, Mr. J. O. Stokes further testified: "Ques. You have stated on several occasions that Mr. Lowthorp advised the company, in your presence, and in the presence of other directors, that it would be improper to undertake to get after infringers because of the Sherman Act. Ans. Yes, many times. Ques. Have I stated it correctly now? Ans. Yes. Ques. Give us any single date when he gave you such advice. Ans. we talked over it on many occasions. Ques. When? Ans. I can't tell you the date, it is so far back. Ques. In whose presence? Ans. I think in the presence of my brother. Ques. Who else? Ans. Well, I don't know, except perhaps, at these meetings there was a general discussion. Ques. Not 'perhaps;' who was present when the conversations took place? Ans. The directors in New York. Ques. They took place in New York? Ans. Yes, sir. Ques. At the office of the company? Ans. I think they were held at Mr. Manville's office down town those days. Ques. The office of the Johns-Manville Company in New York City? Ans. Yes. Ques. Before or after the license agreements were signed? Ans. When Mr. Lowthorp discovered— Ques. Was it before or after the license agreement was signed? Ans. At the meeting when it was signed. Ques. Was the license agreement signed at a meeting, etc?" Did you give any such advice? A Well, I never gave any such advice, because I never held such an opinion; but I did attend a number of conferences, informal conferences, between parties to these agreements; they were not meetings of the corporation; that part is true; but I never gave any such talk as that at all.

Q On page 88, Mr. J. O. Stokes says: "Ques. What did Mr. Lowthorp say at that meeting? Ans. He advised us against going into any combination that would infringe the Sherman Law." Was that advice given by you? A I know I never advised them that our combination violated the Sherman Act. I might possibly have given some such good advice as that.

Q On page 124, at the meeting of November 14th, Mr. Stokes said: "Mr. Lowthorp said we hadn't a leg to stand on, and he advised me to vote as I voted in rescinding the resolution for the licenses. Ques. Did Mr. Lowthorp say anything else at that time? Ans. Mr. Lowthorp said: "We are indirectly against the Sherman Act." You have stated you were not at the meeting, so you couldn't have made those statements? A I wasn't there; I didn't make them then or at any other time.

Q Did you at any time advise against the commencement of infringement suits, because of your supposed danger of the Sherman Act? A Never; I was anxious that they should be entertained.

Q Did you ever advise the passing of a so-called rescinding resolution, or a resolution of that character? A Never, in any way under the sun. I was very desirous of having the agreement carried out.

Q Now, on page 49, Mr. J. O. Stokes was asked: "Ques. Subsequently to that what, if anything, did you do with respect to the prosecution of the things for which the Asbestos Brake Company was formed?" and he replied: "Our attorneys assured us that if we went on and prosecuted anybody, we would be violating the Sherman Act, and, therefore, we would have to be very cautious in any move we might make." Did you so advise or hear such advice? A Oh, never, never; I think the opinion filed by the four of us contradicts that completely.

*Cross examination* by Mr. Hardin.

Q Mr. Lowthorp, you continued to represent the Thermoid Company while these parties were in interference,

after the formation of the Asbestos Brake Company? A Yes.

Q How did the taking in of Bonner prevent delay in the patent office? A Mr. Bonner's attorney, Mr. McElroy, was a gentleman who had a very excellent reputation in the patent office; he had been an examiner there for some years, I believe, and he had too much influence, his opinion had too much influence with Mr. Wright, the examiner that had our letters in charge for us, to have him going in there and convincing Mr. Wright that he should throw us out.

Q With reference to what? A To our applications; turn us down as not showing a patentable novelty.

Q With reference to any particular special matter? A Our several applications for asbestos—

Q You thought that this officer's opinion could be influenced and the attorney's influence could be exercised against your application. What brought you to that frame of mind? A Because of the persistency with which the examiner undertook to prevent our obtaining any patents.

Q Didn't the knowledge of the British patent, brought to your attention by Massie and Bonner, have anything to do with your change of front? A The bringing of this British patent to our attention indicated to us that if Mr. McElroy, for instance, should show that to the examiner, he would call us all in again, and invite us to another contest, and we would have to go up to the examiner in chief and reverse him again. In the meantime, the public was rapidly beginning to use these inventions. We wanted to get our patents.

Q And for that reason, you all agreed to keep still about the British patent? A Well, that I understand to have been the attitude of the parties.

Q Including counsel? A It was, as far as I know, as far as my feeling went. We were tired of the constant annoyance and the—

*Francis C. Lowthorp, cross.*

Q "Exhibits D. 4, 5 and 6," you identify them as having emanated from you? A I do.

*Mr. Hardin.* I offer them in evidence.

"Exhibits D. 4, 5 and 6 for identification," are marked in evidence, "D. 4, D. 5 and D. 6."

*Further cross examination* by Mr. Katzenbach.

Q Mr. Lowthorp, you represented the Thermoid Company continuously through these negotiations leading to the formation of the Asbestos Brake Company, did you not? A I did, excepting insofar as Mr. J. O. Stokes represented it.

Q I mean as attorney? A Yes.

Q You were the attorney who represented it? A Yes.

Q And at that time you had an official connection with the Thermoid Company? A I did.

Q Both as a director and as an officer of the company, did you not? A Yes, I was a director, and my recollection is, I was at that time secretary.

Q The Thermoid Company had how many directors? A My impression is, that at that time we had but three.

Q You were the secretary of the Thermoid Company for a long time, were you not? A A considerable period; yes, sir.

Q Do you remember during that time any considerable number of directors' meetings? A No, they were comparatively few.

Q You had almost no formal directors' meetings? A Very few formal directors' meetings; it was a sort of a family affair; the great majority of stock was owned by the Messrs. Stokes.

Q Do you recall any meeting of the directors of the Thermoid Company which occurred during the period that you were engaged in the formation of the Asbestos Brake Company? A Well, I can't recall any specific meeting, but I can say with great positiveness that there were some held during that period.

Q Formal meetings? A Yes, I should say so, without any reasonable doubt; the period was so long that I feel there must have been some meetings held; they were rare, though.

Q There were periods of years when there were no directors' meetings of the Thermoid Company while you were secretary, were there not? A I can't answer that positively; I know they were comparatively rare, and that is as far as I can go.

Q During the course of the negotiations leading to the formation of the Asbestos Brake Company, you had numbers of conferences with Messrs. Stokes about the matters pertaining to the formation of the company? A The Asbestos Brake Company?

Q Yes. A Yes.

Q And you gave them advice with respect to the matters pertaining to such formation of the Asbestos Brake Company? A I did.

Q You discussed, of course, with them, all of the matters which you thought it was right they should know of concerning any action to be taken by them with reference to the parties or the company who held the patent? A To the best of my recollection I did; I should say so, yes.

Q You held the meetings with Messrs. Stokes and others present who were interested, from time to time, in this matter, did you not? A I hardly know what you mean; do you mean meeting at which Messrs. Stokes were present and others present?

Q And other persons interested in this same transaction? A Well, in a general way I can say yes, but that I didn't see Mr. W. J. B. Stokes present at those meetings; there were a number of formal meetings, not corporate meetings, but informal meetings.

Q Mr. W. J. B. Stokes was present at some of them? A I think, perhaps, two of them.

Q And sometimes those meetings were held in New York and sometimes in Trenton? A At the moment I

should say that all of those meetings at which any others took part, were probably held in New York, at Mr. Manville's office.

Q And were you going over to New York to attend those meetings? A Yes.

Q And Mr. W. J. B. Stokes is the Mr. Stokes, of course, who spent most of his time in Trenton? A Yes.

Q And undoubtedly he accompanied you to New York to those meetings, from time to time? A Oh, no, I wouldn't say that; I have no recollection of going at any time to New York with Mr. Stokes excepting once, and that was in the morning on a train not later than the 9 o'clock train; I can't remember when that was, nor whether I went with Mr. Stokes on Mr. Stokes' business, or on business for others; it is possible that I accompanied him at that time to an accounting in New York in a patent suit which I was defending, and which I was defending for the Thermoid Rubber Company; that I can't say positively.

Q And during the period you were giving advice to Mr. W. J. B. Stokes and J. O. Stokes, and other persons interested in this transaction, you undoubtedly discussed with them the matters relating to this Sherman Law? A Mr. Katzenbach, I don't think I ever said a word to them about the Sherman Act. That matter was so absolutely clear in my mind. That I never said.

Q You never mentioned to them that it was quite necessary to— A No, I was so confident of that, that when I advised my present clients, I advised them to bring the matter in this Court, because they could not enter into any Federal question. There is no Federal question, and the thing would be delayed. This is my opinion.

Q You never thought that as attorney it was necessary for you to discuss these things that might possibly arise? A Not that.

Q And while it never occurred to you that the Sherman Act entered into this situation at all, it did occur to

you to advise your clients to bring the case in this Court to avoid Federal questions? A Not at all; to avoid the delay of an appeal to the United States Supreme Court, which could have been taken in a stockholders' suit, without any regard to any Federal questions, if there was a diversity of citizenship in the parties. That is why I advised them; I am not afraid of any Federal questions.

Q Your judgment then, is, that such a stockholders' suit, where there was a diversity of citizenship, might have been appealable in the United States Supreme Court? A If it involved a sufficient—if the sum involved was sufficient to give the court jurisdiction, it could have gone up to the United States Supreme Court.

*By the Court.*

Q If it had been brought originally in the Federal Court? A Yes; if I understand the Federal act creating the Circuit Court of Appeals, a patent suit could not be appealed.

Q The Thermoid Company, of course, as you knew, was a New Jersey corporation? A Yes.

Q And the Asbestos Brake Company is a New Jersey corporation? A Yes.

Q Where do you find any diversity of citizenship? A The stockholders; the Brake Liners Company of Delaware, and Mr. Hubert, of New York, as it has turned out, and Mr. Massie; I think that would have given the Federal Court's jurisdiction.

Q And the Johns-Manville Company is a New York corporation? A That is the New York corporation; I didn't go into that phase of the situation so thoroughly as I might, but my impression was, we could go into the Federal Courts or the State Courts.

Q When is it that you ceased to represent the Thermoid Company in their connection with the Asbestos Brake Company? A I can't tell you exactly; I should say it was about five or six years ago.

Q Upon the basis of what; what was the occasion that made you feel that you ceased to represent the Thermoid Company in connection with the Asbestos Brake Company matter? A The occasion was, a difference that Mr. W. J. B. Stokes had with me, in which he announced to me that I should never be employed by the Asbestos Brake Company again.

Q Do you mean the Asbestos Brake Company? A No, I mean the Thermoid Rubber Company; and after finishing up litigation for him, I ceased—I sent him a bill, and I have had nothing to do with them since.

A. PARKER-SMITH, being recalled on behalf of the defendants, testified as follows:

*Direct examination* by Mr. Hardin.

Q Mr. Parker-Smith, you testified originally that you were an attorney-at-law and a mechanical engineer. You graduated from where? A Lehigh University.

Q What class? A The Class of 1884, with a degree of mechanical engineer.

Q Did you follow that profession? A After leaving the university I went on the engineering staff of the "Engineering News" of New York; and soon after that, I took the Civil Service examination and became a member of the examiners' corps of the United States Patent Office.

Q How long were you in the Patent Office? A About a year and a half, and then I resigned and went into the practice of patent law, having studied law in the meantime.

Q Will you tell us whether the patents that belong to the Asbestos Brake Company are—the combined ownership of these patents, brings the group and the Asbestos Brake Company organization within the purview of the Sherman Law.

*The Court.* I don't think you want to ask the witness that question, do you?

*Mr. McCarter.* I don't think that is a question to put to our witness.

*Mr. Hardin.* I will withdraw that question.

Q Are any of the patents owned by the Asbestos Brake Company, in your view, competitive of each other? A Yes, sir.

Q Will you please develop your views with reference to the patents that you so regard? A As I read the patents and applications for patents, which were assigned to the Asbestos Brake Company by the separate interests which came together in the organization of the Asbestos Brake Company, there are three separate groups of patents which are not inter-related and which do not bear the relation of dominating and subordinate patents; that is to say, in group 1, typified by the Coleman patent, defendants' "Exhibit 10," the subject matter of the monopoly is an asbestos brake lining or friction member, composed of woven asbestos fibres, or asbestos fibres interlaced with wire. In group 2 are three of the Bonner patents, No. 903049, defendants' "Exhibit D. 7," No. 931988, defendants' "Exhibit D. 8," and No. 1117774, defendants' "Exhibit D. 14," in which the substance of the monopoly is a friction member or brake liner which has no asbestos in it whatever. It is composed principally of metallic wire woven into cloth and folded, and used either alone or with a face of rubber. The third separate group or class is that consisting of the Cutting and Jewett application, represented by defendants' "Exhibit D. 11," which is the application as filed, and "D. 30," which is a certified copy of the application as allowed. The subject matter of the monopoly is a friction member or brake lining, composed, not of wire and not of woven asbestos, but of a molded block or body of asbestos fibre, held together by silicate of soda, and in its preferred form treated with an oil. Thus, we have here the Bonner patents, contributed by the Brake Liners Company; the Coleman patent, contributed by Mr. Hubert, and the Cutting and Jew-

ett application, which, of course, could have been eventuated into a patent by the mere payment of a $20 Government fee, and which was a potential patent at the time the company was formed, the same as most of the other patents or applications were, are competitive groups, or separate monopolies, so that in forming this corporation there was not the mere coming together of holders of patents, which were all in the same field occupying a monopoly which would not be broadened by the formation of the corporation, because it existed solely on the claim of the broadest patent; but we have the consolidation of three separate monopolies. While the patent monopolies thus grouped together in three separate classes in my preceding answer are separate and distinct, so far as the scopes of the patents and the monopolies created thereby are concerned, the embodiment of the separate inventions are, however, as I understand it, competitive in a business way, that is, commercially they can be used for the same purpose. The woven asbestos brake liner of the Coleman patent while most largely used in lining of brakes for automobiles, is also used, or was used, to a considerable extent in other forms of friction members, that is to say, it was used as a covering for clutches in automobiles. I bought a motor car in 1913, which had a cone clutch, which was covered with this material, and I know that many other makes of cars had clutches covered with that material in that year and in succeeding years.

*By the Court.*

Q You say many other makes of cars had cone clutches of that type? A Yes, covered with that material. On the other hand, molded bodies of asbestos fibre of the Cutting and Jewett type have been used and are being used as lining for automobile brakes. They are molded in semi-circular strips, and inserted inside of the metal brake band in the same way that the woven asbestos linings of the Coleman type are used; also molded asbestos

fibrous bodies are quite largely used as friction members in the plate type of clutch for automobiles, and as has already been testified, the pure metal wire cloth lining of the Bonner patents, "Exhibits D. 7, 8 and 14," were designed for use as automobile brake linings, and were so used.

*Cross examination* by Mr. Lowthorp.

Q Mr. Parker-Smith, where do you put in this classification you are speaking of, the patent of L. R. Hoff, No. 997818? A That lies partly in the Coleman class, because some of the claims are limited to woven asbestos textile fabric; and partly in the Cutting and partly in the Cutting and Jewett class, because other claims are not limited to a woven asbestos material, but specify asbestos fibre, generally with a binder.

Q Now, will you complete your classification as to the other patents which were assigned to the Asbestos Brake Company? A The Bonner patent, 980481, I should say went in the Coleman class, because it specifies a woven fabric. The Bonner patent, 1141606, would also go in the Coleman class for the same reason. I think that is all but the Headson. The Headson patent, 997498, would also go in the Coleman class, as would also, of course, the main Bonner application, which was assigned to the Thermoid Company, and which did not reach allowance or issue.

Q What have you to say about the patent of Hoff, 1012356, asbestos brake band? A I think I have answered your question as to the two Hoff patents.

Q Oh, did you? A That Hoff patent, No. 1012356, I should say went in the Coleman class.

*Mr. Hardin.* There is one other question open, and that is, the tabulation prepared by Mr. Hoff as to the sales prices of the Johns-Manville Company. I am not going to have any controversy with my friends on the other side about the correctness

of that list. These things are all marked for identification, some by the complainant, and some by the defendant. So far as I am concerned, I will have made up a schedule, and I will do whatever your Honor wants.

*The Court.* Suppose you let it stay as it is. I will admit them, and then you can resolve the mass into something more intelligible when you bring the matter on for argument.

*Mr. McCarter.* Your Honor may recall that there was quite some discussion as to the propriety and legality of the introduction of the evidence in view of the rules. It is late now, and I don't care to take time now to move to strike that evidence out, but we feel that the record is left in such a condition, so that we can convince your Honor that that evidence should not have been admitted. The condition upon which it was tentatively admitted has not been fulfilled, and we would like your Honor to hear us on that point when we come to discuss the case.

*The Court.* Surely, I will.

CASE CLOSED.

*Exhibit C. 1.*

# EXHIBITS.

## EXHIBIT C. 1.

### CERTIFICATE OF INCORPORATION

OF

### THE ASBESTOS BRAKE COMPANY.

This is to certify that the undersigned do hereby associate themselves into a corporation under and by virtue of the provisions of an act of the Legislature of the State of New Jersey, entitled "An Act concerning corporations (Revision of 1896)" and the several supplements thereto and acts amendatory thereof, and do severally agree to take the number of shares of capital stock set opposite their respective names.

First: The name of the corporation is

THE ASBESTOS BRAKE COMPANY.

Second: The location of the principal office in this state is at No. 147 East State Street, in the city of Trenton, County of Mercer.

The name of the agent therein and in charge thereof, upon whom process against this corporation may be served, is Francis C. Lowthorp.

Third: The objects for which this corporation is formed are to purchase, acquire, hold, own, mortgage and assign Letters Patent of the United States and all foreign countries covering inventions in brakes, clutches, blocks, linings, and other appliances, adjustments, and elements of brake and clutch mechanisms, and other friction elements suitable for use in connection with vehicles, engines, motors and machines of any and every kind; to acquire and hold, own, mortgage and assign interests in and territorial rights and licenses under such letters patent; to grant licenses and territorial rights to others under such letters

*Exhibit C. 1.*

patent, for the manufacture, sale and use of such patented inventions or things embodying said inventions; to purchase or acquire brakes, clutches, blocks, linings and other appliances, attachments and elements of braking and clutch mechanisms, and other friction devices useful in connection with vehicles, engines, motors and machines of any and every kind, and to use and sell the same; to procure, own and hold secret processes and formulae, trademarks, trade-names and distinctive marks for wares and merchandise, and to use the same; to purchase, hold and re-issue the shares of its capital stock; and to do all lawful things necessary or convenient in and about the carrying on of said objects; to conduct business, to have one or more offices, and to purchase, mortgage, lease and convey real and personal property wheresoever situate, in the State of New Jersey, as well as in all other states and territories, and in all foreign countries.

Fourth: The total authorized capital stock of this corporation is twelve thousand dollars, divided into one hundred and twenty shares of the par value of one hundred dollars each; of said capital stock twenty shares are to be preferred stock, and one hundred shares are to be common stock.

The holders of preferred stock shall be entitled to receive out of the surplus or net earnings, and the corporation shall be bound to pay thereon, as and when declared by the Board of Directors, a non-cumulative dividend at the rate of, but not exceeding, six per centum per annum, payable yearly, half-yearly or quarterly, before any dividend shall be set apart or paid on the common stock.

Fifth: The names and post office addresses of the incorporators, and the number of shares subscribed for by each, the aggregate of such subscriptions being the amount of capital stock with which the company will commence business, are as follows:

*Exhibit C. 1.*

| Name. | Post Office Address. | Number of Shares. Preferred, | Common. |
|---|---|---|---|
| Francis C. Lowthorp, | Trenton, New Jersey | 5 | 5 |
| Francis C. Lowthorp, 3rd, | Trenton, N. J. | 5 | 5 |
| Elwood W. Moore, Jr., | Trenton, N. J. | 5 | 5 |
| William N. Cooper, | Trenton, N. J. | 5 | 5 |
| | | 20 | 20 |

Sixth: The preferred stock of the company shall have voting power. The common stock of the company shall have no voting power.

The Board of Directors of the company shall consist of four preferred stockholders, who shall be elected annually to serve for one year, and until their successors shall be chosen and qualified.

At all elections of directors each preferred stockholder shall be entitled to as many votes as shall equal the number of his shares of preferred stock multiplied by the number of directors to be elected, and he may cast all such votes for a single director, or may distribute them among the number to be voted for, or any two or more of them, as he may see fit.

In furtherance, and not in limitation of the powers conferred by the statute, the Board of Directors are specially authorized to hold their meetings, to have one or more offices, and to keep the books of the company within or without the State of New Jersey, at such place or places, from time to time, as may be designated by them; but the company shall always keep at its registered office in the State of New Jersey, a transfer book in which transfers of stock can be made, entered and registered, and also a stock book containing the names and addresses of the stockholders, and the number of shares held by them, respectively, which shall be at all times during business

*Exhibit C. 1.*

hours open to inspection of the registered stockholders in person.

The Board of Directors shall have power also, from time to time, to determine whether, and, if allowed, under what conditions and regulations, the accounts and books of the company (other than the stock and transfer books, or any of them) shall be open to the inspection of the stockholders, and the stockholders' rights in this respect are and shall be restricted and limited accordingly.

No change in or amendment of any of the provisions of these articles of incorporation shall be made or effected without the consent of the holders of at least four-fifths in interest of the preferred stock of the company issued and outstanding.

In witness whereof, we have hereunto subscribed our names and affixed our seals this twenty-second day of March, nineteen hundred and eleven.

FRANCIS C. LOWTHORP. (L. S.)
FRANCIS C. LOWTHORP, 3RD. (L. S.)
WILLIAM N. COPPER. (L. S.)
ELWOOD W. MOORE, JR. (L. S.)

Signed, sealed and delivered
in the presence of

F. W. GNICHTEL.

*Exhibit C. 1.*

STATE OF NEW JERSEY, }
COUNTY OF MERCER. } *ss.*

Be it known, that on this twenty-second day of March, in the year of our Lord one thousand nine hundred and eleven, before me, the subscriber, a Master in Chancery of the State of New Jersey, personally appeared Francis C. Lowthorp, Francis C. Lowthorp, 3rd, Elwood W. Moore, Jr., and William N. Cooper, who are, I am satisfied, the persons named in and who executed the foregoing certificate of incorporation, and I having first made known unto them the contents thereof, they did thereupon severally acknowledge that they signed, sealed and delivered the same as their voluntary act and deed, for the uses and purposes therein expressed.

F. W. GNICHTEL,
*Master in Chancery of New Jersey.*

Endorsed:

"RECEIVED in the Clerk's Office of the County of Mercer on the 22nd day of March, A. D. 1911, at 2:50 o'clock in the afternoon, and recorded in Book I. of Corporations for said County on pages 91, &c.

GEO. R. ROBBINS,
*Clerk.*"

"Filed and recorded Mar. 22, 1911.

S. D. DICKINSON,
*Secretary of State.*"

*Exhibit C. 2.*

## EXHIBIT C. 2.

(Minute Book.)

Minutes of the first meeting of the Incorporators of The Asbestos Brake Company, held at the registered office of the company, #147 East State Street, Trenton, New Jersey, on the 7th day of April, 1911, at three o'clock in the afternoon, pursuant to a written waiver of notice signed by all the incorporators, fixing said time and place.

The following incorporators were present or represented:

| | Shares of Stock | |
|---|---|---|
| | Preferred | Common |
| Elwood W. Moore, Jr. ..... | 5 | 5 |
| William N. Cooper ..... | 5 | 5 |
| Francis C. Lowthorp, 3rd ..... | 5 | 5 |
| Francis C. Lowthorp ..... | 5 | 5 |

On motion, Mr. William N. Cooper was chosen chairman, and Mr. Francis C. Lowthorp secretary of the meeting.

The Chair reported that the Certificate of Incorporation of the company was recorded in the Clerk's Office of Mercer County and filed in the Office of the Secretary of State of New Jersey, on the 22nd day of March, 1911, and presented a true copy of said certificate.

The Secretary presented and read a waiver of notice of the meeting.

The Secretary presented a form of By-Laws for the regulation of the company's business and affairs, and the same were read article by article, and unanimously adopted.

On motion M. I. M. Altemus was appointed Inspector of election.

Mr. Lowthorp offered a transfer of one share of preferred stock by himself to Harry R. Wilson, and on motion

*Exhibit C. 2.*

the transfer was immediately accepted by unanimous vote of all the stockholders present.

Mr. Lowthorp moved that nominations of four directors to serve for the ensuing year or until the next annual election be made. Carried.

Mr. Lowthorp nominated four directors, Messrs. Harry R. Wilson, William N. Cooper, Elwood W. Moore, Jr., and Francis C. Lowthorp. No other nominations being made, the polls were opened, and ballots having been cast by all the stockholders, the polls were declared closed, and Messrs. Harry R. Wilson, William N. Cooper, Elwood W. Moore, Jr. and Francis C. Lowthorp were reported by the inspector as elected directors.

On motion, it was ordered that the principal office of the company be kept at #147 E. State Street, Trenton; that the company's sign be there legally displayed, and stock and transfer books of the company be there kept, as required by law; and that Francis C. Lowthorp be appointed agent of the company, in charge of the office and books, and to receive service of process against the company, according to law.

On motion the Board of Directors were authorized to assess the stock of the company up to par as and when called for by the Board of Directors.

The following resolution was then offered:—

"Resolved, that the Board of Directors be and they hereby are authorized to issue the shares of the capital stock of this company to the full amount authorized by its charter, and, in their discretion, to accept in full or part payment therefor such property as the Board shall determine necessary or advantageous for the business of the company."

Carried by unanimous vote.

The Secretary reported that a communication had been received by the company from Thermoid Rubber Company, a New Jersey Corporation, offiering to transfer to this company an application for United States Letters

*Exhibit C. 2.*

Patent for Asbestos Brake Lining, which application is designated by Serial number 411,599, and was filed January 20, 1908, by one William T. Bonner, for the consideration of the issuance to said Thermoid Rubber Company of thirty-five per centum of the common stock of this company, and the privilege of subscribing for or obtaining twenty-five per centum of the preferred stock of this company.

The Secretary further reported that a communication had been received from the Brake Liners Company, a corporation of the State of Delaware, proposing to transfer to this company the following Letters Patent of the United States issued to William T. Bonner, to wit: #903,049, dated November 3, 1908 for Friction Member; #931,988, dated August 24, 1909, for Friction Member; #980,481, dated January 3, 1910, for Brakes and Brake Lining; and also the following applications for United States Letters Patent made by the said William T. Bonner, to wit: Serial number 503,625, filed June 22, 1909 for Brakes and Brake Linings, and serial number 509,880, filed July 27, 1909, for Brakes and Brake Lining, in consideration of the issuance to said company of fifteen per centum of the common stock of this company, with the privilege of subscribing for or receiving twenty-five per centum of the preferred stock of this company.

The Secretary further reported that there had been received a communication from the H. W. Johns-Manville Company, a corporation of the State of New York, a proposition to transfer to this company the following applications for Letters Patent of the United States, to wit, serial number 441,207, filed June 30, 1908, for Brake Blocks, by Cutting and Jewett; serial number 445,716, filed July 28, 1908, for Brake Bands, by L. R. Hoff; serial number 526,432, filed November 5, 1909, for Asbestos Brake Bands, by L. R. Hoff, and serial number 517,705, filed September 14, 1909, for Brake Band Linings by F. A. Headson, in consideration of the issuance or transfer to said company

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of thirty-five per centum of the common stock of this company, and the privilege of subscribing for or receiving twenty-five per centum of the preferred stock of the company.

The Secretary further reported that there had been received a communication from Conrad Hubert, of New York City, proposing to transfer to this company the application of Clyde J. Coleman for United States Letters Patent for Brake Lining, serial number 400,208, filed in the Patent Office November 1, 1907, for fifteen per centum of the common capital stock of this company, and the privilege of subscribing for or receiving twenty-five per centum of the preferred stock of this company.

On motion duly made and seconded, and by the affirmative vote of all the stockholders, the following Preamble and Resolution were adopted:

"Whereas, in consideration of the issue or transfer of all the common stock of this company for patent rights and inventions, and the permission to subscribe for or acquire all of the preferred stock of this company, for cash at the par value thereof, Thermoid Rubber Company, H. W. Johns-Manville Company, Conrad Hubert, and Brake Liners Company have offered to transfer to this company the several patents, applications for Letters Patent and inventions covered thereby, and rights to future improvements mentioned or referred to in the written propositions made by said parties respectively, and just communicated to this meeting; and

Whereas, it is considered that said inventions, patents and rights are necessary to the business of this company, and are considered and believed to be clearly of a value of ten thousand dollars and upwards;

Resolved, that the Board of Directors of this company be and they hereby are authorized, in their discretion, to purchase the property above mentioned for the said considerations, and to issue the common stock of this company full paid, in payment therefor; and to transfer and sell

*Exhibit C. 2.*

to said parties, all the preferred stock of this company for the par value thereof in cash, all present stockholders consenting to transfer to said parties their holdings of stock in this company to effectuate the purchase of said property by this company.

On motion the meeting adjourned.

*Francis C. Lowthorp,*
*Secretary of meeting.*

A true copy of the following papers referred to herein is appended to the minutes of this meeting:

1. Certificate of Incorporation.
2. By-Laws.
3. Waiver of Notice of this meeting.
4. Transfer of subscription.
5. Proxies voted on at this meeting.

CERTIFICATE OF INCORPORATION
of
THE ASBESTOS BRAKE COMPANY.

(Printed as Exhibit C. 1.)

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THE ASBESTOS BRAKE COMPANY.

BY-LAWS.

ARTICLE I. MEETING OF STOCKHOLDERS.

SECTION I. *Annual Meetings.* (1) When and where held.

The annual meeting of the stockholders shall be held on the second Tuesday of April, in each year, at the principal office of the company in this state, at twelve o'clock noon.

(2) *Notice.* The Secretary shall serve personally or send through the Post Office, postage prepaid, at least ten days before said meeting, a notice thereof, addressed to each stockholder at his, her or its post office address as it appears on the books of the company.

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(3) *Quorum.* At all meetings of stockholders it shall be necessary that stockholders representing a majority in amount of the preferred capital stock issued and outstanding be present in person or by proxy to constitute a quorum, and a quorum shall be so constituted. A quorum failing attendance at any meeting, the meeting may be adjourned by such stockholder or stockholders as may be present or represented to some future time, not less than two nor more than thirty days later.

(4) *Notice of Adjourned Meeting.* The Secretary shall serve notice of adjourned meetings as hereinabove provided, as seasonably as may be practicable in the circumstances when a meeting shall be adjourned for a shorter period than ten days.

(5) Should a day be appointed for holding a meeting of stockholders fall upon a legal holiday, then such meeting shall be held upon the first day thereafter not a legal holiday, at the same hour and place designated, without further notice.

SECTION II. SPECIAL MEETINGS.

(1) *How called.* Special meetings of the stockholders may be called at any time by a majority of the Directors, or by the President. And the Board of Directors shall call a special meeting of the stockholders whenever so requested in writing by stockholders of record representing not less than twenty per cent. in amount of the capital stock, preferred and common, issued and outstanding.

(2) *When and where held.* If such special meeting shall be requested by stockholders holding twenty per cent. of stock of the company, as above provided, it shall be called within fifteen days from the time of the receipt of such request by the president or other director or officer of the company, and if otherwise called for it shall be held at such time as the Board of Directors, or the President, shall determine within thirty days after the receipt of such

demand by an officer or director of the company. Such meetings shall be held at the principal office of the company in the State of New Jersey.

(3) *Notice.* Notice of such special meetings shall be given in the manner prescribed for notice of the annual meetings of stockholders, and the same regulation as to quorum shall apply.

SECTION III. VOTING.

(1) At all meetings of stockholders all questions shall be determined by a plurality vote of the preferred stockholders present in person or by proxy, except that any qualified preferred stockholder present in person or by proxy at any stockholders meeting may demand a stock vote, in which case it shall be immediately taken, and each qualified preferred stockholder present in person or by proxy shall be entitled to one vote for each share of preferred stock held by him upon the books of the company for twenty days next preceding such meeting.

(2) All voting shall be viva voce except that elections shall be by ballot, and each ballot shall state the name of the preferred stockholder voting it, and the number of preferred shares voted by him, and if cast by a proxy shall state the name of the proxy voting it.

(3) At any election each preferred stockholder shall be entitled to as many votes as shall equal the number of his shares of preferred stock multiplied by the number of directors to be elected, and he may cast all of such votes for a single director, or may distribute them among the number to be voted for, or any two or more of them, as he may see fit.

(4) The holders of common stock shall not be entitled to any vote at any stockholders meeting, or otherwise.

(5) Every pledgor of preferred stock standing in his name on the books of the company shall be deemed the owner thereof for the purpose of voting, unless in the

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transfer to the pledgee upon the books of the company he shall have expressly empowered the pledgee to vote thereon, in which case only the pledgee or his proxy may represent said stock and vote thereon.

(6) Every person holding preferred stock in any representative or fiduciary capacity may represent the same and vote thereon, personally or by proxy, as a preferred stockholder at all meetings of stockholders.

(7) No stock shall be voted at any meeting which stock shall have been transferred on the books of the company within twenty days next preceding such meeting.

(8) Every proxy must be executed in writing by the stockholder or by his duly authorized attorney.

(9) No proxy shall be voted on after three years from its date.

(10) *Right to vote.* If questioned, the right to vote any share of preferred stock shall be determined by the stock transfer book of the company.

SECTION IV. ORDER OF BUSINESS.

At all meetings of the stockholders the following order of business shall be observed so far as consistent with the purposes of the meeting, viz;

1. Roll call.
2. Report of proper notice of meeting.
3. Reading minutes of preceding meeting, and action taken thereon.
4. Report of President.
5. Report of Secretary.
6. Report of Treasurer.
7. Report of Committees, if any.
8. Election of Directors.
9. Unfinished business.
10. New business.

*Exhibit C. 2.*

## ARTICLE II. DIRECTORS.

SECTION I. (1) *Number.* The property and business of the company shall be managed by a Board of Directors who shall be four in number, one of whom must be a resident of the State of New Jersey.

(2) *Qualification.* No person shall be a director unless he shall be at the time of his election a *bona fide* holder of at least one share of the preferred capital stock of the company. Upon ceasing to hold at least one share of such preferred stock he shall cease to be a Director.

SECTION II. (1) *How elected.* At the annual meeting of stockholders the stockholders receiving a plurality of the votes of the preferred stockholders voting at such election, either in person or by proxy, shall be directors for the ensuing year, and until their successors shall be chosen and qualified. The vote shall be by ballot.

(2) If the election of Directors shall not be held on the day designated in these By-Laws, the Directors shall cause the same to be held as soon thereafter as conveniently may be, and cause notice of such holding to be given as hereinbefore prescribed, for the regular meeting of stockholders.

SECTION III. *Term of Office.* Each Director shall hold office for one year, and until his successor shall be chosen and qualified in his place.

SECTION IV. *Directors Meetings.* (1) When held. Meetings of the Board of Directors shall be held at such time and place as may be designated by the President on five days' notice in writing.

(2) A special meeting of the Board of Directors may be called by the President at any time. The President, Vice President or Secretary, must, upon the written request of two Directors, call a special meeting to be held within ten days after the receipt of said request. The

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annual meeting shall be held immediately after the annual meeting of stockholders.

(3) The Secretary shall serve personally or send through the post office, postage prepaid, at least five days before each meeting, regular or special, a notice thereof, addressed to each Director at his post office address, as it appears upon the books of the company.

(4) *Quorum.* A majority of the Directors shall constitute a quorum at all meetings of the Board, but in the absence of a quorum a less number may adjourn the meeting to some future time not more than ten days later.

(5) *Votes.* At all meetings of the Board of Directors each director shall have but one vote. The affirmative votes of all of the directors shall be required to adopt and amend the prices and discounts at which goods shall be sold by the company or its licensees, for the cancelling of licenses, the sale, assignment, transfer, mortgage or incumbrance of inventions or Letters Patent or rights thereunder and for the expenses incurred by the company in advertising, procuring patents, litigation for the enforcement of its patents and expenses for the purchase of inventions and Letters Patent or rights thereunder.

(6) *Order of business.* The order of business at each Directors' meeting shall be the same as the order of business hereinbefore prescribed for the stockholders' meetings, so far as applicable.

(7) *Place of Meeting.* The Board of Directors shall have power to hold its meetings outside of the State of New Jersey.

(8) *Vacancies.* Any vacancy occurring in the Board of Directors shall be filled by the preferred stockholders at a meeting to be called for the purpose as soon after the occurring of such a vacancy as notice of such meeting can be given under these By-Laws, but the votes of four-fifths in interest of the holders of preferred stock shall be necessary for such election. During such vacancy no

action shall be taken by the directors upon any matter requiring the votes of all directors.

(9) *Compensation.* Directors as such shall not receive any stated salary for their services, nor any compensation except for such special services as may be rendered by request of the Board, and which may be fairly compensated by vote of all of the Directors. The expenses of Directors properly incurred in attending meetings of the Board or in carrying out its lawful directions shall be paid by the Company when duly certified to the Board of Directors and approved by it.

## ARTICLE III.

The Board of Directors shall have power to have one or more offices and to keep the books of the company (except the stock and transfer books) outside of the State of New Jersey, and at such place or places as may be designated by it.

## ARTICLE IV. OFFICERS.

SECTION I. (1) *Officers and qualifications.*

The officers of the company shall be a president, vice-president, a secretary and a treasurer. The office of secretary and treasurer may be held by the same person. The president and vice-president shall be directors of the company.

(2) *Election of Officers.* The Officers of the Company shall be chosen by the Directors by ballot at the first meeting of the Board held after the annual meeting of stockholders. A majority vote shall elect.

(3) *Terms of Office.* Each officer shall hold office for one year, and until his successor shall be chosen and qualified in his stead.

(4) *Vacancies.* In case of a vacancy in any of the offices of the company the Board shall appoint a succes-

*Exhibit C. 2.*

sor to hold such office during the remainder of the unexpired term.

(5) The president and vice-president as such shall receive no salary or other compensation. The secretary and treasurer may be paid such reasonable compensation as may, from time to time, be determined by the votes of all of the directors.

SECTION II. *The President.* The President shall:

(a) Preside at all meetings of the Board of Directors.

(b) Call to order and act as Chairman at all meetings of stockholders.

(c) Present at each annual meeting a report of the condition of the business of the Company; and oftener, if required by the Board of Directors.

(d) Order regular and special meetings of the stockholders and Directors in accordance with these By-Laws.

(e) Appoint and remove, employ and discharge all servants, agents, employees and clerks of the Company, other than the Vice-President, Secretary and Treasurer, and fix their compensation.

(f) Sign all certificates of stock of the company.

(g) Enforce these By-Laws.

(h) He shall have the general management of the affairs of the corporation and perform all the duties incident to the position and office.

(i) Report promptly to the Board of Directors all matters within his knowledge which the interests of the company require to be brought to their notice.

SECTION III. *Vice-President.* The Vice-President shall, during the absence and inability of the President, subject, however, to the approval of the Board of Directors, do and perform all the duties of the President as set forth in these By-Laws, or in the acts under which this company is organized, and when so acting shall have

*Exhibit C. 2.*

all the powers and be subject to all the responsibilities hereby given or imposed upon the President.

SECTION IV. *The Treasurer.* The Treasurer shall:

(a) Have the care and custody of and shall be responsible for all the funds and securities of the company and deposit all funds and securities in the name and to the credit of the company, in such depositories as the Board of Directors may designate.

(b) Sign all checks, drafts and orders for the payment of money, and pay out and dispose of same under the direction of the President or the Board of Directors, taking proper vouchers therefor.

(c) Exhibit at all reasonable times his books and accounts to any Director of the company upon application at the office of the company during business hours.

(d) Countersign all certificates of stock signed by the President.

(e) Render a statement of the condition of the finances of the company at each regular or special meeting of the Board of Directors (if called upon so to do), and a full and official report at the annual meeting of stockholders.

(f) Make no payment for a greater sum than ten dollars, except by check of the company.

(g) Do and perform all duties appertaining to the office of Treasurer.

(h) Keep full and accurate accounts of receipts and disbursements and such other matters usually kept by Treasurers in books belonging to the Company and such other books of account as the Board of Directors may require.

SECTION V. *Temporary Treasurer.* In the absence of or disability of the Treasurer, a majority of the Board of Directors may appoint a Treasurer pro tem, who shall

*Exhibit C. 2.*

have such powers during the absence of the Treasurer as shall be given him by the Board of Directors.

SECTION VI. *Secretary.* The Secretary shall:

(a) Keep the minutes of the meetings of the Board of Directors and of the stockholders in books belonging to the company.

(b) Give and serve all notices of the company.

(c) Be custodian of the records and corporate seal, and to affix the latter when required.

(d) See that the books, reports, statements and certificates required by the statutes under which this company is organized, are properly kept, made and filed according to law.

(e) Keep the stock and transfer books in such manner as to show at any time the amount of capital stock, the manner and the time the same was paid for, the names of the owners thereof alphabetically arranged and their respective place of residence and post office address, the number of shares owned by each, and the time each person became owner thereof, and the amount paid thereon. Such stock and transfer books shall be kept at the principal office of the company in the State of New Jersey, and shall be open daily during business hours, subject to the inspection of any stockholder of the company.

(f) Lay before the Board of Directors at their stated meetings all communications addressed to him by the president or any officer or share holder, or by any other person.

(g) Report all matters within his knowledge which the interest of the company may require to be brought to the attention of the Board of Directors, and perform all duties incident to the office of secretary.

*Exhibit C. 2.*

SECTION VII. *Temporary Secretary.*

In the absence or disability of the secretary the Directors may appoint a secretary pro tem, who shall have the powers and be subject to the responsibilities of the secretary, for such time as the Board may direct.

## ARTICLE V. CAPITAL STOCK.

SECTION I. *Subscription.*

The Directors may, from time to time, make assessments upon the share of stock subscribed for, not exceeding in the whole the par value thereof, and the sum so assessed shall be payable to the treasurer at such times and places as the Board of Directors shall fix. Notice of such assessment and of the time and place of payment shall be given in the manner prescribed by law.

SECTION II. (1) *Transfer.*

The stock of the company shall be assignable and transferable on the books of the company by the holder thereof, in person, or by duly authorized attorney, upon surrender of the certificate properly endorsed. In case of transfer by power of attorney not endorsed upon the certificate the power of attorney duly executed and acknowledged, shall be deposited with the secretary. In all cases of transfer the former certificate must be surrendered and cancelled before a new certificate will issue.

(2) No transfers shall be made upon books of the company within twenty days next preceding the annual meeting of stockholders.

## ARTICLE VI. AUDIT COMMITTEE.

The Board of Directors shall appoint annually two of its members as an audit committee, whose duty shall be to audit the accounts of the treasurer previous to the annual meeting, and at such times as the Board of Directors shall authorize.

*Exhibit C. 2.*

ARTICLE VII. CORPORATE SEAL.

*The seal.* The seal of the corporation shall be as follows:

THE ASBESTOS BRAKE COMPANY
INCORPORATED 1911.
NEW JERSEY.

ARTICLE VIII.

(1) No debt shall be contracted or liability incurred, or contract made and entered into by and in behalf of the company, or any officer of this company, unless the same be authorized and directed by resolution of the Board of Directors, and the resolution shall be entered in the minutes of the said directors. All contracts involving the payment of or a liability greater than one thousand dollars shall be reduced to writing and signed by the president or vice-president and secretary, and shall be under the seal of the company.

(2) No officer shall have any power to sign, issue or deliver any accommodation paper.

ARTICLE IX. AMENDMENT.

These By-Laws may be altered, amended or repealed only by the vote of four-fifths in interest of the holders of preferred stock of the company at a meeting of stockholders, regular or special, on thirty days' notice of the proposed change therein given in writing to each stockholder by the secretary of the company.

WAIVER OF NOTICE OF MEETING.

We, the undersigned, being all the incorporators of THE ASBESTOS BRAKE COMPANY, do hereby severally waive notice of the time, place and purpose of the first meeting of incorporators of said company and do hereby fix the registered office of the company, No. 147

*Exhibit C. 2.*

East State Street, Trenton, New Jersey, as the place, and Friday, the seventh day of April, 1911, at three o'clock in the afternoon, as the time for holding said meeting, and do consent to the transaction of all such business as may lawfully come before said meeting.

Dated April 5th, 1911.

Francis C. Lowthorp. Elwood W. Moore. Jr.
Francis C. Lowthorp, 3rd. William N. Cooper.

TRANSFER OF SUBSCRIPTIONS.

The undersigned, for good and valuable consideration received, has sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over unto Harry R. Wilson, of Trenton, New Jersey, the right, title and interest of the undersigned as a subscriber to and an incorporator of THE ASBESTOS BRAKE COMPANY, to the extent of one share of the preferred capital stock thereof, and hereby requests and directs the said company to issue the certificate for said share to the aforesaid transferee or his nominee or assigns.

This transfer to take effect upon the acceptance thereof by the company, the undersigned meanwhile retaining the right to vote upon said share.

Francis C. Lowthorp (L. S)

Dated March 24th, 1911.

Witness: M. Ivy M. Altemus.

PROXIES.

The undersigned, subscriber to five shares of the preferred capital stock of THE ASBESTOS BRAKE COMPANY, hereby appoints Francis C. Lowthorp, of Trenton, New Jersey, as proxy, with full power of substitution and revocation, to vote for and on behalf of the un-

*Exhibit C. 2.*

dersigned at the first meeting of the corporation to be held on the seventh day of April, 1911, and at any adjournment thereof.

Witness my hand and seal this fifth day of April, 1911.
Elwood W. Moore, Jr. (L. S.)

In presence of
M. I. M. Altemus.

The undersigned, subscriber to five shares of the preferred stock of THE ASBESTOS BRAKE COMPANY, hereby appoints Francis C. Lowthorp, of Trenton, New Jersey, as proxy, with full power of substitution and revocation, to vote for and on behalf of the undersigned at the first meeting of the corporation to be held on the seventh day of April, 1911, and at any adjournment thereof.

Witness my hand and seal this fifth day of April, 1911.
Francis C. Lowthorp, 3rd. (L. S.)

In presence of
Robt. B. Hance.

*Francis C. Lowthorp,*
*Secretary of meeting.*

Minutes of first meeting of the Board of Directors of The Asbestos Brake Company, held at the office of the company, #147 East State Street, Trenton, New Jersey, April 7th, 1911, at four o'clock in the afternoon.

Present Messrs. Harry R. Wilson, William N. Cooper, Elwood W. Moore, Jr., and Francis C. Lowthorp, being all of the directors.

On motion, Mr. Wilson was chosen temporary chairman.

On motion, Mr. Lowthorp was chosen secretary of the meeting.

*Exhibit C. 2.*

The Secretary presented a waiver of notice of the meeting signed by all the directors, and the same was ordered filed.

On motion, the reading of the minutes of the first meeting of incorporators was waived.

The following gentlemen were duly elected officers of the company to serve for one year, and until their successors are elected and qualified:

President, Harry R. Wilson.

Vice-President, William N. Cooper.

Secretary and Treasurer, Francis C. Lowthorp.

The President taking the chair, it was ordered that the Secretary take the oath of office, and subscribe the written oath as presented at this meeting.

Upon motion duly made and seconded, it was resolved that the seal presented at this meeting, an impression of which was directed to be made in the margin of the minute book, be adopted as the seal of this corporation.

Moved, that the President and Treasurer be and they hereby are authorized to procure proper stock books, and to issue certificates of stock in accordance with the provisions of the charter and the By-Laws of the company.

Carried by unanimous vote.

Mr. Lowthorp moved the adoption of the following Preamble and resolution:

"Whereas, Thermoid Rubber Company, a New Jersey Corporation, offers to transfer to this company an application for United States Letters Patent for Asbestos Brake Lining, which application is designated by the Serial Number 411,599, and was filed January 20th, 1908, by one William T. Bonner, and the patent to issue thereon, for the consideration of thirty-five per centum of the full paid common stock of this company, and the privilege of subscribing for or obtaining twenty-five per centum of the preferred stock of this company for the

*Exhibit C. 2.*

par value thereof in cash; the Brake Liners Company, a corporation of the State of Delaware, offers to transfer to this company Letters Patent of the United States, Numbers 903,049, dated November 3rd, 1908, for Friction Member; 931,988, dated August 24, 1909, for Friction Member, and 980,481, dated January 23rd, 1910, for Brakes and Brake Lining, granted to one William T. Bonner; and also the following applications for United States Letters Patent made by the said William T. Bonner to wit: Serial Number 503,625, filed June 22nd, 1909, for Brakes and Brake Linings; and Serial Number 509,-880, filed July 27th, 1909, for Brakes and Brake Lining, together with all rights to future inventions in Brakes and Brake Linings which may be made by the said William T. Bonner, acquired by said Brake Liners Company by or through contract with the said Bonner, in consideration of the issuance to said company of fifteen per centum of the full paid common stock of this company, and the privilege of subscribing for or receiving twenty-five per centum of the preferred stock of this company for cash to the par value thereof; and the H. W. Johns-Manville Company, a corporation of the State of New York, offers to transfer to this company the following applications for Letters Patent of the United States, to wit: Serial Number 441,207, filed June 30th, 1908, for Brake Blocks, by Cutting and Jewett; Serial Number 445,716, filed July 28th, 1908, for Brake Bands, by L. R. Hoff; Serial Number 526,432, filed November 5th, 1909, for Asbestos Brake Band, by L. R. Hoff, and Serial Number 517,705, filed September 14th, 1909, for Brake Band Linings, by F. A. Headson, for the consideration of the issuance or transfer to said company of thirty-five per centum of the full paid common stock of this company, and the privilege of subscribing for or receiving twenty-five per centum of the preferred stock of this company for cash at par; and Conrad Hubert, of New York City, proposes to transfer to this company the ap-

*Exhibit C. 2.*

plication of Clyde J. Coleman, for United States Letters Patent for Brake Lining, Serial Number 400,208, filed in the Patent Office, November 1st, 1907, for fifteen per centum of the full paid common capital stock of this company, and the privilege of subscribing for or receiving twenty-five per centum of the preferred stock of this company for cash at par value thereof; and

"Whereas, the stockholders of this company have given said propositions favorable consideration, and the said patent rights and property so proposed to be transferred to this company are deemed by this Board to be of a value equal to and exceeding the sum of ten thousand dollars, the par value of the common capital stock of this company, and said inventions and patent rights are necessary to this company for the purpose of its business; therefore,

"Resolved, that said several propositions be and they hereby are accepted by this company; and

"Resolved that the President and Treasurer be and they hereby are directed to procure the issue or transfer of the preferred and common capital stock of this company to said Thermoid Rubber Company, H. W. Johns-Manville Company, Brake Liners Company and Conrad Hubert, their and each of their respective nominees and assigns as may be found necessary to comply with the terms of said respective propositions, and to effectuate the transfer and assignment to this company of the said several inventions, patents, and applications for patents mentioned and referred to in and by said several propositions."

Carried by the unanimous vote of all the directors.

Upon motion, duly made and seconded, it was

Resolved, that an assessment of one hundred per cent. be levied upon the shares of stock subscribed by the incorporators, as evidenced by the certificate of incorporation.

*Exhibit C. 2.*

Further Resolved, that payment of said subscriptions and assessment upon the common stock be deemed to be made by the property agreed to be sold to the company as set forth in the preceding resolution, it having been agreed between the vendors and the incorporators that the stock to be issued to the vendors and their nominees under said agreements should include the stock subscribed by the incorporators.

Upon motion, duly made and seconded, it was

Resolved that the proper officers of this company be, and they hereby are authorized and directed in behalf of the company, and under its corporate seal, or otherwise, to make and file the certificate or statement required by law to be filed in any state in which the officers of the company shall find it necessary to file the same to authorize the company to transact business in such state.

The secretary was ordered to prepare, have executed by the proper officers, and cause to be filed in the office of the Secretary of State of New Jersey the report of officers, directors, etc. required by law."

On motion the meeting adjourned.

*Francis C. Lowthorp,*
*Secretary.*

A true copy of each of the following papers referred to herein is appended to the minutes of this meeting:

Waiver of notice of this meeting.

Secretary's oath.

*Exhibit C. 2.*

WAIVER OF NOTICE OF MEETING.

We, the undersigned, being all the directors of THE ASBESTOS BRAKE COMPANY, do hereby severally waive notice of the time, place and purpose of the first meeting of the Board of Directors of said company, and do hereby fix the registered office of the company, No. 147 East State Street, Trenton, New Jersey, as the place, and the seventh day of April, 1911, at four o'clock in the afternoon, as the time for holding said meeting; and do consent to the transaction of all such business as may lawfully come before said meeting.

Dated April 7th, 1911.

Elwood W. Moore, Jr.,
Harry R. Wilson,
Francis C. Lowthorp,
William N. Cooper.

STATE OF NEW JERSEY, }
COUNTY OF MERCER, } *ss.*

Francis C. Lowthorp, the secretary of THE ASBESTOS BRAKE COMPANY, being by me duly sworn, upon his oath deposes and says, that he will faithfully discharge the duties of secretary of the aforesaid company to the best of his skill and ability.

FRANCIS C. LOWTHORP.

Sworn to and subscribed before me
this seventh day of April, 1911.

M. I. M. ALTEMUS,
*Notary Public of New Jersey.*

*Francis C. Lowthorp,*
*Secretary.*

*Exhibit C. 2.*

Minutes of a Special meeting of the Board of Directors held at the office of the Company on May 2nd, 1911, at four o'clock in the afternoon.

Present: Messrs. Harry R. Wilson, William N. Cooper and Francis C. Lowthorp.

The Secretary presented the waiver of notice of the meeting signed by all the directors, and read the same which was ordered filed.

The Secretary reported that he had received from Thermoid Rubber Company, H. W. Johns-Manville Company, The Brake Liners Company and Conrad Hubert, assignments of the Letters Patent, applications for Letters Patent, and inventions which said parties had severally agreed to assign to this company for its common stock; and that cash for the par value of the preferred stock of this company desired by the said parties was at command upon receipt by said parties of certificates of the preferred stock of this company so requested by them, respectively.

He further reported that said parties had applied, respectively, for issuance by this company to them, or their nominees, of licenses to make, use and sell products embodying the inventions covered by said patents and applications for patents; and he presented to the Board a form of License Agreement with a Schedule of Prices for goods licensed thereunder which he informed the Board would be satisfactory to said parties, respectively.

The Secretary further reported that the Thermoid Rubber Company and the H. W. Johns-Manville Company requested that such licenses be issued to them, respectively; that the Brake Liners Company requested that such license be issued to the Empire Rubber Company, a New Jersey Corporation, as its nominee, and that Conrad Hubert requested that such license be issued to the American Ever Ready Company, a corporation of the state of New York, as his nominee.

On motion, duly seconded, it was ordered that the form of License and Schedule of Prices presented by the Sec-

*Exhibit C. 2.*

retary, be approved, and that licenses in such form with such schedule of prices annexed, and forming a part thereof, be granted to said Thermoid Rubber Company, H. W. Johns-Manville Company, Empire Rubber Company and American Ever Ready Company, respectively, and that the same be executed forthwith by the president under seal of this company.

The Secretary further reported that the Thermoid Rubber Company and the H. W. Johns-Manville Company requested that such license be issued to them, respectively; that The Brake Liners Company requested that such license be issued to the Empire Rubber Company, a New Jersey corporation, as its nominee; and that Conrad Hubert requested that such license be issued to the American Ever Ready Company, a corporation of the State of New York, as his nominee.

On motion duly seconded it was ordered that the form of license presented be accepted by this company, and that license in such form be granted to Thermoid Rubber Company, H. W. Johns-Manville Company, Empire Rubber Company and American Ever Ready Company, respectively, and that the same be executed by the president under the seal of this company, forthwith.

Carried by unanimous vote.

The Secretary further reported that the several parties desiring to acquire the capital stock of this company had requested the following allotment of shares, viz: The Thermoid Rubber Company, four shares of preferred and thirty-five shares of common stock, to Joseph O. Stokes, nominee of said Thermoid Rubber Company, one share of preferred stock; To H. W. Johns-Manville Company, four shares of preferred stock and thirty-five shares of common stock; To T. F. Manville, nominee of the H. W. Johns-Manville Company one share of preferred stock; To Mitford C. Massie, nominee of The Brake Liners Company, five shares of preferred stock and fifteen shares of com-

*Exhibit C. 2.*

mon stock, and to Conrad Hubert five shares of preferred stock, and fifteen shares of common stock.

On motion, duly seconded, it was ordered that the certificates of stock of this company be issued according to such requests so soon as in the power of the company to do so.

The Secretary then presented a transfer by Francis C. Lowthorp, 3rd, of his subscription for five shares of preferred and five shares of common stock of this company as follows, four shares of preferred and five shares of common stock to Thermoid Rubber Company, and one share of preferred stock to Joseph O. Stokes.

On motion, duly seconded, the said transfer was accepted, and certificates of stock ordered issued to the transferees named therein.

The Secretary then presented the resignation of Mr. Elwood W. Moore, Jr., as a director of this company. And a transfer of his subscription for five shares of preferred and five shares common stock of this company to Conrad Hubert.

On motion, duly seconded, the resignation of Mr. Moore and his transfer of stock subscription were accepted by the Board.

Mr. Conrad Hubert was then elected a director in the place vacated by Mr. Moore.

On motion, it was ordered that when this meeting adjourn, it adjourn to meet at the office of the American Ever Ready Company, No. 320 Hudson Street, New York City on May 3rd., at eleven o'clock in the forenoon.

Mr. William N. Cooper then tendered his resignation as Vice-President and director of the company, and presented a transfer of his subscription for five shares of preferred stock and five shares of common stock of this company, as follows: four shares of preferred and five shares of common stock to H. W. Johns-Manville Company, and one share of preferred stock to T. F. Manville.

It was moved and duly seconded that said transfer of subscription of Mr. Coper be accepted by the Board, and

*Exhibit C. 2.*

that his resignation as Vice-President and director be accepted to take effect upon the adjournment of this meeting. Carried.

The Board then elected Mr. Joseph O. Stokes as a director of the company to fill the vacancy which would be caused by the resignation of Mr. Cooper, upon the adjournment of the meeting.

No further business coming before the meeting, adjournment was then had to May 3rd, at eleven o'clock in the forenoon, at the office of the American Ever Ready Company, pursuant to the resolution of the Board.

*Francis C. Lowthorp,*
*Secretary.*

A true copy of each of the following papers referred to herein is appended to the minutes of this meeting.

Waiver of notice of this meeting.

Transfers of subscriptions.

Waiver of Notice.

We, the undersigned, being all the Directors of The Asbestos Brake Company, do hereby waive notice of the time, place and purpose of a special meeting of the Board of Directors, and do hereby appoint as the time therefor, Tuesday the second day of May, nineteen hundred and eleven, at four o'clock in the afternoon, and as the place therefor, the principal office of the Company in Trenton; and we do hereby consent to the transaction of all lawful business which may come before the meeting.

Dated May 2nd., 1911 (Signed)

William N. Cooper
Elwood W. Moore, Jr.
Francis C. Lowthorp
Harry R. Wilson

*Exhibit C. 2.*

Transfers of Subscriptions.

The undersigned, for good and valuable consideration received, has sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over unto Thermoid Rubber Company the right, title and interest of the undersigned as a subscriber to and an incorporator of THE ASBESTOS BRAKE COMPANY, to the extent of four shares of the preferred stock and five shares of the common stock thereof, and he hereby requests and directs the said company to issue the certificates therefor to the aforesaid transferee, its nominee or assign.

This transfer to take effect upon the acceptance thereof by the company.

Dated May 2nd., 1911

(Signed) Francis C. Lowthorp 3rd (L. S.)

The undersigned, for good and valuable consideration received, has sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over unto Joseph O. Stokes the right, title and interest of the undersigned as a subscriber to and an incorporator of THE ASBESTOS BRAKE COMPANY, to the extent of one share of the preferred stock thereof, and he hereby requests and directs the said comuany to issue the certificate therefor to the aforesaid transferee, his nominee or assign.

This transfer to take effect upon the acceptance thereof by the said company.

Dated May 2nd., 1911

(Signed) Francis C. Lowthorp 3rd., (L. S.)

*Exhibit C. 2.*

The undersigned, for good and valuable consideration received, has sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over unto Conrad Hubert the right, title, interest of the undersigned as a subscriber to and incorporator of THE ASBESTOS BRAKE COMPANY, to the extent of five shares of the preferred stock and five shares of the common stock thereof, and he hereby requests and directs the said company to issue the certificate and certificates for said shares to the aforesaid transferee or his nominee, nominees, assign or assigns.

This transfer to take effect upon the acceptance thereof by the company, the undersigned meanwhile retaining the right to vote upon said shares and all other rights as a holder thereof.

Dated April 29, 1911.

(Signed) Elwood W. Moore, Jr., (L. S.)

Witness (Signed) M. I. M. Altemus.

The undersigned, for good and valuable consideration received, has sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over unto H. W. Johns-Manville Company the right, title and interest of the undersigned as a subscriber to and an incorporator of THE ASBESTOS BRAKE COMPANY, to the extent of four shares of the preferred stock and five shares of the common stock thereof, and he hereby requests and directs the said company to issue the certificates therefor to the aforesaid transferee or its nominee, nominees or assigns.

This transfer to take effect upon the acceptance thereof by the company, the undersigned meanwhile retaining his right to vote upon said shares and all other rights as a holder thereof.

Dated May 2nd., 1911

(Signed) William N. Cooper. (L. S.)

*Exhibit C. 2.*

The undersigned, for good and valuable consideration received, has sold, assigned, transferred and set over, and by these presents does, sell, assign, transfer and set over unto T. F. Manville the right, title and interest of the undersigned as a subscriber to and an incorporator of THE ASBESTOS BRAKE COMPANY, to the extent of one share of the preferred stock thereof; and he hereby requests and directs the said company to issue the certificate therefor to the aforesaid transferee or his nominee or assign.

This transfer to take effect upon the acceptance thereof by the company, the undersigned meanwhile retaining his rights as a holder thereof.

Dated May 2nd., 1911

(Signed) William N. Cooper. (L. s.)

*Francis C. Lowthorp,*
*Secretary.*

Minutes of meeting of the Board of Directors held at the office of the American Ever Ready Company, New York City, May 3rd, 1911, pursuant to adjournment.

Present, Messrs. Conrad Hubert, Joseph O. Stokes and Francis C. Lowthorp.

The meeting was organized with Mr. Stokes in the chair.

The minutes of the meeting of the Board held on May 2nd, 1911, were read and approved.

The Secretary presented the resignation of Mr. Harry R. Wilson as President and Director, and a transfer by Mr. Wilson to Mr. Mitford C. Massie of one share of the preferred stock of the company, or his right to subscription for such share.

On motion, duly seconded, the resignation of Mr. Wilson and his transfer of subscription were accepted by the Board.

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Mr. T. F. Manville was nominated as a Director to take the place made vacant by the resignation of Mr. Wilson, and the Secretary was instructed to cast a ballot for Mr. Manville for said position, which was done, and Mr. Manville was declared elected a member of the Board.

Mr. Lowthorp then presented his resignation as Secretary and Treasurer and Director of the company, and a transfer of his subscription for four shares of the preferred stock and five shares of the common stock of the company to Mr. Mitford C. Massie.

On motion, duly seconded, the resignation and transfer of subscription of Mr. Lowthorp were accepted; and Mr. Lowthorp was requested to continue as Secretary of the meeting to its close.

Mr. Mitford C. Massie was then nominated as a Director to fill the place vacated by Mr. Lowthorp, and Mr. Lowthorp was requested to cast a ballot for Mr. Massie on behalf of the Board, which was done, and Mr. Massie was duly declared elected a Director of the company.

Nominations for President, Vice President, Secretary and Treasurer of the company were then made as follows: For President, Mr. J. O. Stokes; for Vice President, Mr. Conrad Hubert; for Secretary Mr. Mitford C. Massie, and for Treasurer Mr. T. F. Manville. No other nominations were made, and the Secretary of the meeting was requested to cast a ballot on behalf of the Board for the gentlemen named for the positions which they were nominated, respectively. Such ballot being cast, Mr. Stokes was declared elected President, Mr. Hubert Vice President, Mr. Massie, Secretary, and Mr. Manville Treasurer.

Mr. Massie moved that the license heretofore directed by the Board to be issued to Empire Rubber Company, be delivered to him (Mr. Massie) in escrow. The motion being duly seconded, was carried.

Mr. Massie moved that Mr. Lowthorp be directed to attend to the immediate recording in the Patent Office of

*Exhibit C. 2.*

the several unrecorded assignments of patents to the company. The motion being duly seconded, was carried.

On motion, duly seconded, it was ordered that the several attorneys engaged in soliciting the patents, applications for which had been assigned to this company, be instructed to confer with each other as soon as practicable and to take measures to expedite the issue of the several patents in the best form and manner for the interest of the company; and that, as a preliminary to such action, Messrs. Williams, Parker-Smith and Lowthorp be instructed to allow Messrs. Massie and McElroy access to the Patent Office files of the several applications for said patents which said attorneys are prosecuting, respectively.

On motion, duly seconded, it was ordered that the Fourth National Bank, of New York Ctiy, be the depository of the funds of this company.

On motion, duly seconded, it was ordered that all checks, promissory notes, acceptances and other negotiable instruments be signed by the Treasurer and countersigned by the President.

No further business coming before the meeting, it was then adjourned.

*Francis C. Lowthorp,*
*Secretary of meeting.*

A true copy of each of the following papers referred to herein is appended to the minutes of this meeting.

Transfer of Subscription of Harry R. Wilson.

Transfer of Subscription of Francis C. Lowthorp.

The undersigned, for good and valuable consideration received, has sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over unto Mitford C. Massie, of Washington, D. C., the right, title and interest of the undersigned in one share of the preferred stock of THE ASBESTOS BRAKE COMPANY heretofore transferred to the undersigned by Francis C. Lowthorp, the original subscriber therefor, and

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hereby requests and directs the said company to issue the certificate for said share to the aforesaid transferee or his nominee or assigns.

This transfer to take effect upon the acceptance thereof by the company, the undersigned meanwhile retaining the right to vote upon said share.

Dated May 2nd., 1911.

(Signed) Harry R. Wilson. (L. S.)

The undersigned, for good and valuable consideration received, has sold, assigned, transferred and set over, and by these presents, does sell, assign, transfer and set over unto Mitford C. Massie the right, title and interest of the undersigned as a Subscriber to, and an Incorporator of THE ASBESTOS BRAKE COMPANY to the extent of four (4) shares of the preferred Capital Stock thereof and five (5) shares of the Common Capital Stock thereof, and hereby requests and directs the said Company to issue the certificates for said shares to the aforesaid transferee or his nominee or assigns.

Dated May 3rd 1911.

(Signed) Francis C. Lowthorp. (L. S.)
*Francis C. Lowthorp,*
*Secretary of meeting.*

Minutes of meeting of the Board of Directors held at the office of the H. W. Johns-Manville Company, 100 William Street, New York City, N. Y., July 25, 1911, at 2 P. M., pursuant to notice.

Present: Messrs. Joseph O. Stokes, Conrad Hubert, T. F. Manville and M. C. Massie.

The president reported that the book of minutes had not been delivered to the new secretary by the preceding secretary and, hence, could not be produced at the present meeting.

*Exhibit C. 2.*

On motion, duly seconded, it was resolved that the reading of the minutes of the meeting of May 3rd, 1911, be postponed to a later meeting and that the secretary be directed to obtain said book of minutes from Mr. Lowthorp, the preceding secretary.

Mr. T. F. Manville reported the receipt of a letter from from A. Parker-Smith stating the status of the patents and applications for patent belonging to the Company.

On motion, duly seconded, it was resolved that the secretary be instructed to obtain some printed stationery for the Company; to write letters to manufacturers of brake liners inviting them to take licenses under the Company patents, and in case of necessity to call personally on such manufacturers as might be interested.

On motion, duly seconded, it was resolved that the secretary be instructed to call the next meeting of the Board of Directors as soon as he was ready to report the results of his correspondence with the manufacturers of brake liners.

No further business coming before the meeting it was thereupon adjourned.

*Mitford C. Massie,*
*Secretary.*

Minutes of meeting of the Board of Directors held at the office of the H. W. Johns-Manville Company, 100 William Street, New York City, N. Y., Aug. 29, 1911, at 4 o'clock P. M., pursuant to notice.

Present: Messrs. Joseph O. Stokes, Conrad Hubert, T. F. Manville and M. C. Massie.

On motion duly seconded, it was resolved that the reading of the minutes of the meetings of May 3, 1911, and July 25, 1911, be waived and said minutes stand approved.

The Secretary reported the results of his correspondence with the various manufacturers of brake linings and also of an oral interview with the representatives of the

New Jersey State Library

*Exhibit C. 2.*

United States Asbestos Co. and the Woven Steel Hose & Rubber Co., at Philadelphia, Pa.

On motion duly seconded, Mr. J. O. Stokes was authorized to interview Mr. Frederick Hammerstrom, now with the Welsbach Light Co., and make an arrangement with him substantially as follows:

If Mr. Hammerstrom succeeds in inducing the Keasby & Mattison Co. to take a license from this Company an arrangement for a permanent position for Mr. Hammerstrom with this Company at a compensation based on a percentage of the net profits will be entered into, the details to be decided upon later.

On motion duly seconded, it was resolved that the licenses to be granted manufacturers of brake liners should be uniform with those now held by the present licensees of the Company, and that in view of complaints that the present schedule of prices was too high a lower schedule would be adopted after further consideration of the views of prospective licensees.

No further business coming before the meeting it was thereupon adjourned.

*M. C. Massie,*
Secretary.

A meeting of the Directors of the ASBESTOS BRAKE COMPANY was held, pursuant to due notice, at the office of Mr. T. F. Manville, 100 William Street, New York City, November 14th, 1911, at 2:00 P. M.

There were present Messrs. Stokes, Manville, and Bonner. Mr. Stokes acted as Chairman of the Meeting, Mr. Bonner as Secretary.

In view of the absence of Mr. Massie, the minutes of the last meeting were not read.

There was presented to the meeting, bill of Mr. M. C. Massie $52.60, also bill of Mr. A. Parker-Smith for his expenses in connection with the last patents obtained

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$74.45, both of which were approved and authorized to be paid.

On motion duly made by Mr. Manville and seconded by Mr. Stokes, it was

RESOLVED, in view of the conditions in connection with prices on Brake Band Lining and the fact that it has been impossible to maintain prices as proposed at the time of organization, that the provision for the members of this Company paying in ten percent on the sale of Brake Band Lining, be rescinded, and until conditions warrant, no royalties are to be paid.

On motion duly made by Mr. Bonner and seconded by Mr. Manville, it was further

RESOLVED that Mr. Stokes be authorized to see Mr. Penny as to what his charges would be for an opinion as to the validity of the patents held by the Asbestos Brake Company.

There being no further business, the meeting was adjourned.

(Written in in pencil) (*F. C. Greenwood Temp Secy.*)

New York, November 14, 1911.

Minutes of the meeting of the Board of Directors held at 2 P. M. at the office of the Johns-Manville Co., 100 Williams St., N. Y.

All members were present.

On motion duly made and seconded it was resolved that the four attorneys of the company be authorized to consider the question of whether or not suit should be brought on the patents of the Company against such parties as were then said to be infringing or whether an attempt should be made to make some arrangements to grant licenses to such parties, and said attorneys were authorized to commence suit if in their judgment it was advisable at that time.

On motion duly made and seconded, it was resolved that in case such a suit or suits were brought and the costs of

the same should be greater than the funds of the Company at that time on hand, the common stock of the Company should be assessed as might be necessary to pay the actual expenses of such litigation beyond the amount of funds on hand, and it was agreed that the Brake Liners Company of Washington, D. C., one of the stockholders of this Company, should be allowed to deposit its stock in this Company as collateral security for the payment of its assessment the amount of which should be advanced by the other members of the Company, such advanced moneys to be repaid from any dividends accredited to the stock of the said Brake Liners Company.

Thereupon on motion duly made and seconded the meeting adjourned.

*M. C. Massie,*
Secretary.

New York, Jan. 17, 1912.

## EXHIBIT C. 3.

License agreement between The Asbestos Brake Co. and H. W. Johns-Manville Co., dated May 2, 1911.

Printed as part of bill of complaint, at p. 41.

## EXHIBIT C. 4.

License agreement between The Asbestos Brake Company and Thermoid Rubber Co., dated May 2, 1911.

Printed as part of bill of complaint, at p. 46.

## EXHIBIT C. 5.

Agreement between Conrad Hubert, Thermoid Rubber Co. and H. W. Johns-Manville Co., dated September 22, 1910.

Printed as part of bill of complaint, at p. 17.

*Exhibits C. 6—C. 7.*

## EXHIBIT C. 6.

Agreement between H. W. Johns-Manville Co., Thermoid Rubber Co., Conrad Hubert and Brake Liners Co., dated March 6, 1911.

Printed as part of bill of complaint, at p. 39.

## EXHIBIT C. 7.

Oct. 5, 1911.

Joseph O. Stokes, Esq.,
c/o Thermoid Rubber Co.,
2009 So. Michigan Ave.,
Chicago, Ill.

Dear Sir:—

Replying to your esteemed favor of the 3rd inst. I beg to report as follows:

I believe that the United States Asbestos Co., which is one of the tape manufacturers having quite a large plant, has been converted from a position opposed to us to one at least neutral, if not friendly. I enclose a copy of a recent letter from this Company indicating the present disposition of Mr. Zimmerman. Quite a number of the brake liner manufacturers whose names were furnished to me in the first list, buy their asbestos tape from the United States Asbestos Co. and these customers, as I understood, were being held together in opposition to us by the United States Asbestos Co. I think it now remains to visit each one of said manufacturers separately and induce them to join us.

One of the largest of these Companies is the Woven Steel Hose and Rubber Co., and I enclose a recent letter from Mr. Kelso showing that apparently his Company is willing to join us.

As previously stated the Empire Rubber Co. is more than willing to take a license, provided the schedule is

*Exhibit C. 7.*

fixed at a satisfactory price and since our last meeting I have advised the Empire Co. that there is no doubt that this schedule will be made satisfactory to all parties concerned.

It seems to me that this is a case of where too many cooks spoil the broth. If our Company were to take the position that it would be satisfied if it had most of the brake liner manufacturers under license agreement by the first of the coming year and was prepared to incur the necessary expenses involved in trips to visit the licensees in different parts of the country, I could feel a reasonable assurance that the most important manufacturers, probably controlling four-fifths of the output of brake liners, would be with us by Jan. 1, 1912. So far as plans are concerned, I understood that they were practically settled at the last meeting to the effect that the outside manufacturers should be given a license on the same general terms as the licenses already issued to the constituent companies, the schedule of prices, however, to be fixed by the new licensees themselves. It is possible that it may be necessary to modify the license agreement very slightly, for example, by stating that the schedule of prices should not be changed except by the written consent of four-fifths of the licensees. Furthermore, it might be a talking point to provide in the license agreement that in case any licensee was charged with cutting prices a hearing would be given before a board of arbitrators, one of whom was appointed by the said licensee, the other by the Company and a third by the two arbitrators representing the two interests. Furthermore, in case it was decided by such board of arbitrators that the licensee was guilty of cutting prices, one-half the fine assessed against such licensee should be paid to any licensee who had bid for the same order and was the next highest in price.

This last point has been brought out as a result of conferences with various brake liner manufacturers, who claim that they could easily be put out of business by some

*Exhibit C. 7.*

licensee cutting the prices below the schedule price and thereby obtaining the contract. Furthermore, that the fining of such a price-cutter would be of no interest to the licensee, who was maintaining prices and had lost all its trade as a result of such price cutting.

It seems to me that our Company cannot reasonably expect these different manufacturers to sign new license agreements from time to time since each manufacturer when he signed the license agreement would be compelled to raise his prices and thereby cut off his own business until such time as the majority of manufacturers had taken licenses. Consequently I have merely worked to keep in line the three manufacturers who have already agreed to take licenses, provided the others do, until such time as I can get most of the others to agree.

So far as Keasby & Mattison are concerned, my plan is to leave them for the last, because we have less to offer that Company in view of the fact that they are tape manufacturers. When they find all their customers joined with our Company as licensees Keasby & Mattison will be more inclined to be reasonable. Furthermore, if we have a lot of licensees in the Company and paying royalties we will have a fund with which to sue Keasby & Mattison, if necessary to enforce our patents. However, the United States Asbestos Co. claims to have great influence with Dr. Mattison and possibly through the aid of Mr. Zimmerman we may be able to mollify Dr. Mattison.

There has been great talk about the matter of suing somebody for infringement of our patents. I call your attention to the fact that our Company has about $1700 in the treasury which would not be a drop in the bucket for a good law suit. The present licensees appear to be making no effort whatever to carry out the terms of their licenses in the way of making returns to the Company and this will have to be looked into at an early date. If the royalties due our Company from such licensees were promtly paid in we could probably accumulate a fund with

which we might hope to eventually make a fight on the patents, if that became necessary. I have already incurred some expenses in connection with what I have done thus far and about the 1st of September rendered my bill to the Company for a part of this expense such as I thought the Company was justly entitled to stand and also for $25 to cover actual lost time. I do not care to keep on indefinitely putting up money for expenses and think that the Company should make an appropriation to enable me to visit the New England manufacturers at an early date provided the Company desires me to follow this matter up.

Very truly yours,

## EXHIBIT C. 8.

Letter M. C. Massie to T. F. Manville, dated October 5, 1911.

Printed as part of testimony, at p. 247.

## EXHIBIT C. 9.

Letter, T. F. Manville to M. C. Massie, dated October 6, 1911.

Printed as part of testimony, at p. 249.

## EXHIBIT C. 10.

Letter, T. F. Manville to M. C. Massie, dated November 14, 1911.

Printed as part of testimony, at p. 252.

## EXHIBIT C. 11.

Letter, ———————— to T. F. Manville, dated November 7, 1911.

Printed as part of testimony, at p. 255.

## EXHIBIT C. 12.

Letter, A. Parker-Smith to H. D. Williams, dated October 21, 1909.

Printed as part of testimony, at p. 349.

## EXHIBIT C. 13.

(Letterhead Lowthorp & Moore.)

August 24th, 1910.

Mr. Henry D. Williams, Esq.,
76 William St., New York City.

Dear Mr. Williams,

Your letter of the 17th, inst. enclosing draft of proposed agreement between Mr. Hubert and others was duly received, but it was not until yesterday that I was able to get hold of Mr. Stokes and go carefully over the papers.

With one exception, the provisions of the papers are satisfactory. The exception referred to is the matter of licenses intended to be given to outsiders. One of the main objects of the draft of agreement which I handed you some time ago was to put things in train to force the licensing of outsiders to make, use and sell under a uniform license, which was to be similar in all respects but one to the license that was *to be* given to the parties to the original agreement. The one respect in which the licenses were to differ was the provision relating especially to Mr. Hubert and his company, as you know. The

*Exhibit C. 13.*

plan communicated to me was that the policy was to be to issue licenses to others, and my understanding is that it was so agreed between our clients; but it was thought that possibly Mr. Manville might object to this, and might do what he could to thwart the plan. Under the "condition to be included in each assignment" you have provided that licenses can be granted to others only by the votes of *all* the Directors. This would put it in the power of Mr. Manville to prevent the granting of any license to which he might object. Will you please consult Mr. Hubert at once and ascertain if it is not agreeable to him to substitute the word "a majority" for the word "all." Of course this might result in the granting of licenses to which individual directors might object, but it would put it in the power of our clients to enforce such policy concerning licenses as they have agreed upon, and may hereafter agree upon.

With the above stated exception the papers seem to meet my client's ideas.

In the draft I gave you it was provided that the licenses were to be uniform in character and form. There is nothing said of this in the draft you have forwarded, and probably it would be well to insert the words "uniform licenses" between "and" and "thereafter" in the eighth line of the condition to be inserted in the assignments.

Please notify me if the changes suggested herein are satisfactory to your client, and if so informed, I will have the agreement written out in triplicate without any unnecessary delay, in order that it may be executed by our clients, and tendered to the other party as promptly as possible.

Yours truly,

*Francis C. Lowthorp.*

*Exhibit C. 14.*

## EXHIBIT C. 14.

(Letterhead Henry D. Williams.)

August 26, 1910.

Francis C. Lowthorp, Esq.,
147 East State Street,
Trenton, N. J.

Dear Mr. Lowthorp:—

Your letter of the 24th inst. received. I have consulted with Mr. Hubert and he is agreeable to the change that the granting of licenses shall require only a majority vote of the directors, although as to the cancelling of licenses, he insists that unanimous vote should be required. The condition stated in each assignment may therefore be changed as you suggest.

It will also be necessary to change the amendment to the By Laws, Article II, Section IV, paragraph 5 by erasing "the granting and," line 5, and inserting "—for the."

As to the uniformity of the character of the licenses, this seems to me to be sufficiently provided for in that they must be in the form annexed to the agreement and assignment unless such form is changed by the votes of all of the directors. This is written into the condition of each assignment and assures uniformity, unless all the directors for some good reason find it necessary to issue special licenses in special cases. An absolute condition of uniformity might well prove troublesome in the future affairs of the company, while the documents as I have drawn them put it within the power of your client to maintain a uniformity in all of the license agreements. I think you will agree with me in this.

Very truly yours,

*Henry D. Williams.*

*Exhibits C. 15—C. 21.*

**EXHIBIT C. 15.**

1911 Johns-Manville Co. invoices, orders, etc.
Not printed.

**EXHIBIT C. 16.**

1914 Johns-Manville Co. invoices, orders, etc.
Not printed.

**EXHIBIT C. 17.**

1915 Johns-Manville Co. invoices, orders, etc.
Not printed.

**EXHIBIT C. 18.**

1916 Johns-Manville Co. price data.
Not printed.

**EXHIBIT C. 19.**

1917 Johns-Manville Co. invoices, orders, etc.
Not printed.

**EXHIBIT C. 20.**

1918 Johns-Manville Co. price data.
Not printed.

**EXHIBIT C. 21.**

1920 Johns-Manville Co. booklet (reference to p. 38).
Printed copies inserted following page 580.

*Exhibit C. 22.*

## EXHIBIT C. 22.

Aug. 23, 1911.

T. F. Manville, Esq.,
100 William St.,
New York, N. Y.

Dear Mr. Manville:—

I beg to report that up to date I have heard from all the parties on your list with the exception of the Asbestos Fibre Spinning Co., North Wales, Pa., and the Standard Woven Fabric Co., Worcester, Mass., in answer to my first form letter. I have written to each one who answered me requesting an oral interview but so far have had no replies. I think, however, it would be well to obtain the views of yourself and the other directors as to the proposition to be submitted to interested parties in order that I may be prepared to take up the matter without delay. I believe that all of the manufacturers who have answered me would be glad to give me an oral hearing at any reasonable time.

What do you think about the advisability of having a meeting of the Board of Directors for the purpose of discussing in a general way the proposition to be submitted?

I think we could make a much better showing in the way of getting other manufacturers to take licenses if we were in a position to give them exactly the same kind of a license which has been given to the original parties. In other words, if we can assure them that they are coming in on the same terms as the other licensees it would prevent contentions and opposition. In fact I consider that even the license which was taken by your Company and also the other Companies will appear very severe to an outsider because it calls for such a detailed disclosure of their brake liner business, such, for example, as daily reports of sales, to whom made, etc. While this is all right for the original Company represented on the Board of

*Exhibit C. 23.*

Directors, it is likely to be regarded with suspicion by other manufacturers not so represented, who may think that this is a mere subterfuge to enable the original companies to obtain inside information as to the business of the later licensees. At the same time the plan is a very good one for our Company.

Hoping to hear from you at an early date, I remain,

Yours very truly,

M. C. Massie

**EXHIBIT C. 23.**

(Letterhead H. W. Johns-Manville Co.)

New York, March 27th, 1912.

Mr. M. C. Massie,
No. 918 F Street,
Washington, D. C.

Dear Sir:

It seems as though it was about time for us to get some report from you or somebody else regarding this Brake Band matter. We would be pleased to hear from you on the subject without delay.

Yours very truly,

H. W. JOHNS-MANVILLE CO.,
*T. F. Manville,*
President.

*Exhibit C. 24.*

## EXHIBIT C. 24.

March 28, 1912.

H. W. Johns-Manville Co.,
100 William St.,
New York, N. Y.

Gentlemen:—

Your Mr. T. F. Manville's favor of the 27th inst. in regard to the brake band matter is duly received and comes as somewhat of a surprise. I was informed that the report of the conference of attorneys was submitted to your Company and I have been expecting a notice calling a further meeting of the Board to pass upon this report. It is obvious that I cannot take any steps on my own initiative in the matter of carrying out the recommendations of the attorneys' report unless so authorized by the Board.

Very truly yours,

M. C. Massie

*Exhibit C. 25.*

## EXHIBIT C. 25.

UNITED STATES CIRCUIT COURT OF APPEALS.
SIXTH CIRCUIT.

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(Order entered November 13th, 1911)

On motion of counsel Mr. Francis C. Lowthorp, of Trenton, New Jersey and Mr. Hugh K. Wagner, of Saint Louis, Missouri, are admitted to practice in this Court.

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(Entry—November 16, 1911)

The Sheffield Car Co.
*vs.* No. 2155.
Frank P. D'Arcy,

Before Warrington, McCall and Sanford, *JJ.*

This cause is argued in part by Mr. Francis C. Lowthorp for the Appellant and is continued until tomorrow for further argument.

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(Entry—November 17, 1911)

The Sheffield Car Co.,
*vs.* No. 2155.
Frank P. D'Arcy,

Before Warrington, McCall and Sanford, *JJ.*

This cause is further argued by Mr. Francis C. Lowthorp for the Appellant and by Mr. Fred L. Chappell for the Appellee and is submitted to the Court.

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UNITED STATES CIRCUIT COURT OF APPEALS
FOR THE SIXTH CIRCUIT.

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I, Arthur B. Mussman, Clerk of the United States Circuit Court of Appeals for the Sixth Circuit, do hereby certify that the foregoing are true and correct copies of Entry admitting Mr. Francis C. Lowthorp to practice in this Court, entered November 13, 1911, and the minutes of this Court showing the argument and submission in the

*Exhibit C. 26.*

case of The Sheffield Car Co. *vs.* Frank P. D'Arcy, No. 2155, on November 16, 1911, and November 17, 1911, respectively, as the same remain upon the files and records of said United States Circuit Court of Appeals for the Sixth Circuit, and of the whole thereof.

In Testimony Whereof, I have hereunto subscribed my name, and affixed the seal of said Court, at the City of Cincinnati, Ohio, this fifteenth day of November, A. D. 1920.

ARTHUR B. MUSSMAN,
(seal) *Clerk of the United States Circuit Court of Appeals for the Sixth Circuit.*

## EXHIBIT C. 26.

(Letterhead A. Parker-Smith.)

New York, July 13, 1910.

Mr. Francis C. Lowthorpe,
147 East State St.,
Trenton, N. J.

Dear Mr. Lowthorpe:—

Mr. Hubert seems to have "left the reservation" in the brake band matter, as Mr. Williams telephoned me yesterday that he had decided to go ahead and fight out the interference on the merits.

I hope for the sake of both our clients that this matter can be straightened out again, as I have a very strong presentiment that Coleman will win in these interferences. Mr. Williams will hold the matter of taking testimony up in view of my European trip and in the meantime I have urged Mr. Manville to do his best to get Mr. Hubert back in line again.

I will be back on August 30th and we can then take the testimony and still get the record complete before the

*Exhibit D. 1.*

present date of hearing which is the latter part of October and so not delay the final disposition of the matter.

Yours sincerely,

*A. Parker-Smith.*

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## EXHIBIT D. 1.

(Letterhead Thermoid Rubber Company.)

Trenton, N. J., 10-3-11.

Mr. Mitford C. Massie,
918 F Street, N. W.,
Washington, D. C.

Dear Sir:—

20 Replying to your favor of September 27th, which has been delayed owing to my absence from town, beg to say that I leave for Chicago tomorrow, Wednesday, returning Sunday, October 8th, and I would like you to forward to me, c/o Chicago office, 2009 So. Michigan Ave., if you can spare the time, all the information you have in your possession regarding the stand that the other man takes, as I want to line this matter up with our Mr. Wilson, who was the first man to launch Brake Lining on the market,
30 get his views and then on my return interview Mr. Manville, and see if we cannot arrive at something definite that will meet with the approval of all the other manufacturers.

In your letter to me at Chicago you might, if agreeable, give me, as fully as possible, the ideas of the different manufacturers that you have visited so that we can amalgamate the whole thing together, after an interview with Mr. Manville, which will greatly facilitate matters.

40

*Exhibit D. 2.*

Regretting the delay, and trusting you will be able to send the information asked for, and hoping to have the pleasure of seeing you very shortly, I remain,

Yours very truly,

*Jos. O. Stokes,*
Prest.

JOS/P.

10

**EXHIBIT D. 2.**

(Letterhead Mitford C. Massie.)

Nov. 4, 1911.

J. O. Stokes, Esq.,
President The Asbestos Brake Co.,
Trenton, N. J.

20

Dear Sir:—

I beg to report that I have just received a letter from Mr. T. F. Manville suggesting the calling of a meeting of The Asbestos Brake Co. for Nov. 9. I have written to Mr. Manville explaining that I will be in Chicago taking testimony on that date and suggesting that we meet on Tuesday, Nov. 14, 1911.

Please let me know whether or not this will suit you. If so I will have the notices sent out in due time for Nov. 14.

30

Very truly yours,

*M. C. Massie.*

40

*Exhibits D. 4—D. 5.*

## EXHIBIT D. 4.

THE ASBESTOS BRAKE COMPANY, To FRANCIS C. LOWTHORP, Dr.

| | | | |
|---|---|---|---|
| 1911. | | | |
| Dec. | 6. | Interview with Mr. J. O. Stokes on Asbestos matters in New York | $35.00 |
| | | Expenses | 3.65 |
| 1912. | | | |
| Jan. | 29. | Consultation and report on policy of company, in New York. | 35.00 |
| | | Expenses | 3.50 |
| Aug. | 9. | To Washington. Conference with Mr. Massey and Mr. McElroy over Bonner application, and preparation of amendments. | 35.00 |
| | | Expenses | 15.00 |
| | | | $127.15 |

Received payment.

## EXHIBIT D. 5.

(Letterhead Francis C. Lowthorp.)

October 7th, 1913.

T. F. Manville, Esqr.,
c/o Johns-Manville Company,
100 William Street,
New York City.

My dear Mr. Manville,

I enclose to you herewith my bill for services to the Asbestos Brake Company, rendered during the years 1911 and 1912. I have endeavored to bring this bill to your notice through Mr. J. O. Stokes, who was able to ex-

*Exhibit D. 5.*

plain to you the first item of December 6th, 1911, had you overlooked or forgotten its character. Unfortunately Mr. Stokes has been unable to meet you and he has advised me to write you directly, sending the bill to you.

The item I refer to as given in the bill does not fully explain the interview as it was desired by yourself, as I am informed, and by Mr. Stokes that nothing be known of the interview mentioned. It was really a consultation with Mr. John C. Pennie with a view to engaging him as counsel for the purpose of passing upon the validity and scope of the several patents assigned to the Asbestos Brake Company. The interview was fixed for such time that it practically broke up a day of my time, and is so charged. The other items you will readily understand from the way they are set forth in the bill.

I have delayed in sending this bill to you simply because I have presented it a considerable time back to Mr. Stokes, and he has promised to endeavor to consult with you about it, but informs me that he has failed of accomplishing his object.

You will greatly oblige me if you will forward me a check for the amount found to be due with as little delay as practicable.

Very truly yours,

L/B *Francis C. Lowthorp.*

*Exhibit D. 6.*

## EXHIBIT D. 6.

(Letterhead Francis C. Lowthorp.)

March 3rd, 1914.

Mr. T. F. Manville,
c/o H. W. Johns-Manville Co.,
Madison Ave. & 41st street,
New York City.

Dear Sir:

I have received your recent letter acknowledging receipt of blank for report of Asbestos Brake Co. to State Board of Assessors and note your remarks concerning my bill against the company.

I have to say that I have had several interviews with Mr. J. O. Stokes on that subject, and he assured me that he would, and later that he had O. Kd. my bill. He has now gone to Honolulu, and will not return for a month or more. I feel that the company can pay my bill without waiting for his return, and again request that you kindly take the matter up, and have check sent me promptly.

When I sent the original bill for $127.15 I omitted the charges for three years for office rent and my charges for representation of the company as statutory agent, amounting to twenty-five dollars per year, because the company was not active and was without income. I thought such consideration of the company on my part would commend itself to the officers, and that there would be no delay in paying the long due bill. Since then I have several times offered to cancel the charge for office and agency if my bill were paid at once. Whether this was understood by you I am not sure, and I now send you my bill for $202.15 which includes three years charges for office and representation, which is the usual charge for such services made by attorneys; and I offer to deduct

and cancel the said charges, amounting to seventy-five dollars, if you will send me a check for the residue of the bill ($127.15) without further delay. I am aware that this is a very large discount, but at this time I am in immediate need of such money as I can collect owing to losses which I have unfortunately sustained.

Your kind attention to this matter will be highly appreciated by

Yours very truly,

*Francis C. Lowthorp.*

**EXHIBIT D. 7.**

United States Letters Patent No. 903,049, November 3, 1908, W. T. Bonner.

Printed copies inserted following page 580.

**EXHIBIT D. 8.**

United States Letters Patent No. 931,988, August 24, 1909, W T. Bonner.

Printed copies inserted following page 580.

**EXHIBIT D. 9.**

United States Letters Patent No. 980,481, January 3, 1911, W. T. Bonner to The Brake Liners Co.

Printed copies inserted following page 580.

**EXHIBIT D. 10.**

United States Letters Patent No. 993,031, May 23, 1911, C. J. Coleman to Conrad Hubert.

Printed copies inserted following page 580.

*Exhibit D. 11.*

## EXHIBIT D. 11.

UNITED STATES OF AMERICA,
DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the Records of this Office of the Specification and Drawing, as originally filed, in the matter of the Abandoned Application of Arthur G. Cutting and Franc J. Jewett, Filed June 30, 1908, Serial 441,207, for Improvement in Brake Blocks.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed at Washington, in the District of Columbia, this third day of May, in the year of our Lord one thousand nine hundred and twenty, and of the Independence of the United States of America the one hundred and forty-fourth.

M. H. COULSTON,
(SEAL) *Acting Commissioner of Patents.*

Specification.

To all whom it may concern:

Be it known that we, FRANC J. JEWETT, and ARTHUR G. CUTTING, citizens of the United States of America, and residents of the Borough of Brooklyn, City of New York, County of Kings and State of New York, have invented certain new and useful improvements in

BRAKE BLOCKS,

of which the following is a specification.

Our invention relates to brake blocks or brake shoes such as are applied to check the rotation of winding drums or other revolving parts of machinery and consists of a brake block made out of asbestos fibre compressed and preferably saturated with some binding solution.

*Exhibit D. 11.*

The best form of apparatus at present known to us embodying our invention is illustrated in the accompanying sheet of drawings in which:

Fig. 1 is a prospective view of a brake block for a winding drum, and

Fig. 2 is a cross section through it on a plane perpendicular to the concave wearing face of the block.

Throughout the drawings like reference figures indicate like parts.

1 is the concave, or wearing face of the brake block which in use is pressed into contact with the periphery of a revolving wheel or drum to check the rotation of the same. 2 is the end and 3 the side of the brake block which is composed of a series of layers of material 4, 5, etc.

In making the block a mould is used the length and breadth of the block, or a little greater dimensions and a depth equal to about twice the desired thickness of the finished block. Into the mold a thin layer of asbestos fibre is spread, saturated with a solution of silicate of soda of a specific gravity of 15 degrees Baume, and pressed down by hand to form a sheet such as is generally indicated by 4. A second layer 5, is then formed in the same way on top of the first layer and so on until the mold is full, the stuff being packed down as closely as it is possible to compress it by hand labor. It is then subjected to an hydraulic pressure of about ten tons to the square foot, dried and baked. After baking, the block is immersed in a bath of a solution of silicate of soda of a specific gravity of 20 degrees Baume, then dried and sand papered down to the desired dimensions.

In some cases, we find it advantageous to submerge the finished block in a bath of raw linseed oil for about five minutes.

The advantages of our invention comprise its even retarding action on the rotating member, its freedom from

*Exhibit D. 11.*

heating, and its high coefficient of friction on metal which exceeds by 40 per cent, the average coefficient of friction of metal upon metal. Under conditions which would cause metal brake shoes to partly fuse and set fire to anything combustible in contact with them, our improved brake block remains comparatively cool, and it does not cut or score the drum, or its own bearing surface.

While we have found the above construction of asbestos brake block to give the best results, of course such brake blocks could be made by other processes and other arrangements of layers, or of absolutely homogeneous composition without departing from our invention so long as asbestos was the main constituent.

Having, therefore, described our invention, we claim:

1. A brake block composed mainly of asbestos fibre.

2. A brake block composed of asbestos fibre saturated with silicate of soda.

3. A brake block composed of compressed asbestos fibre saturated with silicate of soda and linseed oil.

4. A brake block composed of compressed layers of asbestos fibre, the layers being arranged concentric to the bearing surface of the block.

5. A brake block composed of compressed layers of asbestos fibre, the layers being arranged concentric to the bearing surface of the block and the mass saturated with silicate of soda.

Signed at New York, this 25th day of June, 1908.

Arthur G. Cutting
Franc J. Jewett

Witnesses:

William B. Halen
L. R. Hoff

Photostat copy of drawing attached.

*Exhibits D. 12—D. 16.*

**EXHIBIT D. 12.**

United States Letters Patent No. 997,818, July 11, 1911, L. R. Hoff to The Asbestos Brake Co.
Printed copies inserted following page 580.

**EXHIBIT D. 13.**

United States Letters Patent No. 1,141,606, June 1, 1915, W. T. Bonner to The Asbestos Brake Co.
Printed copies inserted following page 580.

**EXHIBIT D. 14.**

United States Letters Patent No. 1,117,774, November 17, 1914, W. T. Bonner to The Asbestos Brake Co.
Printed copies inserted following page 580.

**EXHIBIT D. 15.**

United States Letters Patent No. 997,498, July 11, 1911, F. A. Headson to The Asbestos Brake Co.
Printed copies inserted following page 580.

**EXHIBIT D. 16.**

United States Letters Patent No. 1,012,356, December 19, 1911, L. R. Hoff to The Asbestos Brake Co.
Printed copies inserted following page 580.

*Exhibit D. 17.*

## EXHIBIT D. 17.

UNITED STATES OF AMERICA,
DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the Records of this Office of the Petition, Specification, Oath and Drawing, as originally filed, in the matter of the Abandoned Application of William T. Bonner, Filed January 20, 1908, Serial Number 411,599, for Improvement in Lining for Brakes, Clutches, &c.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed at Washington in the District of Columbia, this 17th day of September, in the year of our Lord one thousand nine hundred and twenty and of the Independence of the United States of America the one hundred and forty-fifth.

M. H. COULSTON,
(SEAL) *Acting Commissioner of Patents.*

Mail Room
Jan. 20, 1908,
U. S. Patent Office.

To the Commissioner of Patents:

Your petitioner, William T. Bonner, a citizen of the United States, residing at and whose post office address is No. Cor. Bonner & White street, Washington, in the county of Beaufort, in the state of North Carolina, prays that letters patent may be granted to him for the Improvement in Linings for Brakes, Clutches and the Like, set forth in the annexed specification. And he hereby appoints Francis C. Lowthorp, of Trenton, in the county of Mercer, in the state of New Jersey, his attorney, with

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full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to sign the drawings, to receive the patent, and to transact all business in the Patent Office connected therewith.

Signed at Mobile, Mobile County, State of Alabama.

William T. Bonner.

To All to Whom It May Concern:

Be it known, that I, William T. Bonner, a citizen of the United States, residing in Washington, in the County of Beaufort, in the State of North Carolina, have invented a certain new and useful Improvement in Lining for Brakes, Clutches, and the like, of which the following is a specification.

My invention relates to linings used in brakes, clutches and the like, which subjected to heavy and sharp friction tend to become greatly heated and injuriously affected thereby. Such linings are used extensively in automobile construction, and are commonly made of canvas and other combustible materials, and when put to use quickly become charred and carbonized by the heat generated by the friction to which they are subjected, and so rapidly deterioate and become useless, thus enforcing frequent renewals at considerable expense of time, labor and money.

The object of my invention is to produce such a lining as will not become injuriously carbonized or charred by such frictionally generated heat, but will rather improve than deterioate in body and quality through the use to which it is subjected.

The base of my lining consists of asbestos cloth. I may use such asbestos cloth made without metallic or other foundation, but I prefer to use such cloth with wires woven in the strands of the cloth, or wire netting embodied therein. I may also use the same with a sheet

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of metal embodied therein or backing on same; and I prefer to use such asbestos cloth with brass wire strands or netting or cloth, of wire comprising such reinforcement of the cloth being covered by woven strands of the asbestos fibres.'

In the drawings forming a part of this specification, I have illustrated my lining made with brass wire netting or cloth woven within the same, and I have also shown it applied to a clutch and a brake of the ordinary construction used in automobiles.

In the drawings:

Fig. 1 shows a diametric cross sectional view of a clutch with my lining applied thereto;

Fig. 2 being a view in side elevation of a brake structure containing said lining; and

Fig. 3 is a perspective view on an enlarged scale of a section of the lining itself, the several layers of the lining being separated at one end of the piece to convey a clear idea of its construction.

In making my lining I first coat the asbestos cloth on both of its sides with rubber cement, which I apply either by a bath or a stiff brush. After having thus coated the cloth it is hung up and allowed to dry for twenty-four hours. It is then cut to the width required to produce a number of folds needed to afford a lining of the desired thickness and is folded upon itself longitudinally. It is then run through a cold calendar to press the folds closely together, permanently set them as creased and to practically solidify the entire body of materials. This accomplished, it is run through a sewing machine and the several plies of material are stitched together in parallel longitudinal lines of stitching from one quarter to one half an inch apart. It is next placed in a vulcanizing press and held under a pressure of approximately fifteen hundred pounds to a square inch for a sufficient time to thoroughly cure the rubber in the cement coats

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of the cloth. It is then ready for cutting into section as required for use.

A proper cement for use in coating the asbestos cloth may be made as follows:—it being understood that other compounds may be used for such purpose without departing from my invention.

Take 35 pounds of Bolivian Fine Para Rubber,
35 pounds Nuggety Coarse Para Rubber,
5 pounds Borneo Rubber #1,
10 pounds Oxide Zinc
5 pounds White Lead
4 pounds Litharge
5 pounds Whiting and
6 pounds Sulphur.

Said ingredients should be thoroughly mixed in an ordinary mill, then cut the slab thus produced into small pieces, and place them in a cement mixer with sufficient benzine to liquify the compound until it shall acquire the consistency of ordinary oil paint. When so prepared the cement is ready for use. The lining when completed and cut into strips appears as shown in Fig. 3 of the drawings. The piece there illustrated consists of four layers, a, b, c, d, of asbestos cloth woven with wire netting or cloth, such wire cloth being indicated in said Fig. 3 by the wave lines appearing in the cut edges of the layers, a, b, c, d; the longitudinal lines of stitching being indicated at e, f, g, h and i.

In Fig. 1 of the drawings I have illustrated my lining applied to a clutch. In Fig 1, k, is the outside clutch-member, and, l, is the inside clutch-member. Between the opposing faces of these members my lining is interposed, being indicated by, m. The lining is laid over the bevelled face of the inner clutch-member, l, and is fastened thereto by rivets, some of which are shown at n, n.

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In Fig. 2 I have shown my lining applied to a brake. In that figure, o, is the brake wheel, and, p, is the strap. The lining, m, is attached to the strap by rivets as it is to the clutch-member above described.

When used in clutch or brake my lining takes the fricktion produced by the opposing metal face of the clutch member or brake wheel, and acts most efficiently. The carbonizing effect of the head produced by the friction is confined to the outside coat of cured rubber cement. While the friction and resultant head compact and harden the asbestos cloth thus enabling it to present an indurated surface to the opposing metal and to withstand the wear of friction better than anything else, while it lacks the objectionable feature of a metal wearing surfact. It does not and can not carbonize as do other linings of fabric, leather, &c., and so deteriorates very slowly, and so has a long life in ordinary use, and saves trouble and delay incident to frequent renewals requisite to all other forms of fabric linings. The rubber cement coating prevents the absorption of oil by the asbestos cloth, thus preventing the slipping and ravelling of the strands of asbestos.

Having thus described my invention, I claim:

1. As an article of manufacture a friction lining formed of several plies of asbestos cloth, coated on each side with cement and stitched together.

2. As an article of manufacture a friction lining formed of layers of asbestos cloth having a metallic reinforcement and coated upon each side of each layer of said cloth with rubber cement, and stitched together and vulcanized.

3. As an article of manufacture a friction lining formed of layers of asbestos cloth woven upon wire cloth, coated upon each side of each layer with rubber cement, stitched together and cured.

4. In a friction clutch the combination with two co-operative clutch-members, and means for operating the

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same of a friction lining interposed between said two clutch-members and attached to one thereof, said friction lining consisting of plies or layers of asbestos cloth coated on each of their sides with cement and stitched together.

5. In a brake mechanism, the combination with a brake wheel and a strap of a friction lining composed of layers of asbestos cloth cemented and stitched together and cured, substantially as described.

William T. Bonner.

Witnesses:
J. Grey Thomas
H. C. Bittle

STATE OF NORTH CAROLINA, }
COUNTY OF BEAUFORD, } *ss.*

William T. Bonner, the above named petitioner, being duly sworn, deposes and says, that he is a citizen of the United States, and resident of Washington, in the county of Beaufort, in the State of North Carolina; that he verily believes himself to be the original, first and sole inventor of the Improvement in Linings for Brakes, Clutches and the Like described and claimed in the annexed specification that he does not know and does not believe that the same was ever known or used before his invention or discovery thereof, or patented or described in any printed publication in any country before his invention or discovery thereof, or for more than two years prior to this application, or patented in any country foreign to the United States, or in public use or on sale in the United States for more than two years prior to this application; and that no application for patent on said improvement has been filed by him or his representa-

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tives or assigns in any country foreign to the United States.

William T. Bonner

Sworn to and subscribed before me this 10th day of January, nineteen hundred and eight.

Francis J. Inge,
Notary Public,
Mobile County,
State of Ala.

Com. expires
Jan'y 19, 1909.
(SEAL)

Drawing attached.

## EXHIBIT D. 18.

UNITED STATES OF AMERICA,
DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the Records of this Office of the Provisional Specification, Complete Specification and Drawing in the matter of the British Letters Patent to Charles Robert Hutchings, Dated April 14, 1896, Number 7,900, for Improvements in Band Brakes.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed at Washington in the District of Columbia, this 13th day of July, in the year of our Lord one thousand nine hundred and twenty and of the Independence of the United States of America the one hundred and forty-fifth.

M. H. COULSTON,
*Acting Commissioner of Patents.*

(SEAL)

*Exhibit D. 18.*

No. 7900 (Cut of Seal) A. D. 1896

*Date of Application, 14th Apr., 1896*
*Complete Specification Left, 14th Jan., 1897—Accepted, 27th Mar., 1897*

## PROVISIONAL SPECIFICATION.

### Improvements in Band Brakes.

I, CHARLES ROBERT HUTCHINGS, of Grosvenor Chambers, Bournemouth, in the County of Hants, Solicitor, do hereby declare the nature of this invention to be as follows:—

The bands or straps usually used for controlling the drums of band brakes, in the case of cycles, or other vehicles, or light machinery, are generally composed of a flexible strip or band of steel, faced with leather, and it is found, especially in the case of cycles, that the heat generated by friction, quickly destroys the leather facing.

The object of my present invention is to provide a facing for the metal band or strip of a more durable or heat resisting nature; and, for this purpose, I face or enclose the metal band or strip with, or in, a covering or facing, preferably composed of a core of rubber, metal, or other suitable material, and covered or faced, in its turn, by or with asbestos tape, millboard, or felt.

The band brake, as above described will also be found particularly applicable to autocars or horesless vehicles.

Dated this 8th day of April 1896.

STANLEY, POPPLEWELL & Co.,
7 & 8 Southampton Buildings, London, W. C.,
*Chartered Patent Agents.*

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## COMPLETE SPECIFICATION.

### Improvements in Band Brakes.

I, CHARLES ROBERT HUTCHINGS, of Grosvenor Chambers, Bournemouth, in the County of Hants, Solicitor, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The bands or strips generally used for controlling the drums of band brakes, in the case of cycles, or other vehicles, or light machinery, are generally composed of a flexible strip or band of steel, faced with leather, and it is found especially in the case of cycles, that the heat generated by friction, quickly destroys the leather facing.

The object of my present invention is to provide a facing for the metal band or strip which will bite and yet be of a more durable or heat resisting nature; and I find from experiment that asbestos, in the woven tape form, answers the purpose admirably.

I therefore take a strip of asbestos tape, and secure it upon the inner or concave surface of the usual metal band by means of rivets or in any other desired and convenient manner, and the ends may or may not be secured or protected within the overlapping extremities of said metal band.

On the accompanying sheet of drawings Figure 1 shows part of a brake band made in accordance with my invention, and Figure 2 is a section on line A B.

Referring to these drawings, *a* is the flexible steel or metal band, *b* the lining or facing of asbestos, and *c* the rivets by which the latter is held firmly on to the band.

Instead of using asbestos tape by itself as a facing or lining, I may compose the latter of a core or backing of thin metal, rubber, or other suitable material, covered or faced in its turn by or with asbestos tape, and then apply it in this form to the usual steel or metal, suitable

*Exhibit D. 18.*

holes for rivets or the necessary provision for any other convenient form of attachment being provided.

The band brake as above described will be found equally useful for auto-cars or self-propelled vehicles.

Having now particularly described and ascertained the nature of my said inventon and in what manner the same is to be performed, I declare that what I claim is:—

1. A band brake composed of a flexible strip of metal having a facing or lining of asbestos substantially in the manner and for particular object hereinbefore described.

2. In flexible band brakes, the application of a friction lining of woven asbestos or asbestos tape, either by itself or combined with a core or backing of thin metal, rubber, or other strengthening material, substantially as described.

3. The improvement in band brakes for the purpose of reducing the heat generated by friction and thus producing a brake of a more durable nature, substantially as hereinbefore described.

Dated this 14th day of January 1897.

STANLEY, POPPLEWELL & Co.,
7 & 8, Southampton Buildings, Chancery Lane, London,
Chartered Patent Agents.

London: Printed for Her Majesty's Stationery Office,
by Darling & Son, Ltd.—1897

Photostat copy of drawing attached.

*Exhibit D. 19.*

## EXHIBIT D. 19.

New York, January 29, 1912.

Asbestos Brake Co.,

Gentlemen:—

The undersigned counsel having conferred together under a resolution of your board of directors as conveyed to us individually by Mr. Massie, a member of your board, as to the policy to be recommended to you for the purpose of enforcing your patents on asbestos brake linings, and having considered the situation so far as known to us, respectfully submit:

1. It is the unanimous opinion of counsel that the procuring of the acceptance and execution of licenses by as many manufacturers as can be induced to accept them before any suits are brought against those who refuse to take licenses, will have a beneficial effect on such suits as may be subsequently brought to establish the patents:

(a) because the payment of license fees thereunder can probably be so arranged as to establish a measure of damages on which a money recovery from other infringers may be had after suits have been won against them, so that the expenses of such litigation might be partly or wholly paid out of such recoveries, and

(b) because the acceptance of such licenses would create a showing of acquiescence by the public in the validity of the patents which would help us in the suits brought against others.

If no licenses were outstanding during the prosecution of a suit on these patents except those taken by the constituent interests, the defendant might say that we had merely pooled a lot of worthless patents under which we pay licenses into our own

*Exhibit D. 19.*

pockets and were trying to dominate the trade by such combination, but if a number of disinterested outsiders had taken licenses previous to the institution of the suit, and were paying considerable royalties to your corporation, it would create a situation that might well influence the court in favor of the patents in considering any doubtful points that might arise on the question of validity.

2. As to the terms of the licenses themselves, we advise that the form previously adopted be carefully reconsidered to ensure if possible the recovery of the 10% royalty from infringers who might not infringe *all* of the patents, as also in the event of one or more of the patents being held invalid, while others were sustained.

While counsel would not assume to advise your board on points of business policy, it seems to us that the legal advantage of getting some *bona fide* and substantial licenses in force before bringing suit, renders it worth while to make some concessions to manufacturers of large quantities of cheap asbestos linings so that they, after taking licenses, would not be put out of business by composition with the more elaborate asbestos linings (like the thermoid or J-M Grade A) on the question of quality on the one side, and with the non-infringing cotton or so called camel's hair lining on the question of price on the other side. No legal complications would result from classifying sale prices for single ply linings at a lower figure than those for two or more ply or compound woven linings, and if this is commercially practicable it would apparently facilitate the negotiations of licenses with the makers of these cheap single ply linings who sell enormous quantities to the manufacturers of cheap automobiles and whose large volume of output as licensees

*competition*

*Exhibit D. 19.*

would make a heavy showing of general acquiescence in the patents most useful in a closely contested patent litigation. Of course a uniform license fee of 10% on the selling price would be enforced in all cases and the only variation would be in the selling prices fixed for single ply on the one hand and two or more ply on the other.

3. If the negotiation of some licenses is to be again attempted before bringing suit as herein advised in paragraph (1), the question of whom to sue must be deferred until such licenses have been negotiated. When the time is ripe to bring suit, we should probably advise bringing it in New York against some manufacturer who has an office and is selling his product in that city, as at the present time the Court of Appeals in the Second Circuit seems more inclined to sustain patents than does the Court of Appeals in the Third Circuit, in which New Jersey and Pennsylvania are located. The question as to whether such suit be brought against the strongest or the weakest infringer must also be postponed for decision on the situation as it then exists.

In conclusion, counsel are unanimously of the opinion that the patents of your company have claims valid over the prior art so far as known to them, sufficient in scope to maintain a commercial monopoly of asbestos brake linings. Of course extensive searches made on behalf of defendants sued on the patents may discover instances of prior publication or prior use that will impair this monopoly, but that question can best be determined by actual litigation.

Respectfully submitted,

FRANCIS C. LOWTHORP,
M. C. MASSIE,
A. PARKER-SMITH,
HENRY D. WILLIAMS,
By A. Parker-Smith.

*Exhibit D. 20.*

## EXHIBIT D. 20.

(Copy.)

Trenton, N. J., November 12th, 1910.

Mr. T. F. Manville,
*Pres.*, H. W. Johns-Manville Co.,
100 William Street, New York City.

Dear Sir:

Under date of October 17th, I wrote your attorney, Mr. A. Parker-Smith, asking him to submit to you a proposition re. the Brake Liners situation. He advised me that he had done so, but have heard nothing from you regarding the matter. The Brake Liners Co. through the Empire Tire and Rubber Co. are in the business to stay but in common with others would prefer not to see ruinous competition, hence my proposition.

Owing to the existence of Eng. patent No. 7,900, granted March 27th, 1897, to Chas. Robt. Hutchings, No basic or prohibitive patent or patents can be issued to anyone. It appears to me to be at least worth while to attempt to get together. The K. & M. Asbestos Co. are not only in the game to stay but to fight if need be. It appears to me that five concerns could get together on the lines I indicated at little cost and no disturbance to their business condition.

Yours truly,

(Signed) W. T. BONNER.

*Exhibit D. 21.*

(Letterhead H. W. Johns-Manville Co.)

November 14th, 1910.

A. Parker-Smith, Esq.,
2 Rector St., New York.

Dear Sir:

Referring to the Brake Band matter, I was unable to see Mr. Stokes last week, but I am arranging for an interview with him this week.

I enclose you copy of letter from Mr. Bonner. What do you think of his conclusions regarding patent?

Yours very truly,

H. W. JOHNS-MANVILLE CO.,
*T. F. Manville,*
President.

**EXHIBIT D. 21.**

New York, November 4, 1910.

Henry D. Williams,
76 William St., N. Y. City.

Dear Mr. Williams:—

I enclose herewith printed copy of British patent No. 7900 of 1896 to Hutchings.

Yours sincerely,

A. PARKER-SMITH.

*Exhibits D. 22—D. 23.*

## EXHIBIT D. 22.

(Letterhead Henry D. Williams.)

March 15, 1910.

A. Parker-Smith, Esq.,
2 Rector St., City.

Dear Mr. Smith:—

I trust that our clients are getting together in the matter of a settlement of the conflicting rights to the asbestos brake band. I have had no report from Mr. Hubert, but by way of preparation for a consideration of the final arrangement, I thought it would be well to send you herewith a copy of a brief which was prepared by Mr. Borst of my office as to the right of the patentees to make combinations and pools and control prices and do pretty nearly as they please. I have also sent a copy to Mr. Lowthorpe.

Very truly yours,

Enclosure. *Henry D. Williams.*

## EXHIBIT D. 23.

New York, March 18, 1911.

Henry D. Williams, Esq.,
76 William Street,
New York City.

Dear Mr. Williams:—

I have your letter of March 15th and copy of brief.

The cases discussed therein I had in mind, and it is of course settled law that the owner of a patent can make *bona fide* licenses with others to create a monopoly on almost any terms, but that is not our case.

*Exhibit D. 23.*

Our case is one where the separate owners of patents are practically making a contract between themselves in the guise of a contract with a corporation to be formed as their creature, to create a monopoly. Of course this cannot be done openly between different owners of patents.

As stated by the Court of Appeals for the Third Circuit in National Harrow Co. vs. Hench, 83 F. R. at page 38:

> "Patents confer a monopoly as respects the property covered by them, but they confer no right upon the owners of several distinct patents to combine for the purpose of restraining competition and trade. Patented property does not differ in this respect from any other. The fact that one patentee may possess himself of several patents, and thus increase his monopoly, affords no support for an argument in favor of a combination by several distinct owners of such property to restrain manufacture, control sales, and enhance prices. Such combinations are conspiracies against the public interests and abuses of patent privileges. The object of these privileges is to promte the public benefit, as well as to reward inventors. The suggestion that the contract is justified by the situation of the parties—their exposure to litigation—is entitled to no greater weight, Patentees may compose their differences, as the owners of other property may, but they cannot make the occasion an excuse or cloak for the creation of monopolies to the public disadvantage. We do not see anything to distinguish this case in principle, from Nester v. Brewing Co. 161 Pa St. 473 (29 Atl. 102); Carbon Co. v McMillin, 119 N. Y. 46 (23 N. E. 530); Morris Run Coal Co. v. Barclay Coal Co., 68 Pa. St. 173: Distilling & Cattle Feeding Co. v. People (Ill. Sup.)

*Exhibit D. 23.*

41 N. E. 188; Straight v. Harrow Co, (Sup) 18 N. Y. Supp. 233. The last of these cases arose out of this contract under circumstances substantially like those of the case before us. A similar conclusion was reached by the court in Harrow Co. v. Quick, 67 Fed. 130, where this contract was involved. The doctrine of these cases is not new, and we feel no hesitation in applying it to the contract before us.

The judgment is therefore affirmed."

The Court held there that the actual arrangement between the parties, although in the form of assignment of patents by their owners to a specially organized corporation and a license under all the patents so accumulated by the corporation to the assignee, was virtually a contract between the parties the owners of separate patents in restraint of trade. The same principle is applied in suit between the same parties in the U. S. Circuit Court in New York, Judge Cox sitting (National Harrow Co. vs. Hench, 84 F. R. 226). These were both suits under the patent laws and were not carried up to the Supreme Court. If they are good law, they cover our case unless we are very careful to keep the appearance of concerted action off the record to the utmost possible extent.

The case of National Harrow Co. vs. Bement was not a patent suit, but was a suit under one of these contracts between the corporation organized and one of the constituent parties at interest on the contract of license brought in the State courts of New York for liquidated damages under the contract, resulting from this alleged violation and for an injunction against continuing violations. The referee found for the plaintiff. The Appellate Division reversed. The Court of Appeals reversed the Appellate Division and reinstated the original judgment. It then went up to the Supreme Court of the

*Exhibit D. 23.*

United States upon writ of error on the question as to whether or not the contract between the two parties was in violation of the Sherman Act. The Supreme Court held that the particular contract between the licensing corporation and the constituent patent owner was not a violation of the Sherman Act and based its decision partly upon the fact that there was no evdence that there was any combinaton of the manufacturers controlling nearly the entire output of this particular line of goods, but the Supreme Court intimated in referring to a certain escrow agreement under which Messrs. Bement & Sons had deposited their patents with a trustee to be turned over the National Harrow Co. in case similar contracts were executed and deposited by a number of other concerns, that if there had been proof that contracts had been executed by the manufacturers of practically all the harrows in the country to this effect, it would have been an illegal combination, saying

> "It must, however, be conceded that the escrow agreement above set forth looks to the signing, by the parties mentioned therein, of contracts similar to those between the parties to this suit, designated A and B, and containing like conditions relating to the patents respectively owned by such parties. But there is no finding by the referee that such contracts were in fact entered into by those other parties, nor that they constituted a combination of most, if not all of the persons or corporations engaged in the business concerning which the agreements between the parties to this suit were made. If such similar agreements had been made, and if, when executed, they would have formed an illegal combination within the act of Congress, we cannot presume for the purpose of reversing this judgment, in the

*Exhibit D. 23.*

> absence of any finding to that effect, that they were made and became effective as an illegal combination. As between these parties, we hold that the agreements A and B actually entered into were not a violation of the Act. We are not called upon to express an opinion upon a state of facts not found. Upon the facts found there is no error in the judgment of the Court of Appeals, and it must therefore be affirmed."

It follows, I think, from the foregoing considerations that the case of Bement vs. National Harrow Co. is no authority for the contention that the Supreme Court would look upon a clear case of combination by different patent owners to form a corporation which should control the majority of the manufacturers of any particular line of goods through licenses under patents turned over by the constituent manufacturers, as legal and not in conflict with the Sherman Act. The above cited excerpt from the opinion of the court is on the other hand an intimation to the contrary. To guard against any possible prosecution for violation of the Sherman Act, I think, therefore, that we should make the arrangement as straight a case of ordinary bargain and sale as possible and avoid any such unusual clause in the contract as a provision for payment of an indeterminate royalty to be assessed each year to pay the expenses of the corporation, as this would make it obvious on its face that the corporation was merely a device whereby the expenses of the company of individual patent owners were divided according to as their respective sales.

Also we must look forward to the situations which will arise when the corporation endeavors to enforce its patents against outsiders. At least one of these, the Keasbey & Mattison Co., will undoubtedly make a vigorous fight. Under the authorities of National Harrow Co.

*Exhibit D. 23.*

vs. Hench, above cited, we could not enforce the patents against outsiders if the defense there made by an insider was available to such outsider—infringer and the question whether the decisions of the U. S. Circuit Court of Appeals for the Third Circuit and the U. S. Circuit Court in New York upon these points under the patent law, are discredited and over ruled by the decision of the Supreme Court in the Bement case on the contract is an open one. The decision of the Supreme Court on the contract in the Bement case was placed on narrow grounds and might readily be distinguished from the case which would arise under an infringement suit, if the growing tendency of the courts to broaden the enforcement of the Sherman law caused a desire to so distinguish the cases.

The substance of my proposition is that it is not wise to run into the possibility of having to at least fight out these debatable questions by putting in the contract the provision that the expenses of the corporation shall be divided among the constituent parties. In the proportion of their sales under the guise of an indeterminate royalty, when there would be but little difference as to the actual proportions of these expenses paid by the constituent parties if they were paid in the usual way out of the proceeds of business of the corporation.

Finally if there is to be a provision that the expenses are to be paid out of the royalty, and which in effect assesses them upon the constituent companies in the proportion of their sales, there should at least be a provision that this royalty should not exceed a certain amount which can be made enough to cover all reasonable expectation of such expense. This limitation would give the arrangement at least the aspect of having some shreds of ordinary business caution usually exercised in dealings between independent concerns, whereas the provision for an indeterminate unlimited royalty sufficient

*Exhibit D. 24.*

to cover the expenses of the corporation would be so utterly unbusinesslike and so devoid of any business caution whatever on the part of the constituent companies that it would be obvious on the face of the contract that the corporation to which the patents are to be assigned is simply the creature of the combined corporations to be controlled by them down to the most minute detail of its business and having no possible interest that could become distinct from or opposed to their joint interests.

Yours respectfully,

A. Parker Smith

**EXHIBIT D. 24.**

(Letterhead Henry D. Williams)

New York, May 16, 1911.

A Parker-Smith, Esq.,
2 Rector Street,
New York City.

Dear Mr. Parker-Smith:

I have received your letter of yesterday with enclosed letters from Mr. Massie of the 10th and 13th inst., and a copy of your letter to Mr. Massie of the 11th inst. By reason of the fact that you and I have kept in touch with each other, you wrote Mr. Massie substantially as I wrote him, and on the same day. For your information I enclose a copy of that letter to Mr. Massie. Apparently there is nothing further to be said at the present time. Probably Mr. Massie was convinced, upon simultaneously receiving both of our letters, that we had acted for the best interests of our new born corportion, which I trust, in the light of reason, will not be held to be in undue restraint of trade.

Faithfully yours,

*Henry D. Williams.*

Enclosure.

*Exhibit D. 24a.*

**EXHIBIT D. 24a.**

May 11, 1911.

Mitford C. Massie, Esq.,
918 F Street, N. W.,
Washington, D. C.

Dear Sir:

I have received your letter of yesterday. As you have surmised, claim 20 is not warranted by the disclosures of the Coleman specification and is void. I prepared an amendment erasing this claim and had it taken to the Patent Office by my Washington associate, Wallace Greene, Esq., but the Assistant Examiner told him that the case had been allowed and, therefore, no amendments would be received. Thereupon Mr. Greene telegraphed me and I telephoned him not to file the amendment and to pay the final fee. He did so at once and again called upon the Examiner to trace the file. He found the Examiner studying the file, and trying to find out why I wanted to erase claim 20. He was asked, and knew nothing about it, but told the Examiner that he had paid the final fee and insisted that the case be passed to issue at once.

We can either file a disclaimer as to claim 20, or omit it from any litigation. I do not regard the claim as of any importance, since the super-position of layers, without a binder, is disadvantageous, and was adopted by Coleman in his reduction to practice only for the reason that he could not obtain a fabric of sufficient thickness.

Coleman's specification discloses a single ply fabric woven up of heavy wire reinforced strands, and felted by pressure. This was Coleman's specific invention, and as you have probably noted, it is well covered by all of the claims except claim 20. Claim 20 was suggested to Coleman by the Patent Office, and adopted by me on general principles, and it did not seem advisable at any time

*Exhibit D. 25.*

during the progress of the interferences to disclaim it, as I have always regarded it as a worthless claim.

Very truly yours,

*Henry D. Williams.*

## EXHIBIT D. 25.

New York, May 11, 1911.

Mr. M. C. Massie,
918 F. Street, N. W.,
Washington, D. C.

Dear Mr. Massie:

Replying to yours of May 10th, I may say that the claim in the Coleman application to which you refer covers superposed layers of fabric and wire, as I understand it.

The claim which went to Hoff was several layers of asbestos fabric and a binder. Hoff did not disclose the use of wire in his application by an oversight.

You are correct in your statement that the Coleman application does not form a proper basis for the claim on the superposed layers of asbestos and wire, and Mr. Williams prepared an amendment withdrawing this claim which had been originally inserted upon the suggestion of the Examiner without any consideration of whether or not it had a proper basis in the specification. When Mr. Wallace Green presented the amendment the Examiner told him that the application had already been allowed and as it was deemed advisable not to hold the case up, it was allowed to stand without further amendment. Of course, this claim may be treated as a nullity and as long as it is not declared on in any suit brought under the Coleman patent, I think its possible invalidity will not injure us. If it had been possible to base the

*Exhibit D. 26.*

claim on Hoff's disclosure, of course we would have put it in Hoff's case, but this could not be done, the second application of Hoff being filed at a date so late as to raise an ugly question of possible two years prior public use, and that being the only one that mentions wire.

It could not be put in the Bonner application because the evidence shows that it was in use at Bridgeport before his earliest alleged date of conception.

Yours respectfully,

A. Parker-Smith.

**EXHIBIT D. 26.**

New York, May 15, 1911.

Henry D. Williams, Esq.,
76 William St.,
New York City.

Dear Mr. Williams:

I enclose herewith two letters from Mr. M. C. Massie, of May 10th and 13th, together with copy of my letter of May 11th in response to the first one regarding claim 20 of the Coleman application.

Of course this claim could not be inserted in the first Hoff application, and the second Hoff application was filed Nov. 5, 1909, while the Thermoid material had been on the market since Aug. 5, 1907. You might give me your views on this question which I will transmit to Mr. Massie or perhaps better still write him direct.

Yours sincerely,

A. Parker-Smith.

*Exhibit D. 27.*

## EXHIBIT D. 27.

(Letterhead Henry D. Williams.)

New York, June 21, 1911.

A. Parker-Smith, Esq.,
2 Rector Street,
New York City.

Dear Mr. Parker-Smith:

Relative to your letter of the 12th inst., I have just been in communication with my client, Mr. Hubert, who has been out of town since I received your letter. He advises me that there is every reason for issuing the Hoff patent as promptly as possible. He says that everything is being held up to await the issuance of the two patents which will give the desired monopoly, one the patent to Coleman already issued and the other the patent to Hoff, the application for which is now allowed. He says that the directors are awaiting the issuance of both these patents before approaching competitors and endeavoring to bring about a reorganization of the business on a paying basis.

I tried to communicate with you on the telephone after receiving this information, but you had left your office for the day, and I presume we will have to miss this week's issue, but as I understand it, it is very important to get the Hoff patent issued as quickly as possible.

Very truly yours,

*Henry D. Williams.*

*Exhibit D. 28.*

**EXHIBIT D. 28.**

New York, June 12, 1911.

Mr. Henry D. Williams,
76 William Street,
New York City.

Dear Sir:

I have received under date of June 10th circular of allowance of the Hoff application for asbestos brake band involved in the interference, with all the eleven claims asked for, including of course the issues of the various interferences in which prority was awarded to Hoff. What is your idea as to the advisability of paying the final fee and having the patent issued promptly, or allowing it to lie in the office?

I presume it is largely a business question hinging upon the progress which the company is making in getting licensees. If the licensees are coming in rapidly it might be wise to prolong the monopoly as far as possible by delaying the issue of the Hoff patent. If the important outside interests refuse to take licenses and show an intention of fighting, of course the sooner we can get this patent out the better, as it would be a strong weapon against them. I suggest you consult with your clients as to the situation upon this point. Mr. T. F. Manville being abroad, I have no direct line of information on this point.

Yours sincerely,

A. PARKER-SMITH.

*Exhibit D. 29.*

## EXHIBIT D. 29.

(Letterhead Mitford C. Massie.)

Washington, D. C., February 26, 1912.

A. Parker-Smith, Esq.,
2-Rector St.,
New York, N. Y.

Dear Sir:— *Report to Asbestos Brake Co.*

I beg to acknowledge receipt of your recent favors, including a copy of the report, the later letter indicating that the same had been corrected in view of our oral discussion. I note your suggestion to discuss the matter with Mr. Hoff and in reply beg to state that I would be very glad to do so. In fact I think if I could have about one hour's conference with Mr. Hoff a greater advance could be made in the way of arriving at a satisfactory schedule to cover all cases and the methods of procedure to be followed than has been done in the whole history of the Company up to the present time, since, as I understand from Mr. Bonner, Mr. Hoff is familiar with all the details of the brake liner business. In this it is presupposed that Mr. Hoff realizes that a great advantage will be gained by getting in some of the manufacturers as licensees in advance of any suits and that therefore propositions should be prepared which would be fair and reasonable to such prospective licensees.

Thanking you for your kindness in this matter, I remain,

Very truly yours,

*M. C. Massie.*

*Exhibit D. 30.*

## EXHIBIT D. 30.

UNITED STATES OF AMERICA,
DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the Reords of this Office of the Petition, Specification, Oath and Drawings, as allowed in the matter of the Abandoned Application of Arthur G. Cutting and Franc J. Jewett, Filed June 30, 1908, Serial Number 441,207, Allowed September 29, 1913, for Improvement in Brake Blocks.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed at Washington, in the District of Columbia, this 28th day of September, in the year of our Lord one thousand nine hundred and twenty and of the Independence of the United States of America the one hundred and forty-fifth.

M. H. COULSTON,
(SEAL) *Acting Commissioner of Patents.*

Mail room
Jun 30 1908
U. S. Patent Office

Petition.

To the Commissioner of Patents:

Your petitioners, FRANC J. JEWETT, and ARTHUR G. CUTTING, citizens of the United States of America, and residents of the Borough of Brooklyn, City of New York, County of Kings and State of New York, with post-office addresses in the above place at No. 1121- 83rd Street, and No. 711 Sterling Place, respectively, pray that letters patent may be granted to them for the improvements in

*Exhibit D. 30.*

BRAKE BLOCKS, set forth in the annexed specification; and they hereby appoint A. PARKER-SMITH, Registered No. 407, No. 2 Rector Street, New York, N. Y., their attorney, with full power of substitution and revocation, to sign their name to the drawings, to prosecute this application, to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent Office connected therewith.

Signed at New York this 25th day of June, 1908.

Franc J. Jewett
Arthur G. Cutting

Specification.

To all whom it may concern:

Be it known that we, FRANC J. JEWETT, and ARTHUR G. CUTTING, citizens of the United States of America, and residents of the Borough of Brooklyn, City of New York, County of Kings and State of New York, have invented certain new and useful improvements in BRAKE BLOCKS, of which the following is a specification.

Our invention relates to brake blocks or brake shoes such as are applied to check the rotation of winding drums or other revolving parts of machinery and consists of a brake block made out of asbestos fibre compressed and preferably saturated with some binding solution.

The best form of apparatus at present known to us embodying our invention is illustrated in the accompanying sheet of drawings in which:

Fig. 1 is a cross section through it on brake block for a winding drum, and

Fig. 2 is a cross section through it on a plane perpendicular to the concave wearing face of the block.

Throughout the drawings like reference figures indicate like parts.

*Exhibit D. 30.*

1 is the concave, or wearing face of the brake block which in use is pressed into contact with the periphery of a revolving wheel or drum to check the rotation of the same. 2 is the end and 3 the side of the brake block which is composed of a series of layers of material 4, 5, etc.

In making the block a mold is used the length and breadth of the block, or a little greater dimensions and a depth equal to about twice the desired thickness of the finished block. Into the mold a thin layer of comparatively long asbestos fibre is spread, saturated with a solution of silicate of soda of a specific gravity of 15 degrees Baume, and pressed down by hand to form a sheet such as is generally indicated by 4. A second layer 5, is then formed in the same way on top of the first layer and so on until the mold is full, the stuff being packed down as closely as it is possible to compress it by hand labor. It is then subjected to an hydraulic pressure of about ten tons to the square foot, dried and baked thus forming a highly compressed block of long asbestos fibre saturated with silicate of soda in which the fibres are arranged substantially parallel to the face of the block. Only long fibres can be used in building up a block in this manner by the formation of layers by hand and said fibres of course arrange themselves in planes substantially parallel to the face of the block, as indicated in Fig. 2 of the drawing. After baking, the block is immersed in a bath of a solution of silicate of soda of a specific gravity of 20 degrees Baume, then dried and sand papered down to the desired dimensions.

In some cases, we find it advantageous to submerge the finished block in a bath of raw linseed oil for about five minutes.

Other suitable binders could be substituted for the silicate of soda here mentioned as the preferred form of binding material.

The advantages of our invention comprise its even retarding action on the rotating member, its freedom from

*Exhibit D. 30.*

heating, and its high coefficient of friction on metal which exceeds by 40 percent. the average coefficient of friction of metal upon metal. Under conditions which would cause metal brake shoes to partly fuse and set fire to anything combustible in contact with them, our improved brake block remains comparatively cool, and it does not cut or score the drum, or its own bearing surface.

Having, therefore, described our invention, we claim:

1. A dense, hard, elastic brake block composed exclusively of highly compressed asbestos fibres, curved to the arc of a circle on one side, the fibres being arranged in layers concentric to said curved surface, the mass being saturated with silicate of soda, and having its outer portions treated with a drying oil.

2. A brake block composed of compressed layers of asbestos fibre, the layers being arranged concentric to the bearing surface of the block and the mass saturated with silicate of soda.

Signed at New York this 25th day of June, 1908.

Arthur G. Cutting
Franc J. Jewett

Witnesses:

William B. Halen
L. R. Hoff

*Exhibit D. 30.*

Oath.

STATE OF NEW YORK,
COUNTY OF NEW YORK. } *ss.*

FRANC J. JEWETT, and ARTHUR G. CUTTING, the above named petitioners being severally duly sworn, depose and says that they are citizens of the United States of America, and residents of the Borough of Brooklyn, City of New York, County of Kings and State of New York, and that they verily believes themselves to be the original, first, and joint inventors of the new and useful improvements in BRAKE BLOCKS, described and claimed in the annexed specification; that they do not know and do not believe that the same were ever known or used before their invention or discovery thereof, or patented or described in any printed publication in any country before their invention or discovery thereof, or more than two years prior to this application, or in public use or on sale in the United States of America for more than two years prior to this application; and that no application for patent on said improvements has been filed by them or their representatives or assigns in any country foreign to the United States.

Franc J. Jewett
Arthur G. Cutting

Sworn to and subscribed before me
this 25th day of June, 1908.

CHARLES E. HORTON,
*Notary Public, Richmond County,*
*Certificate filed in New York County.*
(SEAL)

Photostat copy of drawing attached.

*Exhibit D. 31.*

## EXHIBIT D. 31.

AGREEMENT made this 8th day of October 1913, by and between the THERMOID RUBBER COMPANY, a corporation organized under the laws of the State of New Jersey, having its office at Trenton, New Jersey, hereinafter designated as the "Thermoid Co." and the AMERICAN EVER READY COMPANY, a corporation organized under the laws of the State of New Jersey, having an office at San Francisco, California, hereinafter designated as "Ever Ready Co." WITNESSETH:

That, for and in consideration of the covenants and agreements hereinafter made, and to be kept and performed by the respective parties hereto, they hereby covenant and agree to and with each other as follows:

I. The THERMOID CO. hereby gives to the EVER READY CO. the right to be the exclusive distributors in the territory hereinafter mentioned, for the sale and distribution of Thermoid Hydraulic Compressed Brake Lining, Fordoid Brake Lining and Braidoid Woven Lining, to all classes and kinds of trade engaged in marketing any of said goods for use on automobiles or motor cycles, whether at retail or wholesale.

II. The territory over which the EVER READY CO. shall operate as such exclusive distributors shall consist of the States of Oregon, Washington, Idaho, Montana, Utah, Nevada, Arizona, New Mexico and California, and also the territory known as the Hawaiian Islands, British Columbia and Alberta, China, Japan and the Philippine Islands.

III. The THERMOID CO. shall refer to the EVER READY CO. all inquiries and orders from said trade in any of said territory, for any of said articles which may be received by the THERMOID CO., its branches, or its salesmen, and shall promptly forward to the EVER READY CO., for its attention any and all such in-

*Exhibit D. 31.*

quiries and orders: it being the purpose of this agreement that all said trade in said territory relating to said articles shall belong to the said EVER READY CO.

IV. The EVER READY CO. shall use the same form of contract in placing said commodities as is or shall be used by the THERMOID CO. in selling said commodities in other territories, and shall maintain the re-sale prices mentioned thereon; such forms of contract to be furnished to the EVER READY CO. by the THERMOID CO.

V. The term of this contract shall be five years from the 15th day of November 1913; with the option, however, to the EVER READY CO. to cancel this agreement on the 15th day of November in any year, upon giving the THERMOID CO. thirty days notice in writing, mailed to its office at Trenton, New Jersey.

VI. The prices for said articles shall be in accordance with the attached list, which shall be deemed a part of this contract, subject, however, to the following deductions, to wit: On Thermoid Hydraulic Compressed Brake Lining and Braidoid Woven Lining, there shall be a discount of seventy-five per cent, plus twenty per cent. from said list prices. The THERMOID CO. shall allow the EVER READY CO. the water rate of freight to San Francisco or California, or any Pacific coast terminal, on all freight shipments, but no allowance shall be made on express shipments. The terms shall be five per cent. cash discount on the 10th of each month following shipment, it being understood and agreed that the EVER READY CO. shall discount its bills in accordance with this clause. It is further understood and agreed that if the THERMOID CO. shall increase or decrease prices on any of said articles to their branches or distributers, the same change in price is to apply to subsequent purchases made under this agreement.

*Exhibit D. 31.*

VII. The EVER READY CO. shall purchase and distribute said articles, Fifty thousand Dollars during the first year; Fifty-five thousand Dollars during the second year; Sixty thousand Dollars during the third year; Sixty-five thousand Dollars during the fourth year; and Seventy thousand Dollars during the fifth and last year.

VIII. If in any year the EVER READY CO. shall not order and pay for the quantity and amount of goods required to be ordered and paid for by them, as aforesaid, then the THERMOID CO. may cancel this contract from and after the following 15th day of November upon thirty days notice in writing, mailed to the office of the EVER READY CO., at San Francisco, California.

IX. The EVER READY CO. agrees to carry in stock at all times, at some given point or points in its territory, sufficient stock to enable it to take care of the demands, and to supply the trade in their territory, and the THERMOID CO. agrees to ship and deliver all said goods which may be ordered by the EVER READY CO.

X. The THERMOID CO. agrees that it will procure Mr. F. S. Wilson, or its other Pacific coast representative, to give of his time to the EVER READY CO. one week in each month during the existence of this contract, and that during said period of one week in each month he shall use his best endeavors in forwarding the sale of said articles on behalf of the EVER READY CO., in conjunction with the salesman and sales force of the EVER READY CO. Such services shall be rendered without expense to the EVER READY CO., except in case of special trips, in the event of which the expense shall not exceed Six Dollars per day during said trips, exclusive of mileage.

XI. The EVER READY CO. shall be furnished by the THERMOID CO. with price lists, such as it fur-

*Exhibit D. 31.*

nishes to its own men, and shall also be given information of tests and all other information of such character as the THERMOID CO. may issue to its own force from time to time. The THERMOID CO. also agrees to furnish the EVER READY CO. such printed matter and advertising matter as may be issued from time to time and in quantities proportionate to those furnished to the salesmen of the THERMOID CO. to enable the EVER READY CO. to thoroughly circularize the trade.

XII. The EVER READY CO. agrees to send to the THERMOID CO. specifications covering its requirements, giving it reasonable time in which to manufacture and ship the goods, and the THERMOID CO. agrees to give careful and prompt attention to said specifications, and to execute the same as diligently as to its own salesmen or branches.

XIII. Should any misunderstanding or dispute arise in regard to the interpretation of the terms or conditions of this agreement, or the fulfillment of same, which cannot be settled to the satisfaction of the parties hereto, such question or questions shall be submitted to a committee of three, and it is agreed by both parties that the decision of the majority of this committee shall be accepted as final, and settlement made accordingly. It is also agreed by both parties that each party shall have the privilege of selecting one member of the committee and the two members so selected shall select the third member.

XIV. No verbal statements, promises or agreements shall affect this agreement, and it shall not be changed in any manner, except in writing.

*Exhibit D. 31.*

IN WITNESS WHEREOF the parties hereto have caused their corporate seals to be hereunto affixed, and these presents to be signed by their respective officers the day and year first above written.

In presence of

THERMOID RUBBER COMPANY,
By *Robt. J. Stokes, Sec'y.*

AMERICAN EVER READY COMPANY,
(SEAL) By *Roscoe F. Oakes, Pres.*

STATE OF NEW YORK, }
COUNTY OF NEW YORK. } *ss.*

On this *seventh* day of October 1913, before me personally came *Robt. J. Stokes* with whom I am personally acquainted, who being by me duly sworn, did depose and say: that he resided in the City of *Trenton, N. J.* that he was the *Secretary* of THERMOID RUBBER COMPANY, the corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to the foregoing instrument is such corporate seal; that the same was thereunto affixed by order of the Board of Directors of said corporation, and that he signed his name to said instrument by like authority.

*Joseph O. Baur.*
(SEAL) *Notary Public of N. J.*

*Exhibit D. 31.*

STATE OF NEW YORK,
COUNTY OF NEW YORK. } *ss.*

On this *21st* day of October 1913, before me personally came *Roscoe F. Oakes* with whom I am personally acquainted, who being by me duly sworn, did depose and say: that he resided in the City of *New York*, that he was the *President* of AMERICAN EVER READY COMPANY, the corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to the foregoing instrument is such corporate seal; that the same was thereunto affixed by order of the Board of Directors of said corporation, and that he signed his name to said instrument by like authority.

*John W. Walker,*
(SEAL) Notary Public for Kings County, #5188.
Certificate filed in New York County.

*Exhibit D. 31a.*

## EXHIBIT D. 31a.

Consumers' Prices
Effective May 1, 1911

*THERMOID*
Casings, Inner Tubes
Brake Lining

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*THERMOID*
*RUBBER COMPANY*
Trenton, New Jersey

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DISTRIBUTING BRANCHES

2009 South Michigan Avenue, Chicago
250 West 54th Street, - New York
1201 Hartje Building, - Pittsburgh
3947 Olive Street, - - St. Louis

*Thermoid* Tires are built to meet the demand for a strictly high grade casing. Constructed of the very best materials obtainable—long staple Sea Isle cotton and Para rubber of the finest quality. Manufactured by skilled workmen, aided by the most improved machinery and in the finest tire plant in the country. Years of tire building experience have eliminated every doubt or imperfection.

*Thermoid* Tires, although all are identical in construction, are sold either guaranteed for 3,500 miles, or unguaranteed. The purchaser may carry his own tire insurance or the manufacturers will carry it. Our reputation is the purchaser's guarantee of quality.

Price:—Guaranteed 3,500 miles—List Prices.
Unguaranteed, - - 10% discount.

Our list is the standard consumers' list.

*Thermoid* Inner Tubes are correct in size—perfect in construction—unequaled in durability. Extra heavy walls

*Exhibit D. 31a.*

of the purest Para rubber. Manufactured for the trade demanding an extra quality tube regardless of price. We recommend this tube for extra hard usage or unusually hard service.

Price:—List Prices.

Terms:—5% cash. If express charges accompany order goods will be shipped C. O. D. subject to inspection.

Consumers' Prices
Effective May 1, 1911

*THERMOID*

Casings and Inner Tubes
Standard List

| Sizes | Casings | Tubes |
|---|---|---|
| 28x3 | $14.50 | $3.40 |
| 30x3 | 15.50 | 3.65 |
| 32x3 | 16.60 | 3.95 |
| 30x3½ | 22.85 | 4.95 |
| 32x3½ | 24.40 | 5.20 |
| 34x3½ | 26.55 | 5.55 |
| 36x3½ | 28.75 | 5.80 |
| 30x4 | 32.80 | 6.40 |
| 32x4 | 35.30 | 6.75 |
| 33x4 | 36.55 | 6.95 |
| 34x4 | 37.75 | 7.15 |
| 35x4 | 38.95 | 7.30 |
| 36x4 | 40.25 | 7.50 |
| 34x4½ | 47.85 | 8.85 |
| 36x4½ | 50.75 | 9.30 |
| 34x5 | 58.90 | 10.35 |
| 36x5 | 62.30 | 10.90 |
| 37x5 | 64.00 | 11.30 |

Only made in wrapped tread regular clincher or Q-D clincher types.

*Exhibit D. 31a.*

*THERMOID*
BRAKE LINING

| Widths | Thickness 1/8" Per Ft. | 5-32" Per Ft. | 3-16" Per Ft. | 1/4" Per Ft. |
|---|---|---|---|---|
| 1" | $0 40 | $0 45 | $0 50 | $0 70 |
| 1¼" | 50 | 55 | 60 | 80 |
| 1½" | 60 | 65 | 70 | 90 |
| 1¾" | 70 | 75 | 80 | 1 00 |
| 2" | 80 | 85 | 90 | 1 20 |
| 2¼" | 90 | 95 | 1 00 | 1 30 |
| 2½" | 1 00 | 1 05 | 1 10 | 1 50 |
| 2¾" | 1 10 | 1 15 | 1 20 | 1 60 |
| 3" | 1 20 | 1 25 | 1 30 | 1 70 |
| 4" | 1 40 | 1 55 | 1 70 | 2 20 |

*Thermoid* Brake Lining is universally acknowledged by manufacturers, engineers and users to be the best and most durable brake lining on the market. Both tests of actual use and laboratory tests have proved this fact countless times. Used regularly on practically every high grade car manufactured. Used extensively by the U. S. Government in Pamana canal construction work on heavy cranes, etc. Grips instantly and lasts indefinitely.

*Exhibit D. 32.*

## EXHIBIT D. 32.

### ASSIGNMENT.

For One Dollar and other valuable considerations received to its full satisfaction, The American Ever Ready Company, a corporation duly organized and existing under the laws of the State of New Jersey, hereby sells, assigns, transfers and sets over unto the National Carbon Company, a corporation duly organized and existing under the laws of the State of New Jersey, all its right, title and interest in, to and under the following described agreement hereto attached:

Agreement made October 8th, 1913, between THERMOID RUBBER COMPANY, a corporation of New Jersey, and said THE AMERICAN EVER READY COMPANY, relative to the sale and distribution of Thermoid Hydraulic Compressed Brake Lining, Fordoid Brake Lining and Braidoid Woven Lining.

Subject to all of the obligations therein set forth.

WITNESS the execution hereof, this 18th day of February, A. D. 1914.

The American Ever Ready Company,
By *Conrad Hubert,*
President.

Attest *M. S. Colby*
Secretary.

*Exhibit D. 32.*

ACCEPTANCE.

National Carbon Company, for itself, its successors and assigns, hereby accepts the above assignment of the attached agreement, and expressly agrees to relieve The American Ever Ready Company from all its obligations and liabilities thereunder.

WITNESS the execution hereof, this 18th day of February, A. D. 1914.

National Carbon Company, (SEAL)
By *J. S. Crider,*
Vice-President.

Attest *H. E. Halkenberg,*
Secretary.

THE STATE OF NEW YORK, }
COUNTY OF NEW YORK. } *ss.*

On the 14th day of April, in the year 1914, before me personally came CONRAD HUBERT, who, being by me duly sworn, did depose and say that he resides in New York City; that he is Vice-President of The American Ever Ready Company, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, at New York City, the day and year first above written.

*John W. Waller,*
Notary Public, 5188.
Notary Public for Kings County.
(SEAL) Certificate filed in New York County.
My Commission Expires March 31st, 1915.

*Exhibit D. 32.*

THE STATE OF OHIO,
COUNTY OF CUYAHOGA, } *ss.*

On the 10th day of April, in the year 1914, personally appeared before me J. S. CRIDER, who, being by me duly sworn, did depose and say that he resides in Cleveland, Ohio; that he is Vice-President of NATIONAL CARBON COMPANY, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, at Cleveland, Ohio, the day and year first above written.

*Howard L. Barkdull,*
(SEAL) Notary Public.
My Commission expires August 23, 1914.

*Exhibit D. 33.*

## EXHIBIT D. 33.

THERMOID RUBBER COMPANY
List Price and Discounts to Jobbers
Asbestos Brake Linings
1912 to 1918

| Year | List price per foot | | Discounts |
|---|---|---|---|
| 1912 | 90 cts. | (Note A) | 75 to 75—10% |
| 1913 | 90 cts. | | 75 to 75—20% |
| 1914 | 90 cts. | | 75 to 75—20% |
| 1915 | 90 cts. | | 75 to 75—20% |
| 1916 | 90 cts. | | 60 to 65—20% |
| 1917 | 90 cts. | | 60 to 60—15% |
| 1918 | 90 cts. | | 55 to 60—15% |

Note A. Brake Lining 2x3/16″ has been selected as a popular size during each of the years.

Note B. The smallest discount in each of the series listed above, covered sales made to the small jobber.

February 28, 1921.
ACB.

*Exhibit D. 34.*

## EXHIBIT D. 34.

May 5, 1911.

Francis C. Lowthorp, Esq.,
Trenton, N. J.

My dear Mr. Lowthorp:— *Re Asbestos Brake Co.*

Your esteemed favor of the 4th inst. was duly received, and in accordance with your request I shall prepare a new assignment just as you wish it and will forward it to you for record. The reason for making the identification of the property transferred in the manner in which it was done was in order to connect up the chain of title so that it would be obvious upon first glance. I will have this dated April 29, 1911, as you request.

Possibly Messrs. Williams and Parker-Smith will arrange for the conference at an early date in regard to the plans of settling the interferences. I have one or two points in connection with this matter which I desire to argue before all of the counsel as I am very much opposed to allowing any more evidence to go into the record than is absolutely necessary. There has already been too much evidence put on file tending to give outside parties clues by which they might be materially aided in over-throwing the patents. I have in mind now particularly an interference with which you have not been connected, viz. Hoff vs. Bonner, in which on cross examination it was shown that asbestos tape reinforced with wire has been a staple article on the market for years and also a letter from the Royal Equipment Co. to the Johns-Manville Co. practically setting forth a statement of means and tending to show that the Royal Equipment Co. was the first inventor of an asbestos brake liner. I think such evidence is detrimental to the interests of the present Company. This evidence I believe I can have withdrawn if all the counsel consent and the case can then be submitted on an agreed statement of facts. I think you may have seen the same

*Exhibit D. 35.*

letter in connection with the Hoff vs. The Thermoid interference and believe you will note the fact that this letter calls for an asbestos fabric which contains part cotton. This is the kind of fabric which Hoff actually furnished to the Royal Equipment Co. My point is that this proves that the invention was made by the Royal Equipment Co. and not by Hoff. You may not agree with me in this but at the same time you will agree that such an argument would be unpleasant to meet in patent litigation and it would be just as well not to furnish any clues as to such evidence. I have on one occasion succeeded in withdrawing all testimony prior to a decision on the ground that the same was merely equivalent to an exhibit and not a public record. I believe it might be done in the present instance and the decision obtained on an agreed statement of facts.

Very truly yours,

M C Massie

**EXHIBIT D. 35.**

(Letterhead Lowthorp & Moore.)

May 8th., 1911.

Mitford C. Massie, Esq.,
918 F Street,
Washington, D. C.

My dear Mr. Massie:

I have received your letter of the 5th inst., and also yours of the 6th enclosing another assignment of the Bonner patents and applications, to the Asbestos Brake Company.

While the proof of the assignment is not in the form I am used to adopting, where assignments are made by a corporation, it is, I think quite sufficient, and I shall forward the instrucment to the Commissioner of Patents for record without further delay.

*Exhibit D. 35.*

Answering your letter of the 5th inst. I have to say that your remarks strike me as just and forcible. Unfortunately, perhaps, the Examiner of Interferences has delivered his opinions in the several interferences in which Bonner, Cutting and Jewett, Hoff and Coleman were parties, and it may be too late to withdraw the proofs, as appeals have been waived by the unsuccessful contestants. I think it probable that had we realized in advance what the proofs would be concerning the use, and so forth, by the Royal Equipment Company, a different course would have been pursued. In the circumstances, we all considered it advisable to have an open contest before the Examiner of Interference.

Personally, I am agreeable to any course which the other counsel may agree upon, and if you and Mr. Williams and Mr. Parker-Smith will confer and reach a decision, I shall be willing to abide by it. I assume that I shall hear from you again about this matter within a few days, and that you have communicated with Messrs. William, and Parker-Smith on this subject.

I am about to deliver to the various licensees the license agreements executed by the Asbestos Brake Company. At present I have them all in my hands, and I would ask you what you would have me do with the licenses which were ordered delivered to you in escrow for the Empire Rubber Company. You will realize that my active life in the Asbestos Brake Company is now ended, and that except by the direction by yourself and the company it will be hardly proper for me to retain any of these papers in my own hands.

The stock books and seals I have left in New York. The minutes of the past meetings are completed, and I am about to ship the book to New York, where I understand you wish to have it kept.

Very truly yours,

*Francis C. Lowthorp.*

## EXHIBIT D. 36.

Nov. 7, 1911.

Conrad Hubert, Esq.,
316-Hudson St.,
New York, N. Y.

Dear Sir:—

You are hereby notified that a meeting of the Board of Directors of the Asbestos Brake Company will be held at the offices of the H. W. Johns-Manville Co., 100-William St., New York, N. Y. at 2 P. M., Tuesday, November 14th, for the consideration of the regular monthly business and any special business which may be brought to the attention of the Directors. You are requested to be present.

Yours respectfully,

....., Secretary.

## EXHIBIT D. 37.

1912 Johns-Manville Co. invoices, orders, etc.
Not printed.

## EXHIBIT D. 38.

1913 Johns-Manville Co. invoices, orders, etc.
Not printed.

*Exhibit D. 39.*

**EXHIBIT D. 39.**

(Letterhead Henry D. Williams)

(Copy)

April 1, 1910.

Francis C. Lowthorp,
147 East State St.,
Trenton, N. J.

Dear Mr. Lowthorp:—

I duly received your letter of the 30th ult., with enclosed copy of proposed certificate of incorporation, and I have also received a copy of Mr. Smith's letter to you of yesterday.

I adopt Mr. Smith's suggestion as to insertion of the word "use" after "manufacture", on page 1, second line from bottom.

As to your proposition of limiting the voting power to three shares of preferred stock and eligibility to the Board of Directors of the holders of these three shares of preferred stock, it seems to me that such an arrangement, not having been approved by any Court, would be inadvisable, when the same effect can be attained by the tried and proved method of creating a voting trust. If, for example, a court should hold your proposed method to be unlawful, I do not see how the interests of the minority stockholders could be thereafter protected. Certainly the court could not create a voting trust. I think if you turn this matter over in your mind, you will agree with me that it is best not to try a new experiment, particularly in view of the fact that we are sailing close to the wind in other respects.

I am sending a copy of this letter to Mr. Smith.

Very truly yours,

HENRY D. WILLIAMS.

## EXHIBIT D. 40.

January 6th, 1912.

Mr. Wm. T. Bonner,
Trenton, New Jersey.

Dear Sir:

Kindly advise by return mail if Wednesday, the 10th inst., at three o'clock will be agreeable to you for a meeting of the Asbestos Brake Company at our office, 100 William Street, New York City. If I find that all the directors can attend on that date, I will wire you Tuesday confirming this notice.

Yours very truly,

H. W. JOHNS-MANVILLE CO.,
President.

## EXHIBIT D. 41.

(Letterhead W. T. Bonner)

(Entire letter written in long hand in ink.)

January 8th, 1912.

Mr. T. F. Manville
100 Wm St New York City

Dear Sir

Yours of the 6th relating to meeting on Wednesday 10th noted. At the annual meeting of the Brake Liners Co at Washington D. C. at my request Messrs Massie and McElroy wrote asking you to make an appointment with them both for an hours Conference the day before the regular directors' meeting. If this has been accepted by you, then you will see them both tomorrow—and Mr.

*Exhibit D. 42.*

Massie will also represent us at the meeting on Wednesday, in which case my presence would be immaterial should the above be correct. Kindly advise by letter Tuesday and oblige

Yours truly,

W. T. Bonner.

Answered
Jan 9—1912

## EXHIBIT D. 42.

Home Bound

THE NEW ENGLAND NAVIGATION COMPANY
ON BOARD

(written entirely in long hand in ink)

12-17-11.

Mr. M. C. Massie
Wash D. C.

Dear Mr Massie
Met Stokes Friday at the Station on my way up to Boston. Said he had seen Mr Penny and Mr. P— says it will cost $1000. for an opinion on the validity of the A. B. Co's patents. He and Manville are in favor and wanted to know what we were willing to do. I told him I would write you at once and have you write he or Manville, but added that so far as I knew none of the B. L. Co felt like putting up much in this matter before the last effort had been made to reach the desired end by other means. I also told him that while I regarded Mr Penny's opinion very highly, and while it might be just as correct and just as good as that of Phillip Sawyer Rice & Kennedy, yet it would not carry half the weight—

*Exhibit D. 43.*

and thought owing to your connection with them, you could get the same opinion from them at less cost. After all is said and done what is the use of an opinion anyway at such a cost. We will either sue or not sue and that decision will be based on getting the signers in or not. I am opposed to it. For instance: How far will Penny's decision in our favor go toward driving K & M into the deal, or some of the others. They will either come in of their own good of their own free will or be dragged in by a Court decision. So is any preliminary opinion by anybody outside of the Courts worth $1000— to the A B Co. If so how? Kindly write me at once what you will say to the A. B Co. or Stokes and Manville. Why not get them to put up $500 for your expenses at next meeting and see if you cant get all but K & M in.

Sincerely

W. T. Bonner

**EXHIBIT D. 43.**

February 28, 1912.

William T. Bonner, Esq.,
Trenton, N. J.

Dear Mr. Bonner:—

Your esteemed favor of the 26th inst. was duly received as also the revenue schedule. I have forwarded the same at once to the Collector of Internal Revenue.

In regard to your questions as to the showing of indebtedness on this schedule, I beg to report that the debt to the Johns-Manville Co. is $300 which is included in the total of $1,165.24. The remaining 865.24 is an indebtedness due to K. P. McElroy, the larger part of which was due for services in connection with the brake

*Exhibit D. 43.*

liner applications at the time the Company was organized and the remainder of which is for money advanced for expenses of the Company.

I beg to report that at the meeting of the attorneys for the constituent Companies it was decided to advise the Asbestos Brake Co. against any suits until attempts had been made to induce competing manufacturers to take licenses from the Company with the further recommendation that such proposition should be submitted to these competing manufacturers as would be reasonable and justify them in accepting such licenses. I suppose the result of this report will be that a new meeting of the Asbestos Brake Co. will be called and that someone be authorized to prepare a respectable schedule and sensible license agreement with the classification of brake liners so that such manufacturers as make the cheaper brake liners for sale to automobile companies will be able to do business and pay our license fee. When this has been done I feel sure that if the Company will pay expenses for some one to visit the various manufacturers a large number of them can be induced to accept a license.

Very truly yours,

M. C. Massie

*Exhibit D. 44.*

## EXHIBIT D. 44.

(Letterhead W. T. Bonner.)

(Letter written in ink in longhand.)

8/26th 12.

Mr. T. F. Manville,
New York, N. Y.

Dear Sir:

Is there no way to end the present inactivity that has continued for one and a half years in the brake liner situation.

If no one else will make the move, give me the authority and I will take hold and see that the matter is pushed to the limit, in the direction desired by the company.

Yours very truly,

W. T. BONNER.

Answered Aug. 28, 1912.

*Exhibit D. 45.*

## EXHIBIT D. 45.

August 28th, 1912.

Mr. Wm. T. Bonner,
Trenton, New Jersey.

Dear Sir:

I have your letter of the 26th inst. I wish you would talk with Mr. Stokes regarding the Brake Lining situation. Have you any idea when Mr. Massie is going to return.

Replying to your letter of the 26th inst., regarding the Canadian patent, we do not seem to be making much progress up there; however, I am writing our attorney and the branches again and on receipt of their reply will advise you whether the prospects in any way warrant our making you a further payment. I would be glad to do so if I thought there was any chance of getting our money back. Up to the present time we have not succeeded in accomplishing much in this direction.

Yours very truly,

H. W. JOHNS-MANVILLE CO.,
President.

*Exhibit D. 46.*

**EXHIBIT D. 46.**

(Letterhead H. W. Johns-Manville Co.)

May 14th, 1912.

Mr. M. C. Massie,
National Union Bldg.,
Washington, D. C.

Dear Sir:

I have had a conference with Mr. Stokes to-day, in reference to the Asbestos Brake Company, and we think it most advisable to have a meeting as early as possible. Will you kindly advise what date would be convenient for you to meet in New York? As soon as we hear from you we will advise the other interests and hope we can arrange for a meeting on the date you name.

Yours very truly,

H. W. JOHNS-MANVILLE CO.,

*T. F. Manville,*
President.

*Exhibits D. 47—D. 48.*

**EXHIBIT D. 47.**

May 17, 1912.

T. F. Manville, Esq.,
100-William St.,
New York, N. Y.

Dear Sir:— *Asbestos Brake Co.*

Your favor of the 14th inst. was duly received and I beg to report that I am awaiting a telegram from Atlanta fixing the date of an interview with me in Washington. As soon as this telegram is received I will then be able to state definitely the date on which I could conveniently attend a meeting of the Board of Directors. I hope to be able to arrange matters so that I can be there about Wednesday of next week but am not certain at the present time for the reason explained above. As soon as I can fix the date definitely I will telegraph you.

Very truly yours,

M C Massie

**EXHIBIT D. 48.**

(Letterhead Mitford C. Massie.)

July 4, 1912.

H. W. Johns-Manville Co.,
100-William St.,
New York, N. Y.

Gentlemen:—

This is to inform you that our Mr. Massie has sailed for Europe and probably will not return before Sept. 1, 1912.

Very truly yours,

*M. C. Massie,*
*per L.*

*Exhibits D. 49—D. 50.*

**EXHIBIT D. 49.**

(Letterhead W. T. Bonner.)

(Letter written in ink in longhand.)

Dec. 4th, 1912.

Mr. T. F. Manville,
New York, N. Y.

Dear Sir:

Has any action been taken on the patent situation regarding the Asbestos Brake Co. since I last saw you?

How about the Canadian situation?

Yours very truly,

W. T. BONNER.
Box 535 Canton, Mass.

Answered Dec 6 1912

**EXHIBIT D. 50.**

December 6th, 1912.

Mr. W. T. Bonner,
Post-Office Box 535,
Canton, Massachusetts.

Dear Sir:

Replying to your inquiry of the 4th inst., I have not hear anything further from Mr. Stokes regarding the Asbestos Brake Company.

Yours very truly,

H. W. JOHNS-MANVILLE CO.,
President.

*Exhibit D. 51.*

**EXHIBIT D. 51.**

(Letterhead Canton Rubber Reclaiming Co.)

Jany 25th, 13.

Mr. T. F. Manville,
Manville Building,
41 st New York City

My Dear Mr. Manville

If there has been no directors meeting or action of any kind taken recently regarding the Asbestos Brake Co.'s position as to the enforcement of its patents, will you ask Mr. Stokes to call a meeting. I would like to offer a suggestion which might be of some assistance. It seems a pity with the number of patents we have that we are unable find a way to collect royalties now amounting to many thousands of dollars. I have just completed this mill and have it in successful operation.

Yours very truly,

W. T. BONNER.

Have you as yet secured a decision on the Canadian patent?

*Exhibits D. 52—D. 53.*

**EXHIBIT D. 52.**

January 27, 1913.

Mr. W. T. Bonner,
Trenton, New Jersey.

Dear Sir:

I have your letter of the 25th inst.

Has Mr. Massie returned? If so, I think it would be desirable for you to communicate with him and find out what date would be agreeable and have him issue a call for a meeting.

We have received no decision regarding the Canadian patent.

Yours very truly,

H. W. JOHNS-MANVILLE CO.,
President.

**EXHIBIT D. 53.**

(Letterhead W. T. Bonner)

(Written entirely in longhand in ink.)

Canton Mass
June 29th '13

Mr. T. F. Manville
New York N Y

Dear Sir,

What is the situation regarding the Asbestos Brake Co.?

Are you able to enforce the Bonner Patent in Canada—or will my $250. contingent be a dead letter?

Yours very truly,

W. T. Bonner

Answered Jul 3 1913

## EXHIBIT D. 54.

July 3rd, 1913.

Mr. Wm. T. Bonner,
Trenton, New Jersey.

Dear Sir:

On my return to New York this morning I find your letter of the 2nd inst.

I am going to have an interview with Mr. Stokes within the next few days and I will then advise you definitely if anything can be done regarding the Asbestos Brake Company.

I regret to advise you that there are no new developments regarding the Canadian patent situation.

Yours very truly,

H. W. JOHNS-MANVILLE CO.,
President.

## EXHIBIT D. 55.

(Copy)

Canton, Mass.
October,
Fourteenth.
1916.

Mr. T. F. Manville, Presdt.
H. W. Johns Manville Co.
Manville Building,
New York, N. Y.

My dear Mr. Manville:—

The Bonner Asbestos Tire & Rubber Co. is being financed in the West with a capital stock of two and one half million dollars. I expect to begin building opera-

*Exhibit D. 55.*

tions in the Spring. We will do a general rubber manufacturing business.

Suppose you and Mr. Stokes and myself get together and have the Asbestos Brake Co. issue for a dollar consideration a license to your company and to the Thermoid, removing at once any complication. Then let me know what you all will take for your holdings in the Brake Co.

I think I can organize a company to take over the Brake Co. as it stands. I know it is a case of buying a law suit, but this is the only way it can be tested for a valuation basis. To be able to accomplish anything at all it will take about twenty five thousand dollars to carry it to a court of last resort, and this is what I would propose to do.

As the matter now stands it is worth nothing to any one, except that it protects you and the Thermoid from any outside interference, but with an unlimited license issued to both of your companies you would have nothing to fear from any source. As the value of the patents are entirely problematical, and the whole thing a gamble I should organize it with that understanding. The stakes are large. It is a big thing or nothing. I dont know how the other man (Hubert?) feels about it, but unless some one takes it upon the basis I have outlined I cant see where it will ever be of value to any one. Let me know what you think about it. I am going to Chicago tomorrow, but will return Wednesday.

Yours very truly,

W. T. Bonner

**EXHIBIT D. 56.**

(Letterhead H. W. Johns-Manville Co.)

October 23, 1916.

Mr. W. T. Bonner,
Canton, Mass.

Dear Sir:

I have delayed replying to your letter of the 16th awaiting Mr. Manville's return. I now find that he will not be in the city until the latter part of this week, when your letter will be brought to his attention.

Very truly yours,

H. W. JOHNS-MANVILLE CO.,
*George E. Bradbrook,*
Secretary to President.

**EXHIBIT D. 57.**

(Letterhead H. W. Johns-Manville Co.)

October 25, 1916.

Mr. W. T. Bonner,
Canton, Mass.

Dear Mr. Bonner:

On my return to the city I find your letter of the 14th. I want to have a talk with Mr. Stokes before writing you anything definite on the subject. I am writing Mr. Stokes today, and as soon as I hear from him I will arrange for an appointment.

Very truly yours,

H. W. JOHNS-MANVILLE CO.,
*T. F. Manville,*
President.

*Exhibit D. 58.*

## EXHIBIT D. 58.

(Letterhead W. T. Bonner.)

Address
56 West Elm St.
Brockton, Mass., July 9th, 1919.

Mr. T. F. Manville, President,
H. W. Johns-Manville Company,
Manville Building,
New York, N. Y.

My dear Mr. Manville:—

As you and the Thermoid Rubber Company are the only two interested parties in the Asbestos Brake Co. of New Jersey who manufacture brake lining, would you be interested in the following proposition?

That you and the Thermoid Company sell your entire holdings in the Asbestos Brake Co. That at the time of such sale there be issued to the two companies for a nominal consideration a license covering all patents now owned by the Asbestos Brake Co. for the full term of such patents, and a further participating interest by your company and the Thermoid Co. in the new organization.

This would leave the Manville and the Thermoid Cos. in the same free and unrestricted position they now enjoy. It would be the purpose of the new Asbestos Brake Co. organization to undertake, without obligation or cost to to the Manville or the Thermoid Cos. the collection of royalties under their existing patents.

Will you kindly take this up with Mr. Oliver Stokes, and if the matter is of sufficient interest I will upon your assent, arrange for a meeting at your office with the financial interests whom I represent in this proposition. Awaiting your pleasure in the matter I am,

Very truly,

WTB/M *W. T. Bonner.*

**EXHIBIT D. 59.**

July 10, 1919.

Mr. W. T. Bonner,
56 West Elm Street,
Brockton, Mass.

My dear Mr. Bonner:

I have your letter of the 9th.

I don't believe it would be possible to bring about a deal such as you suggest, but the next time you are in New York, I will be glad to have you call on me. It will not be necessary, however, to have any of your people present at this first conference.

Very truly yours,

H. W. JOHNS-MANVILLE CO.,
President.

TFM:G

**EXHIBIT D. 60.**

(Letterhead W. T. Bonner.)

Address
West Elm Hotel.
Brockton, Mass. July 16th, 1919.

Mr. T. F. Manville, President,
H. W. Johns-Manville Company,
Madison Ave. & 41st. St.
New York, N. Y.

My dear Mr. Manville:—

I have your letter of the 10th. It is my present intention to be in New York some time during the week following the 21st. while on my way to Philadelphia, and if you are in the City and can see me, I will get in touch with you by telephone for an appointment.

Very truly yours,

WTB/M

*W. T. Bonner.*

*Exhibits D. 61—D. 62.*

**EXHIBIT D. 61.**

(Letterhead Hotel Manhattan.)

(Letter written in ink in longhand.)

July 30-19.

Mr. T. F. Manville,
New York City.

I expect to be in Easton, Pa. Thursday and return to Trenton that night. Will return to Boston Friday night. If you can see me at any time Friday in continuance of the Brake Co. matter, will you kindly advise me as per address given below.

Very truly,

W. T. BONNER.
623 W. State St., Trenton, N. J.

Answered July 31 1919

**EXHIBIT D. 62.**

July 31, 1919.

Mr. W. T. Bonner,
623 West State Street,
Trenton, N. J.

Dear Sir:

I have your note of the 30th.

I regret to advise you that I will not be able to see you on Friday. I am leaving the City tonight and will not return until Monday.

The next time you are in town, please call me up.

Yours very truly,
T. F. Manville
President.

TFM-S

*Exhibit D. 63.*

**EXHIBIT D. 63.**

(Letterhead W. T. Bonner.)

Address
West Elm Hotel.
Brockton, Mass. August 2nd. 1919.

Mr. T. F. Manville, President,
H. W. Johns-Manville Company,
Madison Ave. and 41st. Street,
New York, N. Y.

Dear Sir:

I have yours of the 31st.

I am afraid that I will not be able to get away to come to New York for some time as I expect to be quite busy.

You of course can appreciate my side of the case. In ten years my inventions should have placed me beyond want or need. I consider I have been very patient and have taken my medicine with a smile.

I also consider that in the interest of those whom I now represent in the matter that I have made you and Mr. Stokes a very fair offer. In the event of failing to come to any agreement my principals have decided to begin action to have the Asbestos Brake Company of New Jersey dissolved and the patents revert to their original owners.

Yours very truly,

WTB/M *W. T. Bonner.*

Answered Aug 8 1919.

*Exhibit D. 64.*

**EXHIBIT D. 64.**

(Letterhead W. T. Bonner.)

(Written in longhand in ink.)

8/30-1911.

Mr. M. C. Massie,
Wash. D. C.

Dear Mr. Massie

Sorry I missed you this afternoon. I waited for you at one door but learned from Mr. Manville later that you went out at the one nearest his office.

I intended to call your attention to the license question regarding those on the outside taking one at the same terms as to the stockholders of the A. B. Co. The clause "non-revocable" would have to be eliminated as there might arise cause sufficient for even the outside licensees to demand the expulsion of some unruly member.

Regarding the Hammerstrom matter I am heartily in favor of having him provided he is allowed to make a test of his ability to "jolly" the outsiders in. A greased pole is sand paper and tacks by comparison as viewed by my own experience with him—and while I could not consistently subscribe to Mr. Stokes eulogy, yet in fairness I would say that in money matters he would be strictly honest. He however is on record over his signature misrepresenting the sales of Thermoid liners to me for the month of June, 1908. After my experience with him I can safely say that I believe he could come to a sinner as hardened as our devoted friend McElroy—sell him a gold brick leave it for analysis. Come back later. Collect and take orders for further delivery—It would be worth a box seat to see he and our good friend Mr. M. C. Massie in a duel to death with the gentle art of persuasion as weapons. Time is a great factor in wounded feelings. I bear no ill will, but realize that before any final arrange-

*Exhibit D. 64.*

ments be made with him that he give an exhibition of his suavity prowess by showing what he can do with Keasby & Mattison and possibly Royal Equipment Co.

Yours sincerely,

W. T. BONNER.

10

20

30

40

# EXHIBIT D. 7.

580a

580B

W. T. BONNER.

FRICTION MEMBER.

APPLICATION FILED JUNE 5, 1908.

903,049. Patented Nov. 3, 1908.

Fig. 1.

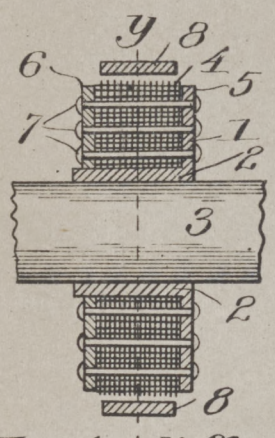



Fig. 3.

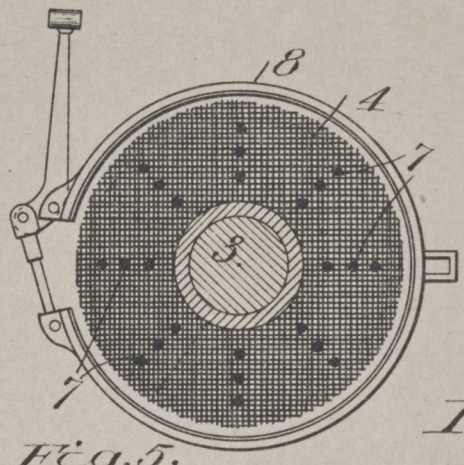



Fig. 2.

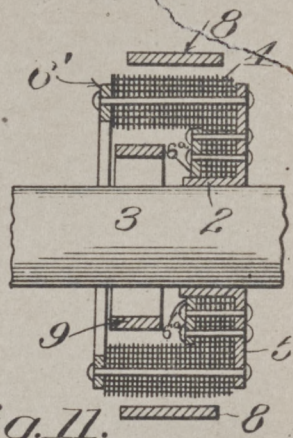



Fig. 11.

Fig. 4.

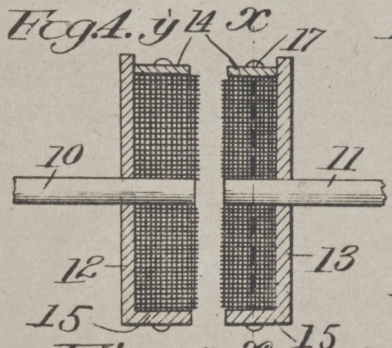
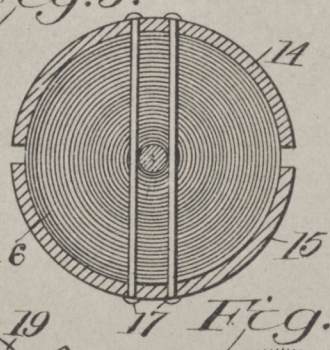



Fig. 5.



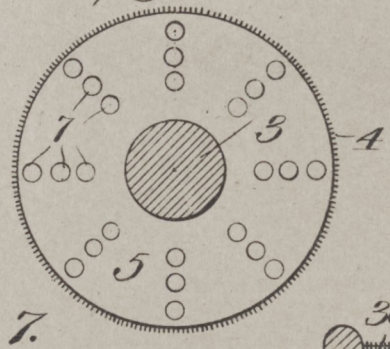
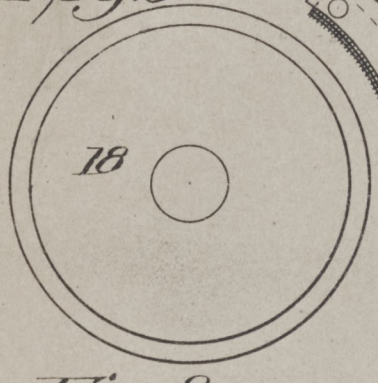
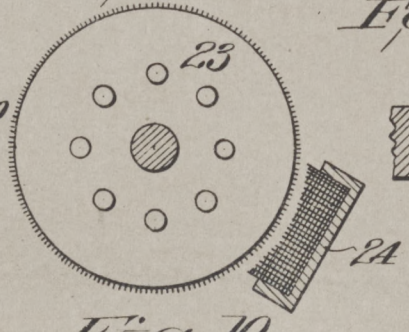




Fig. 6.

Fig. 7.

Fig. 9.



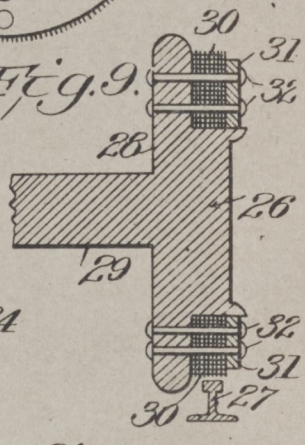
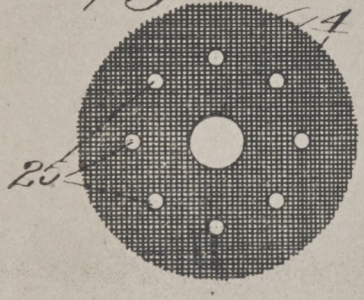
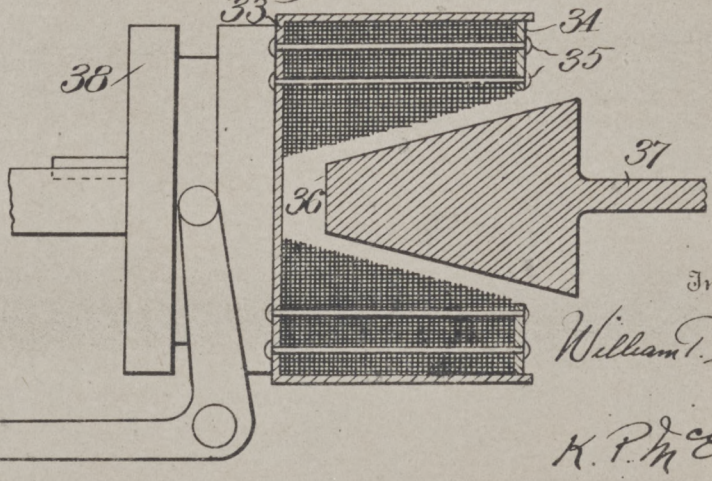




Fig. 10.

Fig. 8.




Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM T. BONNER, OF WASHINGTON, NORTH CAROLINA.

## FRICTION MEMBER.

No. 903,049. Specification of Letters Patent. Patented Nov. 3, 1908.

Application filed June 5, 1908. Serial No. 436,922.

*To all whom it may concern:*

Be it known that I, WILLIAM T. BONNER, a citizen of the United States, residing at Washington, in the county of Beaufort and State of North Carolina, have invented certain new and useful Improvements in Friction Members, whereof the following is a full, clear, and exact specification.

This invention relates to friction members; and comprises a friction element composed of a plurality of layers of wire fabric assembled and maintained under transverse compressive strain, said friction element being assembled with a holding element in such manner as to cause the edges of such layers to be exposed to form a frictional surface adapted for engagement with a cooperating friction member; all as more fully hereinafter set forth and as claimed.

In brakes and like frictional members intended for exceptionally heavy duty, it has hitherto hardly been practical to use built-up structures of materials having a high coefficient of friction for the reason that most such materials have relatively little tensile strength and under the heavy shearing strains of a high-duty brake they soon wear or tear out. Therefore, such high-duty brakes and coöperating parts are generally made of simple integral metal, the brake being machined to fit such coöperating part, whether wheel, hub or other element. This however, gives a friction with the grain instead of across the grain, as is desirable; and, moreover, the production of heat in such brakes being ordinarily great, with the increase of temperature and the corresponding expansion of the metal, the fit tends to disappear as the work required of the brake increases; or, in other words, the efficiency of the device diminishes with the increase of demands upon it. Furthermore, the cooperating fitted integral metal parts, if not smooth surfaced at first, soon become so, hard metals abrading and softer wearing down, thereby diminishing friction in engagements under moderate pressures and necessitating locking pressures to secure good breaking effects.

The object of the present invention is to provide a simple, strong and efficient friction member free of the stated disadvantages and having certain new advantages. To this end, the friction member is made of a series of strata or layers of wire fabric compressed into a block and maintained in such form by suitable compression means, the edges or ends of such strata being trued off to form a friction surface. The wire fabric employed may be of any suitable metal, such as steel, iron, brass, bronze, etc., and the fabric itself may be made in any of the ordinary ways, woven, knitted, etc. Expanded metal is less suitable. Preferably, the wire fabric is as closely woven or knitted as practicable, ordinary wire gauze being rather more open in texture than is desirable though it may of course be used.

With a friction block or mass made in the way described, the ends of the wires running at a right or other angle to the friction surface give a friction across the grain for a cooperating friction member while the wires running more or less parallel to such surface serve to give lateral support to such angling wires and prevent lateral displacement or brushing whatever the duty imposed on the brake or other friction member. By assembling the several layers or strata under heavy pressure and maintaining this compression in the finished article, the angling wires are further fixed against displacement while the block or mass as a whole is given sufficient mechanical strength to withstand any shearing strain that is likely to be given in high-duty braking. Obviously, whatever the wear on such a friction surface as is described, the surface will always present a cross-grain to the coöperating friction member, and, the coefficient of friction on such a surface being very high, any desired degree of frictional engagement may be secured beween no-engagement and locking engagement—something which is not practicable with machined friction members.

My improved friction member is particularly desirable for such severe duty as in automobile brakes where a relatively small sleeve or hub must ordinarily take the entire strain in stopping a heavy vehicle and where graduated degrees of friction or engagement are imperatively necessary, both in controlling the speed of the vehicle and in stopping it, a locking engagement of such a small sleeve or hub with the braking means being impracticable. In such work, the strains and shearing stresses are very great, but with the improved friction member of the present invention, the frictional engagement may be as gradually increased as is desired, every addition of pressure increasing proportionately the engagement while the

block itself is mechanically strong enough to stand any shearing stress which is likely to be applied. The device is, however, equally well adapted to lighter work and may be used in any relation where frictional engagement is desired, as in friction gear, pulleys and rollers, car wheels, driving wheels, friction clutches, gripping devices, etc. In braking devices, either the braking face of the element in motion or the face of the braking element proper may be provided with my new device.

In the accompanying illustration, I have shown, more or less diagrammatically, sundry embodiments of my invention out of the many possible.

In this showing, Figure 1 is a vertical section of a brake spool or hub; Fig. 2 is a similar view of another form; Fig. 3 is a vertical section of the structure of Fig. 1 taken along line *y*—*y* of that figure; Fig. 4 shows a pair of friction clutches engaging on flat faces; Fig. 5 is a vertical section of one of the elements of Fig. 4 on line *x*—*x*; Fig. 6 shows a car wheel provided with a braking element according to the present invention; Fig. 7 shows a brake spool or a roller and brake both built up of laminated wire fabric; Fig. 8 is a view on an enlarged scale of a wire-gauze or wire fabric annulus showing the mutual support afforded by the wires for the present use; Fig. 9 is a view of a built-up car wheel having a tread according to the present invention; Fig. 10 is a view of a coned brake sleeve engaging a coned shaft; and Fig. 11 is an end elevation of the rear end of either Fig. 1 or Fig. 2.

Referring first to the showing of Fig 1, this shows a friction sleeve, indicated as a whole by reference character 1, mounted on a sleeve 2, keyed to shaft 3, this shaft being one which it is desirable to brake. It may, for instance, be an axle of an automobile. The friction sleeve consists of a number of wire-fabric annuli, 4, (for the sake of clearness illustration shown as woven wire gauze of exaggerated coarseness of mesh) held under compression between fixed collar 5 and follower 6 by rivets 7, and is made by slipping the desired number of annuli over sleeve 2 against 5, putting on the follower, compressing the assemblage in a hydraulic press and riveting while under compression. Or collar, annuli and follower may be bolted together while still in the press, the assemblage removed and the bolts successively removed and replaced by rivets. The friction sleeve so made has its outer surface turned down to a true cylinder in a lathe. Element 8 represents a simple strap brake adapted to engage the friction sleeve.

Fig. 2 represents the same structure modified to give a double braking surface, as for the use of both a power brake and a hand brake on an automobile. In this figure, the follower 6′ is a simple ring and half or more of the wire gauze or fabric annuli are similarly cut out, permitting braking element 9 an interior engagement. A similar follower ring, $6^a$, is used to assemble and support the wire fabric beyond the cut-away portion.

In Fig. 3, the elements shown are the same as in Fig. 1, element 8 being shown as a simple form of strap brake.

In Figs. 4 and 5, the friction surface is disk-like, elements 10 and 11 representing driven and driving shafts, if the structure shown be used as a clutch, or driving shaft and braking member if the structure be used as a brake. The two shafts shown are each provided with a platelike enlargement, respectively marked 12 and 13, carrying members having frictional engagement on their faces. These elements, as shown, have semi-annular collars, 14 and 15, 14 acting as a follower and 15 as a fixed collar containing spirals (see Fig. 5) or annuli 16, of wire fabric, held under compressive tension by rivets 17. A long strip of wire gauze (see Fig. 5) may be helically wound about shaft 11 under great tension, riveted while still under tension and the face trued off in a lathe. Holding elements or semi-annular collars 14 and 15 may be omitted, but are desirable.

Fig. 6 shows an ordinary wheel 18 having brake 19 coöperating with its tread. This brake consists of holding element 20 containing a built-up block of wire-fabric elements 21, secured under compressive tension by rivets 22. These elements may be, as shown, crescent shaped, and are assembled in the manner described for the annuli of Fig. 1, the concave braking surface being afterwards trued by any suitable tool.

Fig. 7 shows a section of a rotary element 23, such as a friction roller, and a brake shoe 24, both built up of assembled layers or strata of wire fabric.

Fig. 8 shows one of the annuli of Fig. 1 on a somewhat larger scale, showing orifices 25 for bolts or rivets and also the mutual support afforded each other by the wires of the fabric in this use.

Fig. 9 shows a drive or other wheel 26, running on track rail 27. This wheel is composed of flanged body portion 28, axle 29, assembled annular wire fabric layers 30, forming a friction surface at their edges for the tread of the wheel, movable follower ring 31 and rivets 32 for securing and maintaining compression of said layers.

Fig. 10 shows a simple form of friction brake, a series of wire fabric rings being secured to collar 33 and follower 34 by rivets 35 and internally shaped to form a conical cavity engaging the coned end 36 of shaft 37, engagement being secured by toggle joint means 38.

In all the forms of the friction element shown, it will be seen that the friction surface

is formed by the ends of the wires of the wire-fabric lying at a right or other angle to such surface, while these wires are braced and secured in position by the crossing wires and also by the compressive strain on the whole body exercised by the rivets or bolts, acting in opposition to the natural resiliency of the fabric layers. Cross friction is therefore secured and however much the friction surface may wear down, the same will always be true. The built-up structure being all metal and shearing stresses being opposed by the great tensile strength of the material, it has a long life and is substantially as strong as an integral metal device while having far superior frictional properties.

While the described wire fabric friction element after forming may be impregnated with cementing and filling material, such as india rubber, vulcanized after impregnation, this is hardly necessary or desirable with the preferable close-woven or knitted wire fabrics.

Preferably, the degree of hydraulic pressure employed in uniting the wire fabric layers should be rather high; sufficiently high to mash flat the several layers and unite their lateral faces by a kind of interlocking contact; and this high degree of compression should be maintained by the rivets, bolts or other uniting means.

What I claim is:—

1. A friction element comprising a series of parallel, contacting layers of wire fabric, the exposed edges of said layers being trued and forming a friction surface.

2. A friction element comprising a series of parallel, contacting layers of wire fabric under transverse compression, the exposed edges of said layers being trued and forming a friction surface.

3. A friction element comprising a series of parallel, contacting layers of wire fabric under transverse compression and a holding element for said layers, the exposed edges of said layers being trued and forming a friction surface.

4. A friction element comprising a series of parallel, contacting annuli of wire fabric, a holding element on each side of the composite annulus so formed and means extending through the annulus and holding elements to secure them together under transverse compression, the exposed edges of said annuli together forming a friction surface.

5. A cylindrical friction element comprising a cylinder comprising parallel, contacting layers of wire fabric and means holding said layers under transverse compression, the edges of said layers forming a circumferential friction surface.

6. A braking element comprising a shaft, and a series of layers of wire fabric in parallel contacting relation mounted thereon, the exposed edges of said layers being trued and constituting a friction surface.

7. In a brake, the combination of a braking element and an element to be braked, one of said elements being provided with a series of parallel, contacting layers of wire fabric and the exposed edges of said layers constituting a friction surface in coöperative relationship with the other element.

8. In a brake, the combination of a braking element with an element to be braked, said latter element carrying a series of parallel, contacting layers of wire gauze having their exposed edges trued and formed into a friction surface in coöperative relationship with said braking element.

9. In a brake, the combination of a braking element with a shaft carrying a series of parallel, contacting wire fabric annuli under transverse compression, the exposed edges of such annuli constituting a friction surface and being in coöperative relationship to said braking element.

10. In an automobile brake, the combination of a braking element with an axle carrying a cylindrical series of parallel, contacting disks of wire fabric, the edges of said disks forming a circumferential friction surface in coöperative relationship to said braking element.

11. In an automobile brake, the combination of an axle carrying a sleeve provided with an encircling annular series of wire fabric layers, exposed edges of said layers forming a circumferential friction surface, with a braking element in coöperative relationship to said friction surface.

12. In a braking element, the combination of a sleeve, a collar rigid therewith, a follower collar movably mounted thereon, a series of wire fabric annuli encircling said sleeve between said collars and transverse tension means maintaining said annuli in a state of compression between said collars.

In testimony whereof, I affix my signature in the presence of two subscribing witnesses.

WILLIAM T. BONNER.

Witnesses:
JAS. C. BUCKMAN,
R. F. BUTLER.

580 F
580 F

580 H

# W. T. BONNER.

## FRICTION MEMBER.

APPLICATION FILED JAN. 20, 1909.

**931,988.** Patented Aug. 24, 1909.

Fig. 1.

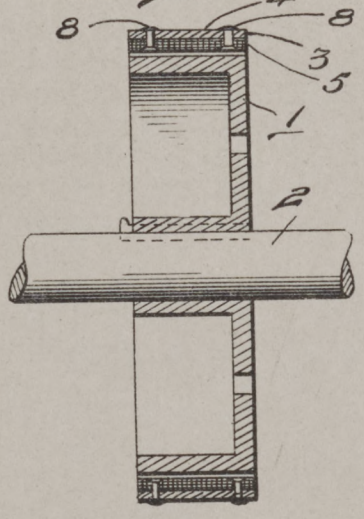



Fig. 2.

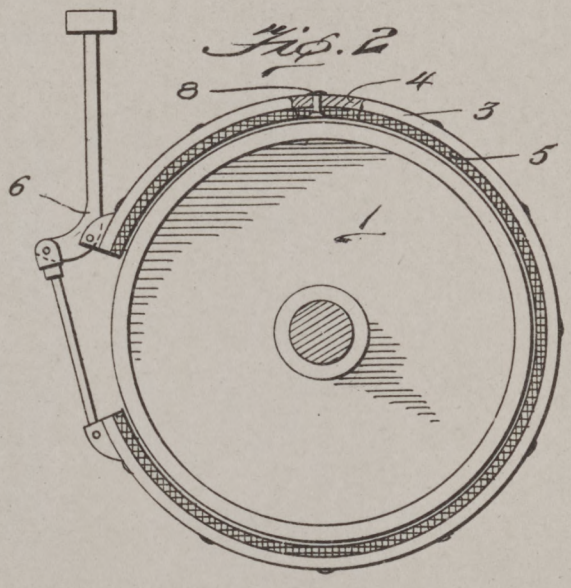



Fig. 3.

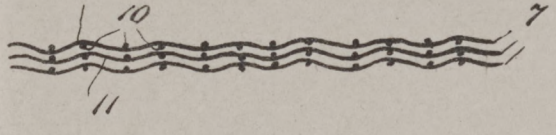



Fig. 4.

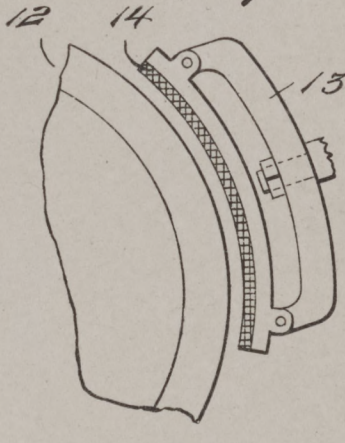



Fig. 5.

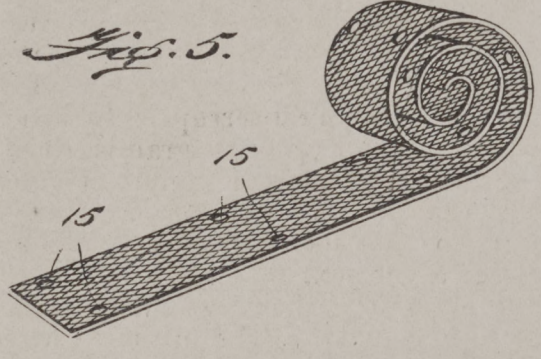
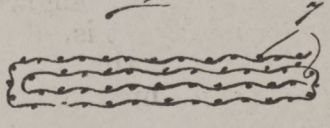



Fig. 6.




Inventor

William T. Bonner

Witnesses

B. M. Offutt

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By K. P. McElroy

Attorney

EXHIBIT D. 8.

5801

# UNITED STATES PATENT OFFICE.

WILLIAM T. BONNER, OF WASHINGTON, NORTH CAROLINA.

## FRICTION MEMBER.

931,988. Specification of Letters Patent. Patented Aug. 24, 1909.

Application filed January 20, 1909. Serial No. 473,317.

*To all whom it may concern:*

Be it known that I, WILLIAM T. BONNER, a citizen of the United States, residing at Washington, in the county of Beaufort and State of North Carolina, have invented certain new and useful Improvements in Friction Members, of which the following is a specification.

This invention relates to friction members; and it comprises a brake having a friction element or liner of assembled plies or layers of wire fabric and a holding element adapted to maintain said friction element in frictional contact with a surface to be braked; all as more fully hereinafter set forth and as claimed.

In high duty brakes of all kinds, and particularly those in which the engaging surfaces are relatively small as compared with the energy to be absorbed, as in hub and axle brakes of automobiles, the stresses and strains in the engaging members are very great, necessitating the use of material of good stiffness and tensile strength. These qualities are, however, difficult to find combined in substances having also a good coefficient of frictional resistance. Asbestos, leather and other materials having a good frictional coefficient are generally lacking in the stiffness or the strength desirable for the present purposes. Metal, such as steel, brass or bronze, has the desired strength, though many of the "friction metals" are hardly so strong, but in high duty work metal tends to wear to a smooth surface, and in high-duty braking, such as is necessary with automobiles, after a time a metal brake is apt to wear so smooth that there is no intermediate stage between no-engagement and a locking-engagement. It is, of course, desirable in all braking work that there shall be the possibilty of intermediate engagements whereby a vehicle or other moving object may be brought to rest more or less gradually. In a metal strap engaging an automobile axle sleeve, for instance, no matter how efficiently the brake works at first, after a time the strap and sleeve wear smooth, so that in an emergency stop a locking pressure must be exerted endangering tires and wheels. The same is true of brake sleeves engaging car wheels, and is a prolific cause of "flat wheels." With other materials than metal in the brake, such as the various frictional non-metallic substances ordinarily used, the friction material is apt to tear or wear out after a time, the strength and stiffness of such substances being ordinarily low.

In the present invention, I have devised a different type of brake, assembling various elements in such manner that the friction-surface will always present a cross-grain friction to the engaging surface, whatever the use or wear, while the friction material will preserve a resilience enabling the application of various degrees of engagement between no-engagement and locking-engagement. For this purpose, I assemble together a plurality of plies or layers of wire fabric in such manner as to give a mutual support with a holding element adapted to maintain such assemblage of plies or layers in a strong and secure manner and to give the exterior or friction layer any desired engagement with a surface to be braked. I may use the ordinary wire gauze, that is, a fabric in which the wires cross each other at right angles, but I prefer the fabric very closely woven. Or I may use the knitted wire fabric in which the wires are looped about each other to a greater or less extent. With the knitted fabric under pressure the plies give a very good mutual locking engagement and exhibit a desirable friction surface for the present purposes.

A laminated liner built up of knitted plies is very strong. In such a laminated liner built up from a knit fabric, the wires forming a given loop on the exterior surface go downward into the fabric and are secured on the other side by other loops, giving great strength, even after long wear, while the surface loops, being interrupted by spaces, give what is in effect a cross-grain surface. Furthermore, the loops on the under side of what is the exterior layer, under great pressure are forced down into the corresponding spaces of the layer next below, so that in effect the two layers together give substantially uninterrupted metal. The ordinary woven fabrics however give the same effect and produce the same locking engagement under pressure, though not quite so efficiently as the knit fabric. In practice, I prefer more than two layers, using from two up to as many as the size of brake requires.

The metal of the fabric may be any that is desired, and all the layers need not be the same. Steel, brass, bronze and aluminum

bronze are all suitable, but I ordinarily prefer steel. Any of the commercial steels and alloy steels may be used.

In assembling the several plies to form the desired brake liner, a sheet of fabric may be simply folded into the desired shape, or the several plies may be cut to shape and laid together. The assemblage is next submitted to heavy pressure, as by a hydraulic press, whereby the several plies are given the stated mutual locking engagement, and become, for the present purposes, substantially an integral whole. While still under pressure, the plies may be bolted together, retaining the compression, and the bolts afterward replaced by rivets, or the assemblage may be directly riveted while still under pressure. Or the mass of plies may be heated and welded under the hammer; or locally united by electric spot welds. A welded mass of wire fabric plies presents a number of advantages for the present purposes since it is very strong, cannot wear to any but a cross-grained surface while being substantially an integral mass and cannot break up under wear. The riveted assemblage on the other hand, whatever the pressure of assemblage, is more or less resilient under pressure and gives the possibility of a very desirable series of varying engagements between no-engagement and locking engagement.

The shape of the mass of wire-fabric is, of course, made to conform to that of the surface to be braked and that of the holding element. In a strap brake for automobiles and like purposes, it may be that of a long strip of metal. Where this strap is to be curved, the mass may be correspondingly curved, or it may be cut through, partially or wholly, from the obverse side, to permit a concave curvature. In such a strap brake, for example, the strip of wire gauze may be cut into blocks, proximally assembled in a more or less flexible holder, thereby giving a flexible braking element. The friction mass may be assembled with the holding element in any convenient manner, as by the use of lugs on said holding element engaging the friction member and holding it in place, or by the use of bolts or rivets. For many purposes, a convenient method of assemblage is to place holding element and wire-fabric plies together under pressure and rivet or bolt the whole body together while such pressure is maintained. Bolts may be employed while the assemblage is under pressure and these afterward replaced *seriatim* with rivets.

The mass of wire-fabric plies may be impregnated with rubber or other plastics; the rubber being applied, for instance, as a comparatively thin composition impregnating the whole mass, and the mass being afterward vulcanized as a whole. This results in the formation of an integral mass of rubber within and including the wire-fabric body, filaments of rubber passing through the meshes. Or each layer of wire-fabric may be impregnated before the next is put in place; the whole mass compressed, and afterward vulcanized. Where the plies are riveted or bolted together, the use of rubber is mainly convenient for giving the frictional surface a smooth contour without interfering with the friction. In brakes for exceptionally high duty where such heat is likely to develop, the rubber may be disadvantageous as apt to char and as interfering to some extent with the communication of heat from the braking surface through to the holding element. In an all-metal braking element under the present invention, the several plies or layers are all in good thermal contact, both with each other and with the holding element, which is a desirable feature as tending to dissipate the heat evolved on the friction surface in operation. In such an all-metal brake, the wire-fabric layer under the one which forms the braking surface, and which is advantageously steel, may be of copper or other good heat-conductive metal in order to assist in this dissipation of heat.

Either the braking element proper, or the element to be braked may be made of wire-fabric layers under the present invention; but it is generally preferable to use the wire fabric layers for the former.

In the accompanying illustration, I have shown, more or less diagrammatically, sundry of the many possible embodiments of the described invention.

In this showing:—Figure 1 represents a vertical longitudinal section of an automobile brake and brake spool; Fig. 2 represents an end elevation of the same; Fig. 3 is a section (on a greatly enlarged scale) of several plies of wire fabric, showing the interlocking resulting under pressure; Fig. 4 is a view showing a brake shoe having a wire-fabric liner; Fig. 5 is a perspective view of a complete liner for the holding element of Figs. 1 and 2; and Fig. 6 is a section of a liner formed from folded wire cloth.

In this showing (see Figs. 1 and 2), 1 is an element to be braked, as shown, a spool or hub upon an axle, 2, which may be an automobile axle. This hub may be of ordinary turned, forged or cast metal. Around it is strap brake 3, composed of a metal holding element 4, carrying friction liner 5, and brought into and out of engagement by lever 6 in an ordinary manner. The liner is composed of a plurality of layers of wire fabric 7, and may be formed, as shown in Fig. 6, of a sheet of wire-fabric folded to form a flat roll. The several plies of this roll are maintained in mutual locking contact (see Fig. 3) by being assembled under heavy pressure, such pressure being preserved in the complete article by rivets or bolts 8. These fastening elements may, as shown, also engage the

metal holding element. The liner may or may not be, as may be desired, impregnated with rubber or other plastic.

In Fig. 3, which shows an enlarged section of several plies of fabric, the upper side may be considered the friction surface. On this side, as will be perceived, project a number of loops, 9, each inclosing the meshing wire 10. Below are corresponding loops and these latter in compressing the plies together, sink more or less into the spaces between the loops 11 of the sheet next below, and are given lateral support thereby against the frictional stresses of use. The tops of the first set of loops together form the frictional surface of the brake. The loops of the second ply, as will be perceived, mesh partly with the spaces of the layer above and partly in the spaces of the layer below, and so on. As will be perceived, the layers or plies of wire-fabric thus assembled form a composite body in which the several portions are so located relatively to each other as to give a maximum of strength. With a knitted fabric in which the loops and spaces are more developed than in a woven fabric this intermeshing effect is somewhat enhanced, but the woven fabric forms a structure amply strong for most purposes.

For the sake of clearness of illustration, in all figures the wire fabric is shown rather open in mesh, but in practice it is employed as closely woven as may be.

In Fig. 4, an ordinary car wheel 12 is shown, braked by brake shoe 13, containing plies of wire-fabric 14.

In Fig. 5, a complete liner is shown, ready for assemblage with the holding element of Figs. 1, 2, or 4. If it be desired to bolt it in place, bolts may be placed in orifices 15 to maintain the layers under the compression of the forming press, and may be removed one by one and replaced by the bolts attaching it to the holding element. Or it may be retained in place by any suitable shape of the holding element.

Fig. 6 shows on an exaggerated scale, a piece of wire cloth folded over itself to produce a narrow strip of laminated friction fabric. After the folding, the strip is placed under compression and the compression retained by bolts passing through orifices similar to those indicated by 15 in Fig. 5.

In all friction elements under the present invention, it is desirable that there should be a sufficient number of the fabric plies to form a body of substantial thickness and give support and resilience in the described manner to the layer or ply which forms the friction surface proper, it being difficult to support otherwise such ply in a manner which will enable it to resist the stresses and strains of high-duty braking. Such a laminated body however, is substantially as strong as one of solid metal when formed in the described manner, and is as easily supported in a holding element. And over solid metal or other friction elements, in addition to its very desirable friction surface it has the advantage of resiliency, enabling, as stated, varying engagements with the member to be braked.

While folding a sheet of wire fabric into the form of a strip is a convenient method of assemblage, yet the several plies may be directly cut into shape prior to assemblage.

What I claim is:—

1. A brake comprising a holding member and a plurality of contacting layers of wire fabric secured thereto, the face of the outermost layer forming a friction surface.

2. A brake comprising a holding member and a plurality of contacting compressed layers of wire fabric secured thereto, the face of the outermost layer forming a friction surface.

3. In a friction device, a body comprising a plurality of contacting compressed layers of wire fabric and headed fastening elements passing transversely through such body, an outer layer of such plurality of layers being adapted to form a friction surface.

4. In a friction device, a friction element composed of a plurality of contacting folds of wire fabric assembled and maintained under compression, an outer fold of such plurality of folds being adapted to form a friction surface.

5. In a friction device, a friction element composed of a plurality of turns of wire fabric folded about each other and assembled and maintained under compression, an outer turn of such plurality of turns being exposed and adapted to form a friction surface.

6. A brake comprising a holding element, a liner therefor comprising a plurality of folded plies of wire fabric and fastening elements securing said liner to said holding element and maintaining said plies under compression, an outer ply of such plurality of plies being exposed and adapted to form a friction surface.

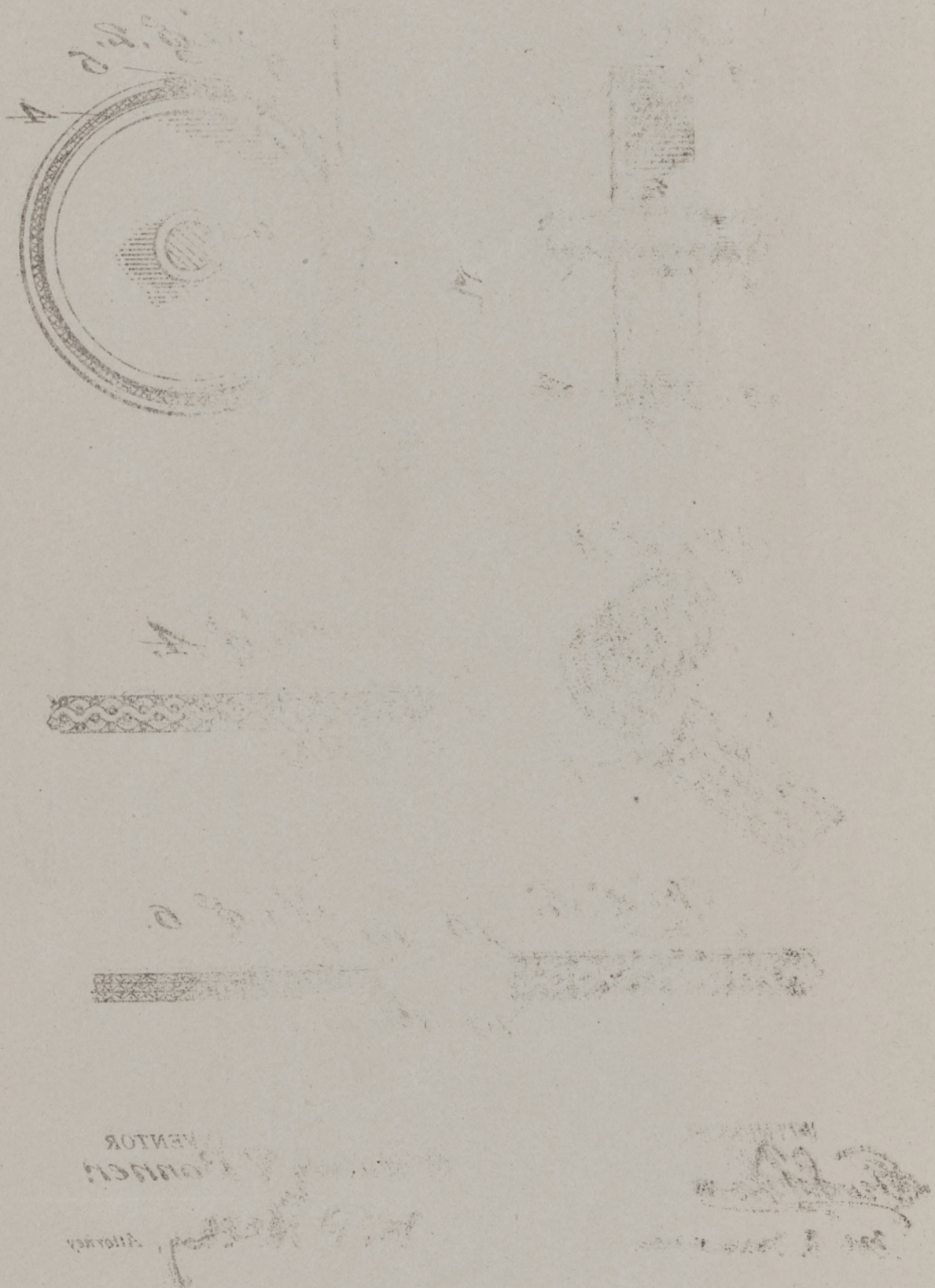
In testimony whereof, I affix my signature in the presence of witnesses.

WILLIAM T. BONNER.

Witnesses:
WM. A. FURMAN,
J. W. MURPHY.

5801

**EXHIBIT D. 9.**



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W. T. BONNER.

BRAKE AND BRAKE LINER.

APPLICATION FILED JULY 28, 1909.

980,481. Patented Jan. 3, 1911.

Fig. 1.

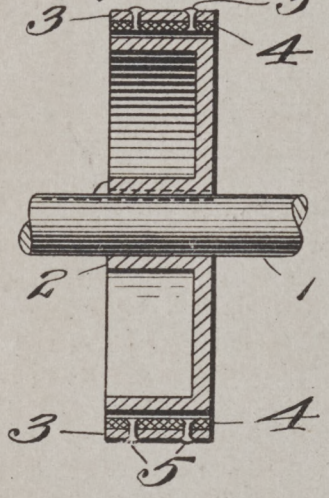



Fig. 2.

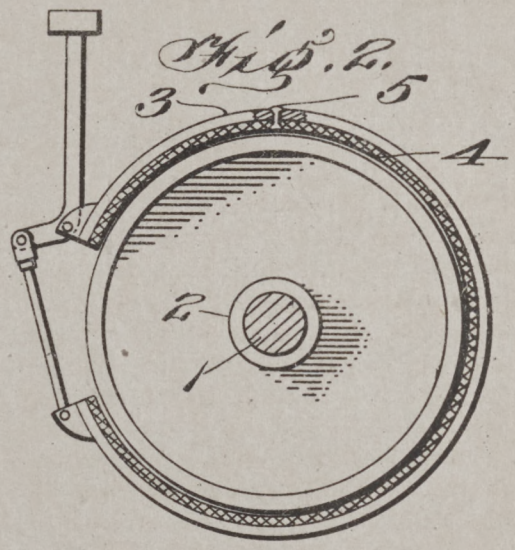



Fig. 3

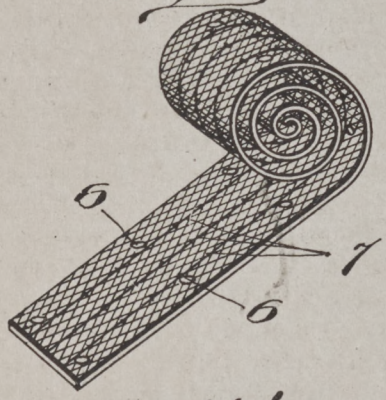



Fig. 4.

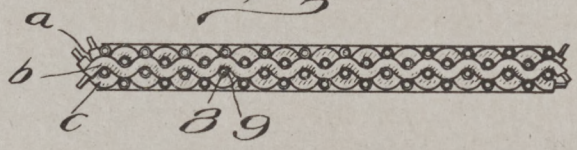
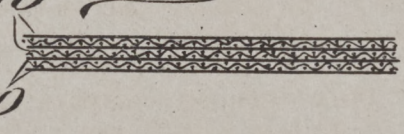



Fig. 5.




Fig. 6.




WITNESSES

Fros Thomas

M. C. Massie

INVENTOR

William T. Bonner.

by

K. P. McElroy, Attorney

# UNITED STATES PATENT OFFICE.

WILLIAM T. BONNER, OF TRENTON, NEW JERSEY, ASSIGNOR TO THE BRAKE LINERS COMPANY, OF WASHINGTON, DISTRICT OF COLUMBIA, A CORPORATION OF DELAWARE.

## BRAKE AND BRAKE-LINER.

980,481. Specification of Letters Patent. Patented Jan. 3, 1911.

Application filed July 28, 1909. Serial No. 510,057.

*To all whom it may concern:*

Be it known that I, WILLIAM T. BONNER, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Brakes and Brake-Liners, of which the following is a specification.

This invention relates to brakes and brake liners; and it comprises a braking element having a liner comprising an asbestos fabric, advantageously reinforced with metal strands, containing an interiorly incorporated cementing material and in several plies united or cemented together; and it further comprises said liner; all as more fully hereinafter set forth and as claimed.

For automobile brakes and other high duty braking purposes requiring flexibility of engagement of the braking means with the possibility of a fully graduated series of engagements between locking engagement and no-engagement, asbestos is an efficient body-giving element since it combines good frictional qualities for this purpose with a number of other desirable properties. Being unaffected by heat and being but little conductive therefor, heat developed on the braking face does not damage it and is not propagated elsewhere to any substantial extent. And in the form of fabric, it displays a type of resilience desirable in securing graduated engagements of the braking means. Unfortunately however the tensile strength of asbestos is but low, asbestos threads, as threads, being comparatively weak with comparatively little tendency to lock or felt together, though the ultimate asbestos fibers themselves have considerable strength. For a brake liner it is therefore practically impossible to employ an asbestos fabric alone, some form of reinforcement or strengthening being necessary. For instance, the asbestos fibers or threads may be spun or knit around metal wires or filaments and these so-coated wires woven into [illegible] strength does not well resist frictional wear, there being a tendency for the asbestos fibers to break away locally where exposed to wear. There is of course in such a fabric no great amount of adhesion or engagement between the asbestos fibers themselves or between the fibers and the core wire. It is therefore desirable that a further strengthening of the compound fabric be given by providing a positive type of union between the fibers themselves and the fibers and wires. While the former effect may be produced to a limited degree by "frictioning" the compound fabric, that is, by coating it with a fluent rubber composition, in practice this does not work as well as can be desired.

Rubber compositions are not particularly fluent when of strengths suitable for the purpose of giving a "frictioning" layer of much thickness and do not penetrate the fabric far, even with more fluid compositions, without special means being adopted to that end. The asbestos fibers are very fine so that it is difficult for thick rubber compositions to penetrate between them. And in any event, the use of much rubber is commercially not very practicable because of its great cost. Practically, the effect of frictioning is confined to the surface and while this superficial effect is desirable as cementing together the fibers where exposed to wear, the full efficiency of the reinforcement by the metal is not secured, nor is full advantage taken of the strength of the remaining asbestos fibers. Unless the cementing body thoroughly penetrates the fabric, there is no more than a frictional engagement of the wire with the asbestos of the body of the fabric.

By using a permeating cementing body, either in addition to or in exclusion of, the rubber, and especially where certain expedients hereinafter set forth are resorted to, a much more desirable type of liner is secured. With a permeating cementing body not only are the superficial fibers anchored together but also the interior fibers; while such fibers, in turn, are caused to have a positive union with the core wire. The whole fabric is made a unitary mass.

While most of the cementing adhesives do not have much tensile strength when existing in the form of thin films, layers or columns they have considerable strength. On the other hand while, as stated, asbestos threads themselves are not very strong yet the ultimate fibers are possessed of considerable strength. Therefore by producing a close fabric of asbestos and wire, having the several fibers, threads and wires close together

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with minute interspaces filled with a cementing adhesive, full advantage is taken of the strength of the asbestos and wire and the compound fabric as a whole has a strength greater than the sum of the strengths of these components. The individual asbestos fibers which, as stated, have considerable strength are no longer free to slide over or move relatively to each other but are locked in position by relatively strong, cohering thin films of the cementing adhesive. Even without a wire-reinforcement, an asbestos fabric so impregnated has relatively great mechanical strength; sufficient to adapt it for many braking purposes. But the metal-reinforced material is much better adapted for most purposes. With a fabric so reinforced, there is a direct locking of the asbestos and wire together.

While a single ply of a fabric produced as described may be used for some purposes, it is much better to use a plurality of plies. With a plurality of plies a resilience can be obtained which it is impossible to get with a single ply and the communication of stresses between the braking face of the liner and the holding element therefor is very much better. A single ply fabric cannot well secure both a good engagement with the holding element and a good engagement with the surface to be braked, whereas a laminated fabric can easily secure good engagement with both.

Many impregnating adhesives may be employed, but in practice in the present embodiment of this invention I prefer a pitchy or asphaltic adhesive of such a nature that it is fairly heat-resistant while also being flexible. A certain amount of flexibility is necessary to enable the brake liner to take full advantage of its resiliency while heat resistant qualities are desirable to prevent injurious effects from the heat developed in braking. As best adapted for my present purposes, in this embodiment of my invention, I regard certain asphaltic residua from petroleums having an asphalt base. These residua or still bottoms on being blown with air while hot become converted into pitchy bodies eminently suitable for my purposes. The original residue are less well adapted. On blowing the residua, the material oxidizes and its melting temperature rises. The melting point may vary from 200° to 260° [illegible] ing the pitchy body becomes thinly liquid so that it can be used as a good impregnant, giving a good, uniform and thorough impregnation.

Impregnation can be easily effected by dipping the fabric or by passing it through a bath of the molten impregnant, squeezing out excess in the well understood way. A sheet of asbestos fabric may be impregnated, cut into strips of appropriate size and these strips united to form a liner of any desired number of plies by stitching with thread or wire. Rivets may be used but are not necessary. Or the sheet may be folded upon itself to make as many plies as may be necessary, and these plies then stitched together.

The use of some rubber or rubber composition in the structure is often advantageous. By facing or "frictioning" the plies with a rubber composition prior to assemblage and then uniting and curing under pressure, the facing layers of rubber unite and become integral and firmly unite the proximate layers or plies of fabric. These intercalated layers of rubber add much to the resilience of the liner as a whole and therefore to the practicability of securing adjusted degrees of engagement in braking.

The impregnated reinforced fabric, with or without the rubber intercalated between the plies, may be utilized as a braking element by securing it to any suitable holding member adapted to support it in such a manner as to expose the flat face, or an outer ply, opposite the surface to be braked. In such position the outer face acts as a braking member while the asbestos, wire and adhesive coöperate in transmitting strains upon the face to and through the body to the holding element. Any local overheating merely burns out locally a little of the cementing adhesive and does no harm. The asbestos and the adhesive are both substantially non-conductive for heat, and the separated strands of metal, not being in mutual contact, do not act as heat-transmitters. The pitchy adhesive in the braking face adds materially to the coefficient of friction. Either the true asbestos or the Canadian chrysotile may be employed. "Mineral wool" is less suitable.

In producing the compound laminated liner, it is advantageous to use heavy pressure at some stage of the operation while the adhesive is still fluent as this brings the fibers and wire into closer approximation and reduces the thickness of the uniting films or layers of adhesive and, thereby, increases the strength of such films.

In making the primary fabric, suitable wire may be covered with asbestos fibers by spinning or otherwise and the coated wire woven or knit into fabric form. The impregnation is best postponed till after making suitable to impregnate prior to weaving. A cheap and simple way of operating however is to paint or varnish the wire with a paint of comminuted or flock asbestos and the stated pitchy adhesive, and then weave. The fabric so produced is however by no means as desirable as that produced from good long-fiber asbestos spun directly upon the wire and the necessity of

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weaving hot or in a warm condition is inconvenient. The complete liner whether laminated or single ply is finally stitched.

Each ply of the primary fabric may be dipped in the fluent adhesive in the described manner, passed through wringing rolls and allowed to dry in the air. Or the hot, warm plies may be directly assembled. Where the rubber is desired in the structure, the sheet of fabric after impregnation and pressing, which, in this instance, should be under considerable pressure, may be given a coating of fluent rubber composition on one or both sides and then be folded into shape to produce a number of plies. Or the plies may be cut to shape and assembled. In either case, the assembled plies should next be vulcanized in a suitable press under pressure. A facing layer of rubber on the face of the liner to be exposed to the braking surface is often desirable where the intercalated rubber layers are omitted. The complete liner may be assembled with any suitable holding element, as the strap of a strap brake, by riveting, bolting or the like to form a complete brake.

In the accompanying illustration I have shown, more or less diagrammatically, certain embodiments of the described invention. In this showing, Figure 1 is a vertical transverse section of a brake spool and brake provided with the described asbestos liner; Fig. 2 is an elevation, partly broken away, at right angles to the showing of Fig. 1; Fig. 3 is a view in perspective of a portion of a coil of laminated liner ready for application; Fig. 4 is a section on an enlarged scale of such a liner; Fig. 5 is a similar view showing the liner carrying a "frictioning" of rubber; and Fig. 6 shows a liner with intercalated rubber layers spacing apart and uniting the several fabric plies.

In Figs. 1 and 2, shaft 1 of some element to be braked, as an automobile, carries a hub or spool 2 having a rim or periphery adapted for braking. With this engages strap brake 3 provided with the described brake liner 4 of impregnated asbestos, secured thereto in any suitable way, as by bolts or rivets 5. Fig. 3 shows a coil or roll of this liner ready for application to or assemblage with the holding element (3). Perforations 6 are for rivets or bolts. Stitches 7 are of thread or wire. In Fig. 4, a 3-ply fabric is shown, the plies being lettered *a*, *b* and *c*. Element 8 in each ply is a wire covered with a coating 9 and woven into a fabric with similar covered wire. The plies are saturated, as stated, with a cementing adhesive.

In Fig. 5, the liner of Fig. 4 is shown provided with a "frictioning 10" of rubber, applied either as a fluid composition or as a more or less fluent solid rubber composition applied under pressure and heat. If so desired, as stated, the rubber may occur between the plies of fabric, as shown in Fig. 6, where there are intercalated layers 10 of rubber or rubber composition. Preferably the pitchy impregnant used is one having a high melting point, say between 250° and 260° F. and a high point of ignition, say 720° to 750° F. A blown residuum from Texas petroleum of these characteristics may be readily obtained. Many other cementing adhesives such as viscose, gum pontianak, balata, gutta, etc., may be employed. Drying oils such as linseed oil, tung or wood oil, sunflower oil, nut oil, corn oil, etc., may be employed, but this I do not claim specifically herein, it forming the matter of a co-pending application, Serial No. 503,625, filed June 22, 1909. Drying oils mixed with sodium silicate solution ("water glass") or other mineral fluent binder, are also suitable. In the present embodiment of my invention, however, I prefer the described pitchy impregnant from petroleum residues. Other asphaltic or pitchy bodies may be employed, but I regard this pitch residue as best for the present purposes.

The petroleum residue of the character described comprises many valuable properties for the present purposes. Having been made at a high temperature it is not much affected by the braking temperatures, and it is flexible, allowing the liner to yield and bend somewhat; a very convenient property in assembling with the holding element. This softness or fluency also allows a yielding under the braking pressure, in addition to the resiliency due to the rubber, when used, thereby at once giving better engagements and prolonging the life of the liner. It has still other valuable properties for the present purpose depending on the fact that it melts under heat. This fusibility does not cause it to flow away in use since the liner is made under heavy pressure, which may be up to a couple of thousand pounds, so that no more is left in the fabric than can be capillarily held, but it does allow a replenishment of that in the braking face in case of a little charring so that the superficial asbestos fibers are not left unsupported. It is too bad a conductor of heat, as is the asbestos also, to allow permeation of heat inward any great distance and cause the body to flow as a mass, but that immediately below the braking fibers will so flow. In addition, for the present purposes, the described pitchy body has the advantage of a high coefficient of friction, being sticky in character, and also, because of this stickiness, it serves well to unite the plies together. In impregnating a liner fabric with linseed oil, it is best to allow the several plies to be subsequently united to dry before uniting as giving a quicker drying. Drying is an oxidation phenomenon depend-

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ing in part on contact with the air and it is consequently quicker to dry the unassembled plies rather than the complete liner. But when so dried to completion, or nearly to completion, the drying oils have little stickiness or adhesive power left so that the assembled plies are not cemented together between their faces thereby as thoroughly as is desirable. With the pitchy impregnant, on the other hand, a good coherence between the layers or plies is secured so that such pitchy matter serves at once as an impregnant and as a cement between the plies, for this latter purpose having part of the functions of the rubber.

Where the ply-cementing function of the pitch is desired, it is best to modify somewhat the method of producing the liner. The several plies should be first impregnated and subjected to pressure to cause the asbestos and wire to lie close together, spaced and united by films of the impregnant of minimal thickness. As stated, in such thin filmiform condition, it gives a maximum strength. After impregnation, the several plies may each be given a squeezing pass through a roller, or the sheet which is to be folded on itself to form the plies, may be given such a squeezing pass. Then the several plies or the sheet may be given a facing coat of the pitchy body, prior to assemblage, the plies assembled or the sheet folded, and once more pressed. Operating in this manner, the intercalated layers of rubber are best omitted, though the laminated fabric so produced may be given an outer coat of rubber. In the drawing, the diagrammatic showing of Fig. 6 may be taken to represent this pitch-impregnated, pitch-cemented liner, layers 10 being intercalated cementing layers of pitch. Where great resiliency in the liner is desired, however, intercalated layers of rubber are preferable. The pitchy substance, while serving well as a ply-cement, is not so resilient as rubber.

While the wire used for the basis of the liner may be coated with asbestos in other ways, it is best covered therewith by spinning since the spun-coated wire presents the asbestos fibers arched around the wire in a way which makes the structure mechanically stronger. Wire coated with flock or powdered asbestos by the use of an adhesive is much less suitable for high-grade liners.

The spun-coated wire fabric presents substantially a wire fabric in which each wire is spaced and separated from the other wires by a layer of asbestos, or asbestos and adhesive, and is therefore out of thermal contact. The heat of a wire exposed in braking engagement is therefore not propagated to the other wires of the fabric from which it is spaced by the spun coating. Where greater strength is required and the propagation of heat is not important, the asbestos coating may be omitted, but in the present embodiment of my invention such a spun coating is employed.

What I claim is:—

1. A brake comprising a holding member and a liner held therein, said liner comprising a layer of asbestos fabric impregnated with a pitchy petroleum residue.

2. A brake comprising a liner comprising a layer of asbestos fabric impregnated with a pitchy petroleum residue and having a wire reinforcement.

3. A brake comprising a liner comprising a layer of wire-reinforced asbestos fabric impregnated with a pitchy petroleum residue and a holding element for said liner.

4. In a braking element, a plurality of plies of fabric composed of interwoven, asbestos-coated wires, said fabric plies being impregnated with a pitchy petroleum residue.

5. In a braking element, a friction layer comprising a layer of fabric composed of interwoven, asbestos-coated wires and impregnating pitchy petroleum residue.

6. In a braking element, a plurality of piles of wire-reinforced asbestos fabric, said plies being impregnated with a pitchy petroleum residue and said plies being cemented together.

7. In a braking element, a plurality of plies of wire-reinforced asbestos fabric, said plies being impregnated with a pitchy petroleum residue and the outer ply being faced with rubber composition.

8. In a brake, the combination of a holding element and a liner comprising one or more plies of wire-reinforced asbestos impregnated with a pitchy petroleum residue and one or more plies of rubber.

9. In a braking element, a plurality of assembled plies comprising one or more plies of wire-reinforced asbestos impregnated with a pitchy petroleum residue and one or more plies of rubber.

10. In a braking element, a plurality of assembled plies of fabric composed of interwoven, asbestos-coated wires, said plies being impregnated with a pitchy petroleum residue, and intercalated layers of a rubber composition spacing and uniting said plies, said assemblage of plies carrying a facing layer of rubber composition.

11. In a band brake, the combination with a holding element of a brake band comprising a plurality of plies of interwoven, asbestos-coated wires, said plies being impregnated with a pitchy petroleum residue.

12. In a band brake, the combination with a holding element of a brake band comprising a plurality of plies of interwoven, asbestos-coated wires, said plies being impregnated with a pitchy petroleum residue, and also comprising one or more layers of rubber composition.

13. A brake band comprising a plurality of plies of a fabric composed of interwoven, asbestos-coated wires, said fabric being impregnated with a pitchy residue from petroleum, and one or more plies of rubber composition, said band being stitched.

14. In a brake, a liner comprising a plurality of plies of interwoven, asbestos-coated wire fabric, said fabric being impregnated with a pitchy petroleum residue and said plies being spaced and united by a cementing body.

15. In a brake, a liner comprising a plurality of plies of interwoven, asbestos-coated wire fabric, said fabric being impregnated with a pitchy petroleum residue and said plies being spaced and united by cementing rubber composition.

In testimony whereof, I affix my signature in the presence of witnesses.

WILLIAM T. BONNER.

Witnesses:

WM. A. FURMAN,

W. A. FOOTE.

580-II-

EXHIBIT D. 10.

580-V.

C. J. COLEMAN.

BRAKE FACING.

APPLICATION FILED NOV. 1, 1907.

993,031.

Patented May 23, 1911.

2 SHEETS—SHEET 1.

Fig. 3

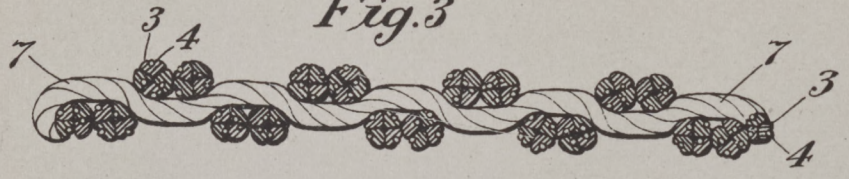



Fig. 1

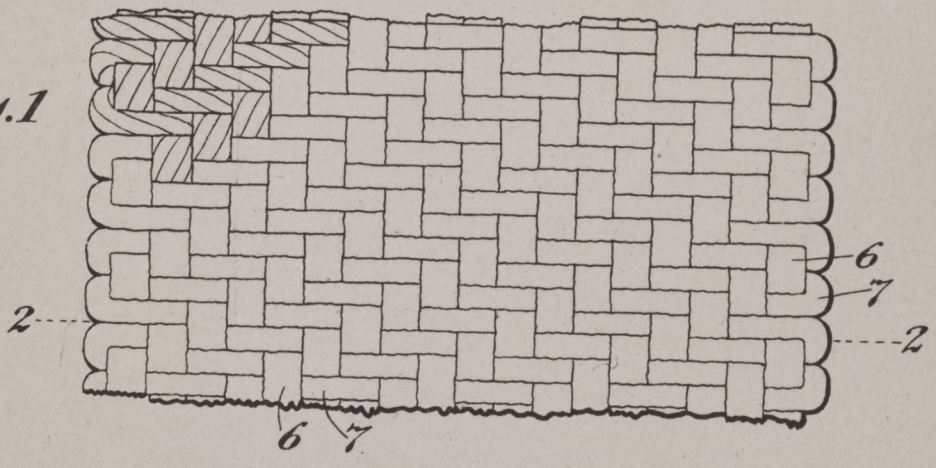



Fig. 4




Fig. 5

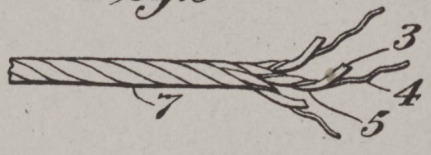
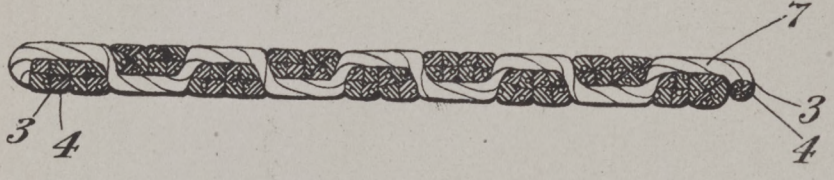



Fig. 6




Fig. 2




Witnesses:
Wm. Ashley Keddy
Margaret Best

Inventor:
Clyde J. Coleman
by Henry D. Williams
Attorney.

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C. J. COLEMAN.

BRAKE FACING.

APPLICATION FILED NOV. 1, 1907.

993,031.

Patented May 23, 1911.

2 SHEETS—SHEET 2.

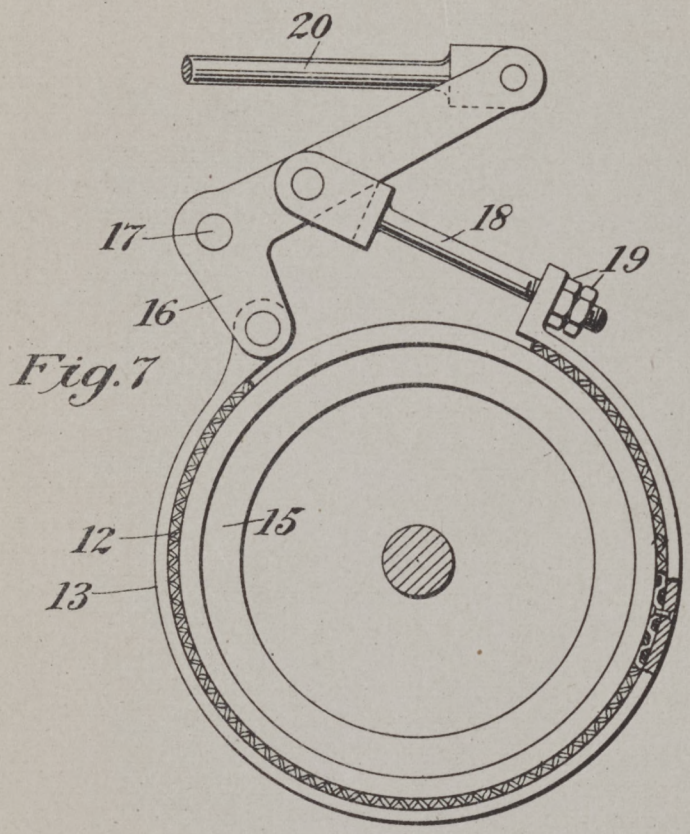



Fig. 7

Fig. 8

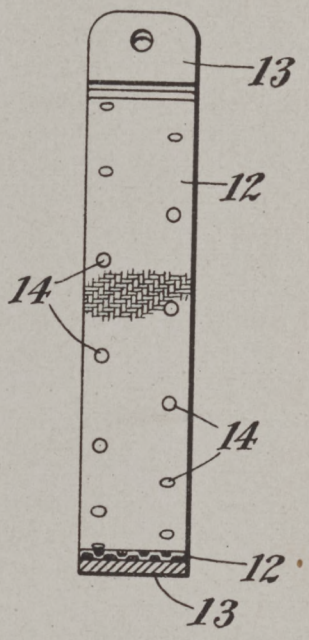



Fig. 9

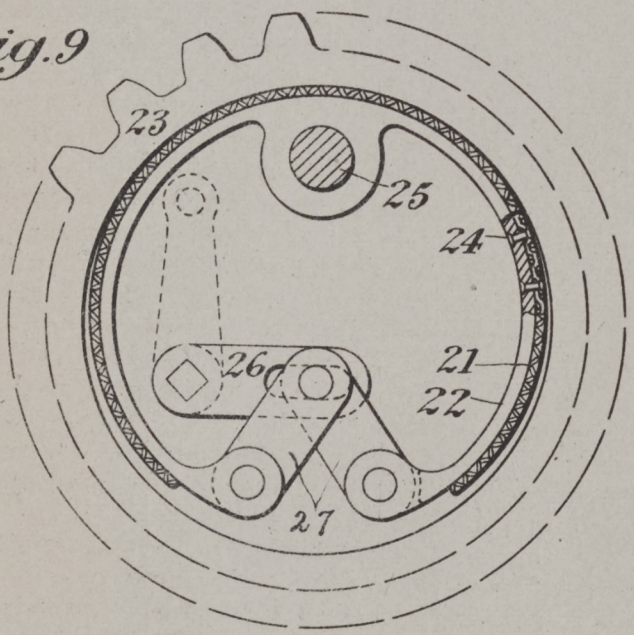
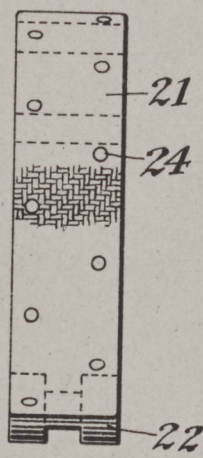



Fig. 10




Witnesses:
Wm. Ashley Kelly
Margaret Best

Inventor:
Clyde J. Coleman
by Henry D. Williams
Attorney.

# UNITED STATES PATENT OFFICE.

CLYDE J. COLEMAN, OF NEW YORK, N. Y., ASSIGNOR TO CONRAD HUBERT, OF NEW YORK, N. Y.

## BRAKE-FACING.

993,031. Specification of Letters Patent, Patented May 23, 1911.

Application filed November 1, 1907. Serial No. 400,208.

*To all whom it may concern:*

Be it known that I, CLYDE J. COLEMAN, a citizen of the United States, residing at the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Brake-Facings, of which the following is a specification, reference being had therein to the accompanying drawings, forming part thereof.

My invention relates generally to braking devices and relates particularly to the brakes of automobiles, and the objects of my invention are simplicity, durability and efficiency. Other objects and advantages will be apparent from the following description.

My invention includes asbestos fibers held in place by wires interlaced therewith to form a brake facing.

My invention also includes various details of construction.

My invention will now be described with reference to the accompanying drawings, after which I will point out my invention in claims.

Figure 1 is a plan view of a portion of brake facing, broken away at the ends. Fig. 2 is a transverse section on the line 2—2 of Fig. 1. Fig. 3 is a view similar to Fig. 2 before the strip of fabric is compressed or felted. Fig. 4 is a detail of one of the warp cords. Fig. 5 is a detail of one of the weft or filling cords. Fig. 6 is a detail of a modified construction. Fig. 7 is an elevation showing my invention as embodied in a band brake. Fig. 8 is a sectional elevation of the brake band or brake strap shown in Fig. 7 as viewed from the left. Fig. 9 is an elevation showing my invention as embodied in an internal brake. Fig. 10 is an elevation of the brake band or brake shoe shown in Fig. 9 as viewed from the side.

In the illustrated embodiments of my invention a brake facing is shown comprising a strip of double selvaged fabric formed from interwoven or interlaced cords. Each cord is made up of a plurality of strands twisted together, and each strand is composed of asbestos fibers and a wire. In the preferred construction each strand is composed of a yarn or string 3 of asbestos fibers and a wire 4, the asbestos yarn and the wire being intertwisted or twisted together to form a strand 5, as indicated in Figs. 4 and 5. In Fig. 4 four strands 5 are intertwisted or twisted together to form a warp cord or longitudinal cord 6, and in Fig. 5 three strands 5 are similarly combined or intertwisted to form a weft or filling cord 7. The warp cords 6 and weft cords 7 are woven together to form a fabric, as indicated in Figs. 1, 2 and 3. This fabric is preferably in the form of a strip having selvage edges and of a width corresponding to the width of the brake shoe or brake strap.

The weave shown in the drawings is that known as "basket weave," but the particular nature of the weave is immaterial, and it is likewise immaterial as to the number of strands forming a cord of the warp or weft. It is only necessary that the fabric should be firm and compact. To render the brake fabric more compact and to give it a smooth surface subject to even friction and wear the fabric should be rolled or otherwise compressed or felted. The appearance of the freshly woven fabric before felting or compacting is indicated at Fig. 3, while the smooth compacted or felted brake-facing material or fabric is shown at Fig. 2.

In the modified construction shown in Fig. 6 the cord 8 from which the brake fabric or brake facing is woven is composed of intertwisted strands 9 of a slightly different nature or construction. Each strand 9 is composed of a wire core 10 and a number (shown as two) of asbestos fiber yarns or strings 11 wound about or around and covering the core 10. It is largely immaterial whether this modified construction or that first described be employed. The first is simpler and more convenient of manufacture.

A strip or band of fabric such as has been described is shown as employed as a facing 12 for a brake band 13 of a band brake (Figs. 7 and 8). The facing 12 is secured to the supporting band or brake strap 13 by rivets 14 located at regularly spaced intervals and in sufficient number to furnish firm support for the facing strip. The mechanism of the band brake illustrated in Fig. is of well known construction and therefore will be only briefly described. The brake band 13 together with the flexible facing

Disclaimer in Letters Patent No. 993,031.

# DISCLAIMER.

993,031. *Clyde J. Coleman*, New York, N. Y. BRAKE-FACING. Patent dated May 23, 1911. Disclaimer filed November 5, 1921, by *John O. Bigelow, receiver of The Asbestos Brake Co.*, assignee.

Does hereby disclaim from said claims 16, 17, 18, 21 and 22 any brake-facing composed of compressible woven asbestos fibers, or a compressible woven asbestos textile fabric, or an asbestos fabric and a metallic reinforce, unless such asbestos fibers or fabric be combined with and reinforced by wires or metallic strands, as claimed in other claims of said Letters Patent.

And your petitioner disclaims said claim 20.

[*Official Gazette November 15, 1921.*]

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is contracted to grip a friction pulley or friction disk 15 by a bell crank lever 16, pivoted to one end of the band 13 and having a fulcrum pivot pin 17. The lever 16 is connected to the other end of the band 13 by a link 18 provided with adjusting nuts 19. The lever may be actuated to apply or release the brake by an operating rod 20.

In Figs. 9 and 10 a brake facing 21 of the above described construction is shown as applied to a brake shoe 22 of an internal brake, adapted to act on the inside of the rim of a gear 23, and the facing is secured to the shoe by rivets 24. The brake actuating mechanism is well known and need be only briefly described. The brake shoe 22 is to some extent flexible and is supported on a pivot 25. The shoe 22 may be expanded or contracted, to apply or release the brake, by a bell crank lever 26, connected to the ends of the shoe 22 by links 27.

Brakes of the form shown and above described are commonly employed on automobiles. The conditions of service on automobile brakes are very severe, and the brake facing of my invention is intended especially to satisfactorily meet severe conditions of service and hard usage. It is strongly adhesive to the coacting surface and oil will not destroy its gripping qualities. It is durable under heavy rubbing friction, and is heat-resisting and cannot be destroyed by friction heat resulting from application of the brake. It is flexible, and therefore may be applied or secured to a brake shoe or brake band of any curvature or conformation. It is inextensible, and therefore will always present a smooth even braking surface. The interwoven wires impart strength and inextensibility and also firmly grip and retain or hold captive the intertwisted or interlaced asbestos fibers, and the asbestos fibers provide a durable, heat-resisting gripping or braking surface. As shown in the drawings, especially in Figs. 1 and 5, the interlaced wires are embedded, or sunken, in the asbestos fibers and, being so concealed, do not contact with the brake surface.

It is obvious that various modifications may be made in the constructions shown and above particularly described within the principle and scope of my invention.

I claim:—

1. A brake facing comprising asbestos fibers and wires interlaced therewith.

2. A brake facing comprising asbestos fibers and continuous wires interlaced therewith.

3. A brake facing comprising interlaced threads, each thread comprising a wire and a yarn of asbestos fibers twisted together.

4. A brake facing comprising interlaced strands, each strand comprising asbestos fibers and wire.

5. A brake facing comprising interlaced strands, each strand comprising asbestos fibers and a continuous wire.

6. A brake facing consisting of a fabric comprising interlaced cords, each cord comprising strands and each strand comprising asbestos fibers and a continuous wire.

7. A brake facing consisting of a fabric comprising interlaced cords, each cord comprising strands and each strand comprising asbestos fibers and a continuous wire intertwisted with the asbestos fibers.

8. A brake facing consisting of a fabric comprising cords woven together, each cord comprising strands and each strand comprising asbestos fibers and a continuous wire.

9. A brake facing consisting of a fabric comprising cords woven together, each cord comprising intertwisted strands and each strand comprising asbestos fibers and a continuous wire intertwisted with the asbestos fibers.

10. A brake facing consisting of a felted fabric comprising interlaced cords, each cord comprising strands and each strand comprising asbestos fibers and a continuous wire.

11. A brake facing consisting of a felted fabric comprising interlaced cords, each cord comprising strands and each strand comprising asbestos fibers and a continuous wire.

12. A brake facing consisting of a double-selvaged fabric comprising interlaced asbestos fibers and wires.

13. A brake facing comprising asbestos fibers and wires interlaced therewith and concealed in the asbestos fibers.

14. A brake facing consisting of a fabric comprising interlaced cords, each cord comprising strands and each strand comprising asbestos fibers and a continuous wire intertwisted with the asbestos fibers and concealed in the asbestos fibers.

15. A brake facing consisting of a double-selvaged fabric comprising interlaced asbestos fibers and wires, the wires being concealed in the asbestos fibers.

16. A band brake lining formed of compressible woven asbestos fiber.

17. A brake band formed of compressible woven asbestos textile fabric.

18. As an article of manufacture, a brake lining comprising an asbestos fabric and a metallic reinforce.

19. As an article of manufacture, a brake lining comprising an asbestos fabric and metallic strands incorporated therewith.

20. As an article of manufacture, a brake lining comprising superposed layers of fabric formed of fibers of asbestos and reinforcing metallic strands.

21. In a friction device for machine brakes, the combination with a friction sheet comprising an asbestos fabric and a

580-a-a

metallic reinforce, of holding means for said sheet.

22. In a friction device for machine brakes, the combination with a friction sheet comprising an asbestos fabric and a metallic reinforce, of backing and holding means supporting said sheet.

In testimony whereof I affix my si ture in presence of two witnesses.

CLYDE J. COLEMA

Witnesses:
WM. ASHLEY KELLY,
BERNARD COWEN.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Pat Washington, D. C."**

580-B-B

EXHIBIT D. 12. 5-80-C-C

580-D-D

L. R. HOFF.

ASBESTOS BRAKE BAND.

APPLICATION FILED JULY 28, 1908.

997,818. Patented July 11, 1911.

Fig. 1.

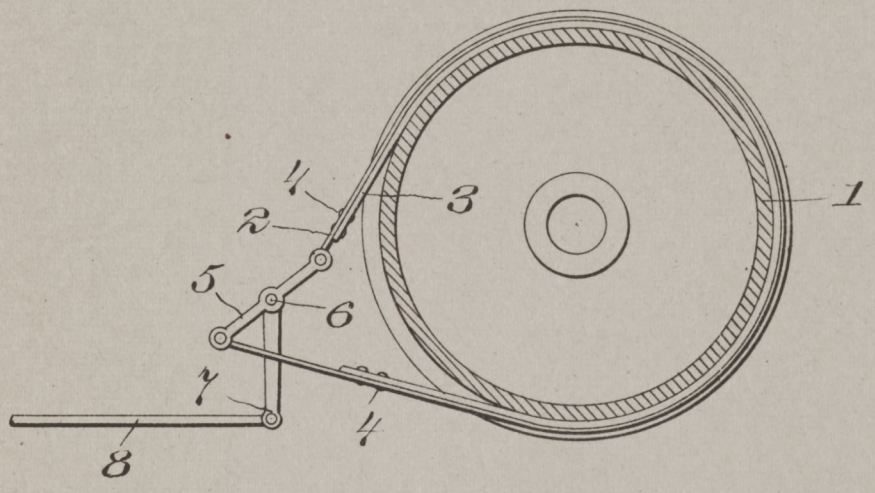
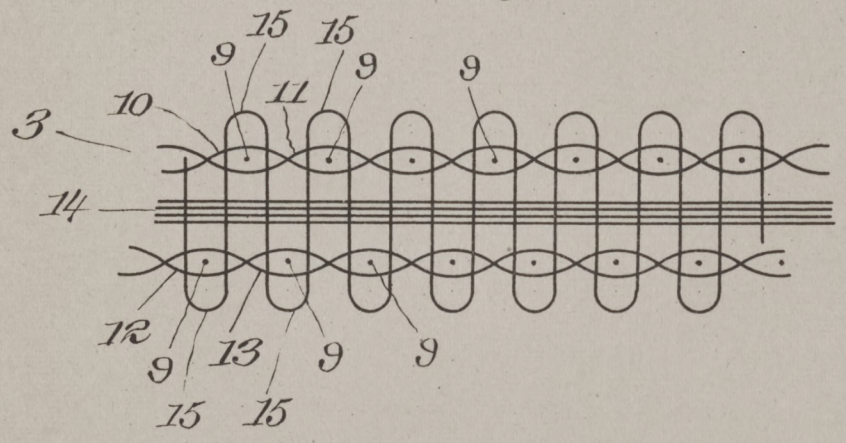



Fig. 2.




Witnesses:
B. C. Fink
M. G. Crawford

Inventor
Louis R. Hoff.
By his Attorney
A. Albertson

580-EE

# UNITED STATES PATENT OFFICE.

LOUIS R. HOFF, OF PATERSON, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE ASBESTOS BRAKE COMPANY, A CORPORATION OF NEW JERSEY.

## ASBESTOS BRAKE-BAND.

997,818. Specification of Letters Patent. Patented July 11, 1911.

Application filed July 28, 1908. Serial No. 445,716.

*To all whom it may concern:*

Be it known that I, LOUIS R. HOFF, a citizen of the United States of America, and a resident of the city of Paterson, Passaic county, State of New Jersey, have invented certain new and useful Improvements in Asbestos Brake-Bands, of which the following is a specification.

My invention relates to apparatus for checking the speed of revolution of rotating members of various mechanism, as in wheeled vehicles, hoisting machinery and the like, and comprises an improved flexible brake band adapted to be used as a facing for the ordinary metal brake band, and to bear upon the drum or other revolving member when the brake is set. Heretofore such brake band facings have sometimes been made of hair felt or other animal or vegetable fiber, these being used to give evenness and regularity to the braking action, but these materials burn out and wear out rapidly when heavy brake pressures are used, and do not have a sufficiently high retarding action. I have discovered that if such brake bands are faced with strips of woven asbestos fiber the above recited difficulties are overcome in large part.

The best form of apparatus embodying my invention, at present known to me, is illustrated in the accompanying sheet of drawings in which:

Figure 1 is a vertical section of one form of brake band and brake drum to which my invention has been applied, and Fig. 2 is a cross section of my preferred form of asbestos strip or band for use in such apparatus.

Throughout the drawings, like reference figures indicate like parts.

1 represents the brake drum and 2 the usual metal band encircling the drum and having its ends connected to the two arms of lever 5. This lever is pivoted at 6 to a fixed pivot and has the bell crank arm 7, to which the brake rod 8 is connected.

3 is the strip of woven asbestos attached at or near either end to the metal band 2, by any suitable fastening means 4, 4, and overlying the face of the metal band.

While any form of woven asbestos material may be used, I prefer the form of double woven band shown in cross section in exaggerated form in Fig. 2. This band is composed of a series of warp threads 9, 9, 9, etc., so interwoven with the woof threads that portions 10 and 11 of the woof combine with certain of the warp threads to form a facing for the band. Portions 12 and 13 of the woof combine with other warp threads to form a back portion. Portions 14 pass in between the face and the back to form a stuffing, and portions 15 of the woof intertwine with all the warp threads to bind the parts together in one integral structure. Preferably the asbestos band, however formed, is impregnated with a solution of iron oxid, linseed oil, kauri gum and spirits of turpentine, of a consistency approximately that of varnish. This contributes to the lasting qualities of the band by increasing its density and cohesion.

In operation the asbestos strip is fastened inside of the metal band, as shown in Fig. 1, and when the same is caused to grip the drum by movement of the lever 5, or equivalent means, a high degree of friction is developed between the metal drum and the asbestos, which latter serves to promptly and evenly retard the speed of revolution of the drum. My invention finds a most useful application in the brake rigging of heavy motor cars.

Among the advantages of my invention may be mentioned the high coefficient of friction of asbestos on metal which is much greater than that of metal on metal, or of animal or vegetable fiber on metal; the fact that asbestos being a pure mineral substance will not burn and does not heat so rapidly as other fiber; and that it wears longer and does not disintegrate so readily under the abrasive and heating effects of the brake action. The particular form of asbestos band shown is advantageous as possessing great lasting qualities on account of its thickness and integral structure, and also that compressibility resulting from its thickness which enables the braking effect on the two wheels of a motor car to be approximately equalized even if the adjustment of the two brake bands is not quite perfect.

Of course other arrangements of textile fabric formed of asbestos might be employed and these asbestos strips can be used to advantage in forms of brake rigging other than that here shown and described.

Having, therefore, described my invention, I claim:

1. As an article of manufacture, a brake

lining comprising several plies of asbestos fabric impregnated with a drying oil.

2. As an article of manufacture, a brake lining comprising several plies of asbestos fabric held together by a binder, the outer layers being impregnated with a drying oil.

3. A brake band formed of compressible woven asbestos textile fabric impregnated with a varnish-like solution.

4. A brake band formed of woven asbestos fiber impregnated with a varnish-like solution, composed of iron oxid, linseed oil, kauri gum and spirits of turpentine.

5. A brake band formed of compressible double woven asbestos threads composed of front and back portions bound together by certain of the woof threads and impregnated with a varnish-like solution.

6. A brake band formed of compressible double woven asbestos threads composed of front and back portions bound together by certain of the woof threads and impregnated with a drying oil.

7. As an article of manufacture, a brake lining comprising several plies of asbestos fabric and a binder.

8. A brake provided with a liner comprising a layer of asbestos impregnated with drying oil.

9. As an article of manufacture, a brake lining comprising several plies of asbestos fabric impregnated with a varnish-like solution.

10. As an article of manufacture, a brake lining comprising several plies of asbestos fabric held together by a binder, the outer layers being impregnated with a varnish-like solution.

11. As an article of manufacture a brake lining comprising a woven asbestos fabric and a binder.

Signed at New York, N. Y. this 23rd day of July, 1908.

LOUIS R. HOFF.

Witnesses:

ARTHUR G. CUTTING,

FRED J. MEDWAY.

## EXHIBIT D. 13.

580-H-H

W. T. BONNER.

BRAKE AND BRAKE LINER.

APPLICATION FILED JUNE 22, 1909. RENEWED OCT. 28, 1914.

**1,141,606.**

Patented June 1, 1915.

Fig. 1.

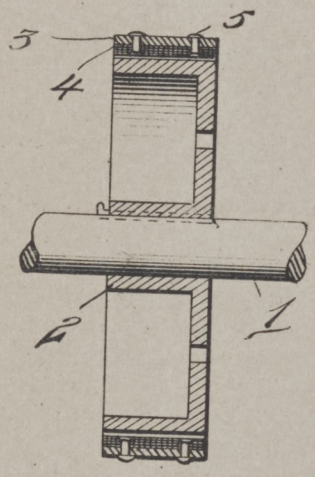



Fig. 2.

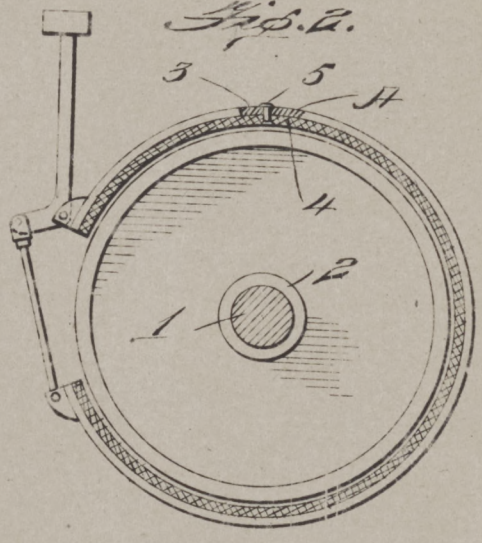



Fig. 3.

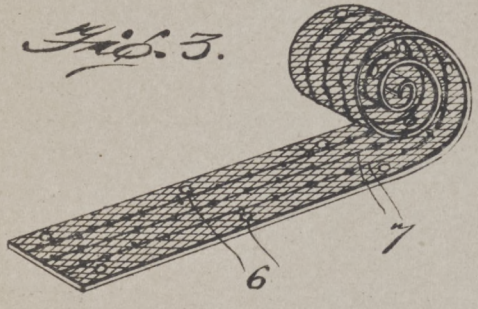



Fig. 4.

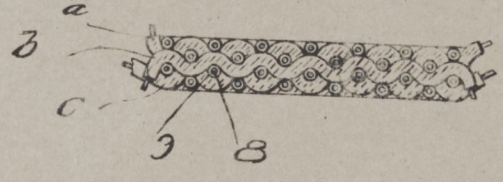
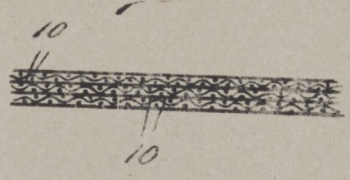



Fig. 5.




Fig. 6.




Witnesses

W. V. Lowe

Inventor

William T. Bonner

By K. P. McElroy

Attorney

# UNITED STATES PATENT OFFICE.

WILLIAM T. BONNER, OF TRENTON, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE ASBESTOS BRAKE COMPANY, OF TRENTON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## BRAKE AND BRAKE-LINER.

1,141,606. Specification of Letters Patent. Patented June 1, 1915.

Application filed June 22, 1909, Serial No. 503,625. Renewed October 28, 1914. Serial No. 869,146.

*To all whom it may concern:*

Be it known that I, WILLIAM T. BONNER, a citizen of the United States, residing at 62 South Hermitage avenue, Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Brakes and Brake-Liners, of which the following is a specification.

This invention relates to brakes and brake liners; and it comprises a braking element having a liner comprising an asbestos fabric containing interiorly incorporated cementing linoxin, said fabric preferably being further reinforced by contained metal; and it further comprises said liner, all as more fully hereinafter set forth and as claimed.

For automobile brakes and other high-duty braking purposes requiring flexibility of engagement of the braking means with the possibility of a fully graduated series of engagements between locking-engagement and no-engagement, asbestos is an efficient body-giving element since it combines good frictional powers for this purpose with a number of other desirable properties. Being little conductive of heat, heat developed on the braking face is not propagated elsewhere to any substantial extent, while such a development of heat does it no damage because of its heat-resisting powers. And in the form of asbestos fabric, it displays a type of resilience desirable in securing graduated engagements of the braking means. Unfortunately however the tensile strength of asbestos fabric is but low, asbestos threads, as threads, being comparatively weak with comparatively little tendency to lock or felt together, though the ultimate asbestos fibers themselves have considerable strength. For a brake liner it is therefore practically impossible to employ an asbestos fabric alone, some form of reinforcement or strengthening being necessary. For instance, the asbestos fibers or threads may be spun or knit around metal wires or filaments and these so-coated wires woven into fabric form. Such a compound fabric however while possessing considerable tensile strength does not well resist friction, there being a tendency for the asbestos fibers to break away locally where exposed to wear. There is, of course, in such a fabric no great amount of adhesion or engagement between the asbestos fibers or of the fibers with the core wire. It is therefore desirable that a further strengthening be given by uniting the fibers with each other and with the wire. While the former effect may be produced to a limited extent by "frictioning" the compound fabric, that is, coating it with a fluent rubber composition, in practice this does not work as well as can be desired. Rubber compositions are not particularly fluent when of strengths suitable for this purpose and they do not penetrate the fabric far even where fairly fluid compositions are used, without special means being adopted to that end; and that is commercially not very practicable in any event because of the great cost of rubber. Practically the effect of "frictioning" is confined to the surface and while this superficial effect is desirable as cementing together the fibers where exposed to wear, the full efficiency of the reinforcement by the metal is not thereby secured, nor is full advantage taken of the strength of the remaining asbestos fibers. Unless the cementing body thoroughly penetrates the fabric, there is no more than a frictional engagement between the wires and the asbestos of the body of the fabric.

By using a permeating cementing body, such as a drying oil, especially where certain expedients hereinafter set forth are resorted to, a much more desirable type of liner is obtained. While the tensile strength of the linoxin formed by the "drying" of drying oils, such as linseed oil, poppy oil, sunflower oil, etc., is not great when existing as a body yet in the form of thin films, layers or columns it has considerable strength; and the same is true of the similar substances formed by the setting of wood or tung oil and like drying oils. On the other hand, as stated, while asbestos threads are not very strong, yet the ultimate fibers are possessed of considerable strength. Therefore by producing a close fabric of asbestos having the several fibers close together and the interspaces filled with films of dried oil in cohering union with said fibers, full advantage is taken of the strength of both and the compound fabric has a strength greater than the sum of the strengths of the two components. The individual asbestos fibers, which, as stated, have considerable strength are no longer free to slide over each other but are locked in position by relatively strong, co-

hering films of the dried oil. An oil-impregnated asbestos fabric or cloth under the present invention even without reinforcing wire has a relatively great mechanical strength; sufficient to adapt it for many braking purposes. However it is better to use the wire reinforcement also. With such a reinforcement, the cementing oil produces a direct positive locking of the asbestos fibers to the wire as well as to each other and a full utilization of the strength of such wire is secured, stresses and strains being directly transmitted thereto from the braking surface.

The oil-impregnated asbestos fabric may be utilized as a braking element by securing it to any suitable holding member adapted to engage it and to support the flat face thereof opposite the surface used for braking. In such use the exposed face acts as a brake while the cementing oil transmits strains on the face to and through the body. Any local overheating merely burns out locally a little of the cementing oil and does no harm. With the wire-reinforced fabric, an even better type of resilience is obtained than with the oil-impregnated asbestos fabric alone.

Either the true asbestos or the Canadian chrysotile may be employed. "Mineral wool" is less suitable.

In order to produce the desired type of union between fibers and cementing oil, the impregnated fabric is best submitted to heavy pressure, as by a hydraulic press, prior to final drying. This squeezes out the excess of oil and brings the fibers and wire into close approximation so as to reduce to a minimum the thickness of the intervening and uniting thin oil layers, thereby concomitantly raising the mechanical strength of such thin layers.

In practice, it is better to use a plurality of layers of the treated asbestos fabric as plies of a laminated fabric, thereby attaining a better distribution of strains back to the holding member and a better resilience of the liner as a whole. As stated, this resilience is important in securing a graduated series of engagements.

In making a liner fabric under the invention, suitable wire may be covered with asbestos fibers by spinning or otherwise and these coated wires then woven or knit into fabric form. Oil impregnation is best postponed till after making the fabric, it being less convenient to impregnate the covered wire prior to weaving or knitting. A cheap and simple way of operating however is to paint or varnish the wire prior to weaving with a paint of comminuted or flock asbestos and an oil vehicle. The fabric so produced is however not as good as where ordinary fibers are employed in the way described.

With unimpregnated fabric produced as described, such fabric is next dipped or plunged in suitable drying oil and removed after complete impregnation. Ordinary boiled oil and Chinese wood oil are both eminently suitable for the present purposes. After allowing the excess oil to drip off or otherwise removing it, the impregnated fabric is next best pressed under heavy pressure to bring the fibers into close approximation and reduce the thickness of the oil films uniting them. This pressing may be done immediately after dipping or just before final drying.

In making a laminated liner consisting of a plurality of plies of treated asbestos fabric, the fabric may be passed continuously through a suitable bath of boiled or raw linseed oil or linseed oil mixture, the excess of oil being expressed out or wiped off. It may then be allowed to dry nearly to completion, as being hung up to dry. As many plies as may be desired may then be assembled, either by using separate pieces or by folding a single piece. These plies may be stitched together in any ordinary way, and preferably with rather close stitching, with either thread or wire. The assembled plies are then placed in a press, preferably a hydraulic press, submitted to heavy pressure and allowed to dry to completion. After the compression and the final drying, the cementing oil throughout the body of the liner is converted into an integral mass.

The complete liner, whether laminated or single ply, may finally, be given a facing coat of rubber on the braking face.

The liner is assembled with any suitable holding element by bolting, riveting, or the like, to form a brake.

In the accompanying illustration I have shown, more or less diagrammatically, certain embodiments of the described invention.

In this showing: Figure 1 is a vertical transverse section of a brake spool and brake provided with the oil-impregnated asbestos liner; Fig. 2 is an elevation partly broken away at right angles to the view of Fig. 1; Fig. 3 is a view in perspective of a portion of a coil of laminated liner ready for application; Fig. 4 is a section on an enlarged scale of such liner; Fig. 5 is a similar view showing the liner carrying a "frictioning" of rubber; and Fig. 6 shows a liner with intercalated rubber layers.

In Figs. 1 and 2, shaft 1 of some element to be braked, as an automobile, carries a hub or spool 2 having a rim or periphery adapted for braking. With this engages strap brake 3 provided with a brake liner 4 of impregnated asbestos, secured thereto in any suitable way, as by bolts or rivets 5. Fig. 3 shows a coil or roll of this liner ready for assemblage with the holding element

(3). Perforations 6 are for rivets or bolts. Stitches 7 are of thread or wire. In Fig. 4 a 3-ply fabric is shown, the plies being lettered *a*, *b* and *c*. Element 8 in each ply is a wire covered with coating 9 of asbestos and woven into fabric with similar covered wire. The plies are saturated, as stated, with linseed or other drying oil.

In Fig. 5, the liner of Fig. 3 is shown provided with a "frictioning" of rubber, applied either as a fluid composition or as a more or less fluent solid rubber composition applied under pressure and heat. If so desired, the rubber can occur between the plies, but this is not ordinarily desirable. Where it is so desired however, either both sides of the several plies may be coated prior to assembling, or one side of a sheet of fabric may be so coated and the sheet folded to form the desired number of plies. This will of course bring a layer of rubber between each pair of plies. In so applying rubber it is found that the rubber clings much more evenly and perfectly to the oil-cemented asbestos than it will to asbestos alone. In Fig. 6, such a compound fabric is shown, there being intercalated layers 10 of rubber or rubber composition between each pair of plies of oil-cemented asbestos.

For brake purposes, it is very desirable that the liner be comparatively insensitive to heat and this property is given it by the asbestos body. The several strands of wire being spaced apart by the asbestos coating are not in contact and can not propagate heat from the one to the other. The linseed oil is also fairly heat-insensitive. When oxidized or "dried" it is no longer fusible, and it withstands a temperature up to 700° F., being indeed frequently "blown" at temperatures reaching 680°. Rubber on the other hand rarely is able to withstand as much as 400° F. and it softens and fuses much below this temperature in the case of many compositions.

The drying oil used may be thinned with various compositions ordinarily used in paint and varnish, but this is not necessary in the present case. Asbestos has a "drying" effect on linseed oil and even raw oil when applied to the fabric as stated, dries in the course of a very few hours.

What I claim is:—

1. In a braking element, a plurality of plies of wire-reinforced asbestos fabric, said plies being impregnated with drying oil and the outer ply being faced with a rubber composition.

2. A brake provided with a liner comprising a plurality of united plies of wire-reinforced asbestos fabric impregnated with drying oil, said liner carrying a facing layer of rubber composition.

3. In a braking element a plurality of assembled plies comprising one or more plies of oil-impregnated reinforced asbestos and one or more plies of rubber.

4. In a brake, the combination of a holding element and a liner comprising one or more plies of oil-impregnated reinforced asbestos and one or more plies of rubber.

5. A band brake comprising a holding element and a brake band therefor comprising assembled plies of woven, metal-reinforced asbestos containing an oil impregnation, intercalated layers of rubber composition between such plies and a facing of rubber composition, said plies being stitched together.

In testimony whereof, I affix my signature in the presence of witnesses.

WILLIAM T. BONNER.

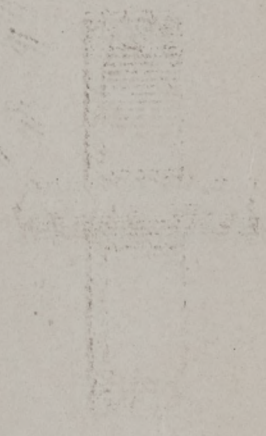
Witnesses:
JOHN W. SIGGERS,
K. P. MCELROY.

580-4

EXHIBIT D. 14

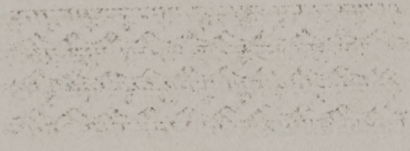
5 80 - M - M











580-N-N

W. T. BONNER.

BRAKE AND BRAKE LINER.

APPLICATION FILED JULY 27, 1909.

**1,117,774.**

Patented Nov. 17, 1914.

Fig. 1.

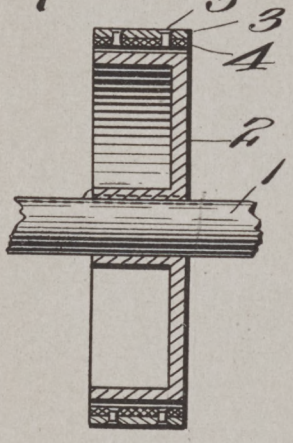



Fig. 2.

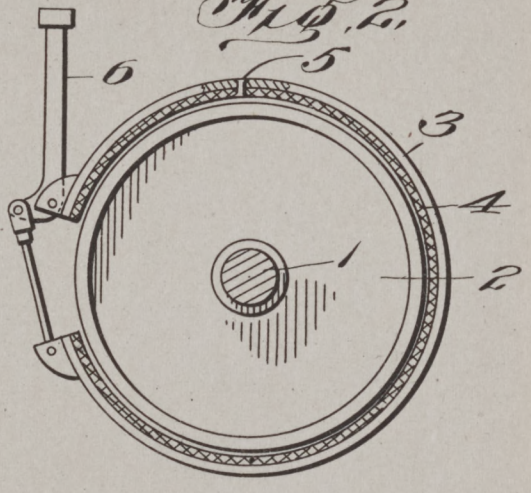



Fig. 3.

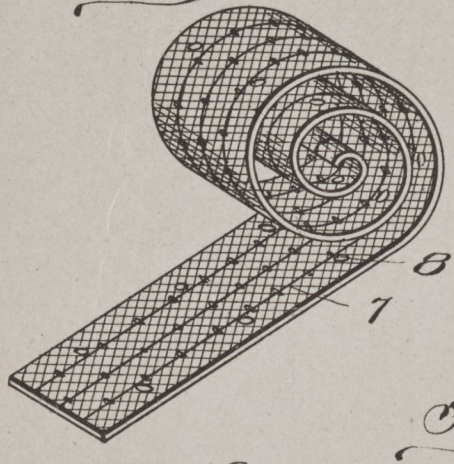



Fig. 4.

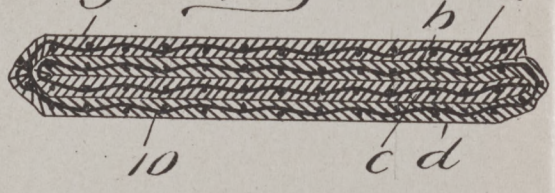



Fig. 5.




WITNESSES

Geo. L. Thorn

M. C. Massie.

INVENTOR

William T. Bonner.

K. P. McElroy.

Attorney

580-00

# UNITED STATES PATENT OFFICE.

WILLIAM T. BONNER, OF TRENTON, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE ASBESTOS BRAKE COMPANY, OF TRENTON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## BRAKE AND BRAKE-LINER.

1,117,774. Specification of Letters Patent. Patented Nov. 17, 1914.

Application filed July 27, 1909. Serial No. 509,880.

*To all whom it may concern:*

Be it known that I, WILLIAM T. BONNER, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Brakes and Brake-Liners, of which the following is a specification.

This invention relates to brakes and brake-liners; and it comprises a brake comprising a friction liner comprising a plurality of layers or plies of fabric comprising interwoven metal strands, said layers or plies being spaced and united by an elastic cementing material, and a holding member for such liner; and it also comprises a liner for said brakes comprising a plurality of layers or plies of fabric comprising interwoven metal strands, said layers or plies being spaced and united by a resilient cementing material; all as more fully hereinafter set forth and as claimed.

In the manufacture of brakes for high-duty purposes, such as strap brakes for automobiles, a number of conflicting requirements must be satisfied. The braking member must be of comparatively small dimensions and must be therefore of strong material, it must not wear smooth, and it must provide for a variety of engagements between locking-engagement and no-engagement. These requirements it is difficult to find united in a single friction material. Metal soon wears smooth and does not give the varied engagements practically necessary, while most other materials are structurally weak and not well adapted for the severe duty of a brake. With strap brakes, such as those usually employed in automobiles, these difficulties are accentuated for the reason that the braking surface is quite limited. In another application, filed January 20, 1908, and bearing the official Serial No. 411,599, I have disclosed and claimed sundry compound brakes and braking materials meeting the requirements of practicality of united layers or plies of fabric comprising interwoven wire with a rubber cement material spacing and uniting the several plies. Prior to forming the fabric used for the several plies or layers, the wire was covered with a jacketing coating of asbestos spun or woven therearound. The coated wire was woven into fabric form, the fabric given a facing layer or "frictioning" of rubber and the several plies assembled under pressure, stitched together, and vulcanized. A compound laminated fabric formed as so described on assemblage with suitable holding means, such as those of a strap brake of an automobile, gives an efficient friction member. There being no vegetable fiber in this friction member, heating under conditions of use is not materially deleterious. In another application filed January 20, 1909, Sr. No. 473,317 (now matured into Patent 931,988, Aug. 24, 1909) I have disclosed sundry other types of friction member also embodying an assemblage of a plurality of plies or layers comprising interwoven metal strands. In the specific friction members disclosed in this case, a plurality of plies or layers of material comprising wire fabric are assembled under hydraulic pressure to form a lining for brake members. The wire fabric plies, as there described, may be separated and united by intervening layers of cementing material, such as rubber, as in the prior application acknowledged, or may be forced into mutual metallic contact, the latter type of friction member being claimed.

The type of friction liner in which the plies comprising the interwoven wire are spaced and separated by intermediate cementing material such as rubber, has a number of practical advantages. Wire, asbestos, and the like are not in and of themselves resilient or flexible materials and resiliency is of course eminently desirable in securing the graduated series of engagements required of a brake in practice. Wire fabric, either with or without interwoven asbestos, and an asbestos fabric itself both have more resiliency, owing to the woven form, but in practice neither has as much as is desirable for the present purpose. But by uniting several layers or plies by intervening layers of cement, as a whole is given a vertical compressibility between face and face in a degree highly useful for the present purposes. The resiliency of the intervening layers is added to that of the fabric layers, giving the laminated fabric as a whole great resiliency, while the wire gives ample strength, and

being distributed throughout the compound fabric as a reinforcement, such fabric is very strong. The use of interwoven asbestos with the wire is useful as diminishing the conductivity of the liner for heat, but it diminishes somewhat the springiness of the compound fabric ply.

In the present invention therefore, I provide a brake having a liner comprising a plurality of plies or layers of interwoven wire, each pair of said layers being spaced apart and united by intervening layers of elastic cementitious material, such material being preferably rubber or rubber composition, though other similar strong, springy compositions may be employed. The interwoven wires of any given layers are in metallic contact.

Wire fabric, which may be either knit or woven, is provided with a facing layer of rubber or rubber compound and a plurality of plies or layers of the treated rubber fabric are assembled to form a laminated rubber fabric. The rubber is applied to the material in the unvulcanized condition and after assembling the several plies or layers, the assemblage is vulcanized under pressure, thereby converting the rubber between the several layers into an integral body spacing and uniting such layers. The layers of the compound fabric thus formed may also be stitched together if desired. Strips of the compound fabric of suitable shape and dimensions may be readily assembled with a holding member of any kind, as with the strap or a strap brake of an automobile.

The wire employed may be brass, copper, steel or any convenient metal. The rubber may be applied in any fluent form, either as a thin composition or as a thicker; in the former case permeating the wire fabric and upon vulcanization becoming converted into a body of rubber which is integral throughout the body of the compound fabric. The extent of the permeation also of course depends somewhat on the closeness of mesh of the fabric, whether consisting of wire alone or of interwoven wire and asbestos. A close-woven fabric is desirable for the present purposes.

In the present embodiment of this invention, it is desirable that the rubber, whether penetrating or not, shall be present in sufficient amount to [illegible] ric layers. The presence of these intervening layers gives the assemblage as a whole considerable flexibility and face-to-face compressibility which are desirable for many reasons. The flexibility promotes the possibility of securing the desired series of graduated engagements in braking, gives longer life to the liner and is very convenient in assembling liner and holding element. In assembling with a brake strap, for instance, the presence of these intervening rubber layers allows a convenient curving of the liner strip, the fabric layers being able to yield somewhat longitudinally, and thus rendering possible an accurate fit between liner and holding element. At the same time, the layer of rubber between any pair of wire fabric plies being relatively thin, the rubber has the great strength of a short column of rubber. The several plies or layers of heat-conductive wire fabric being separated by the thermally non-conductive rubber, the heat developed in the ply which happens to form the braking face is not communicated to the inwardly located plies. Most of the friction in use is localized and the wires of the layer in engagement being all in metallic contact the heat is distributed through such layer. In use, the braking face wears to expose a wire surface composed of wires crossing each other at an angle and therefore giving a high coefficient of friction while these wires are backed, supported and anchored by the rubber behind, which, in turn, depends upon the next wire fabric layer or ply for mechanical support.

In the accompanying illustration I have shown, more or less diagrammatically, certain embodiments of the described invention.

In this showing:—Figure 1 is a vertical transverse section of a brake spool and brake provided with the stated liner; Fig. 2 is an elevation partly broken away at right-angles to the view of Fig. 1; Fig. 3 is a view in perspective of a portion of a coil of laminated liner ready for application; Fig. 4 is a section on a greatly enlarged scale of a rubber-impregnated fabric folded to form a liner having several layers or plies; and Fig. 5 is a section of a liner composed of alternating layers or plies of wire fabric and rubber composition.

In Figs. 1 and 2, 1 is the shaft of an element to be braked, as an automobile shaft, carrying a hub or spool 2 having a rim or periphery adapted for braking. With this engages a strap brake 3 carrying a liner 4 secured thereto by bolts or rivets 5. As shown, this brake is applied in the usual manner by element 6. In Fig. 3 the compound laminated liner is shown in perspective, and as provided with stitching 7 and orifices 8 which may serve in fastening the [illegible] a greatly enlarged scale as consisting of layers 9 of rubber and layers 10 of wire fabric. A sheet of fabric is shown as folded into a plurality of layers or plies marked respectively *a*, *b*, *c*, and *d*. In the showing the rubber of the several plies is shown as discrete and separate for the convenience of illustration. In the manufacture of a sheet of liner, the several plies would be vulcanized under pressure which would cause

the rubber of layers *a*, *b*, *c*, and *d* to coalesce to form an integral body of rubber permeating the whole structure. In Fig. 5 is shown a liner composed of a series of alternate layers or plies of rubber composition 11 and wire fabric 12, this wire fabric being made in the usual manner of interwoven crossing wires 13 and 14. As shown in this figure for the convenience of illustration, the rubber layers and the layers of wire fabric also are shown as discrete. In practice the several plies would be assembled under pressure and vulcanized, causing the intercalated rubber layers and the facing rubber layers to unite firmly and cohere to the wire fabric layers.

The structure of Fig. 5 may be made in the same manner as that of Fig. 4, by folding a sheet of coated fabric on itself a number of times to form the desired number of plies, or the several plies may be cut to shape and size and united directly. However assembled, the plies are placed together under pressure and vulcanized to cause the stated union. After uniting the fabric may be stitched as shown in Fig. 3. The upper three layers of Fig. 5 may be taken as showing a section of the sheet from which the laminated fabric is formed.

For convenience of illustration the wire fabric is shown as of opener mesh than is usual in practice. In practice it is desirable to use a close-meshed wire fabric into which the rubber, in the present embodiment of my invention penetrates but superficially, forming for the most part an intercalated elastic layer between the plies of the wire fabric and penetrating the wire fabric merely sufficient to key it thereto.

As stated, the wires prior to forming the layer of interwoven wire, may be coated with asbestos or other fibrous bodies, the coated wires woven into fabric form and then united by intercalated layers of rubber. But this matter I do not herein claim specifically, it forming the subject matter of my acknowledged co-pending application #411,599.

In the present embodiment of my invention I prefer the wire to be uncoated with textile fabric, whether asbestos or vegetable fiber, so that the interwoven wires are in metallic contact. Where the wire is so coated with a textile fiber prior to weaving the wires which are interwoven do not come into actual metallic contact and this aids in diminishing the heat conductivity of the liner as a whole since the heat cannot be propagated [illegible] allowing the wires of the fabric to come into actual contact, as in the present embodiment of my invention, while there is a greater conductivity for heat produced, yet the laminated fabric produced therefrom, as a whole, is more resilient, and is therefore preferable for braking purposes where high resiliency and good series of graduated engagements are desirable. With the intercalated layers of rubber between ply and ply little communication of heat can occur between the braking face and the body of the liner.

In producing a brake liner under the present invention, not only the wire fabric plies but the wires of the fabric itself may be spaced and united by rubber composition or equivalent springy composition. For this purpose, prior to weaving the wire into fabric form it may be given a coating of rubber, or composition comprising rubber, as if insulating it, and then woven into fabric form. The rubber should be applied in the unvulcanized, form and the fabric cured under heavy pressure and tension. In so doing, after removal from the vulcanizing press, the wires retain their tension while the rubber, being set in final form in the vulcanization, is under no tension, but, on the contrary, on removal from the press is under compression in resisting the tension of the wire. In use in a strap brake, these internal stresses operate to resist the stress of the braking operation. The wire being under tension can not lengthen further while the rubber is already under compression.

What I claim is:—

1. In a brake, a liner comprising a plurality of layers of wire fabric having the wires of the fabric in metallic contact and intervening layers of elastic cement, said layers of wire fabric being spaced and united by said layers of elastic cement.

2. In a brake, a liner comprising alternate layers of rubber composition and fabric comprising interwoven wire having the wires of the fabric in metallic contact, said fabric layers being spaced and united by said rubber composition and said several layers being stitched together.

3. In a brake, a liner comprising a plurality of layers of wire fabric having the wires of the fabric in metallic contact and intervening layers of rubber composition, said fabric layers being spaced and united by said layers of rubber composition.

4. A brake comprising a holding element and a liner therefor consisting of a plurality of layers of wire fabric having the wires of the fabric in metallic contact and intervening layers of elastic cement, said layers of fabric being spaced and united by said layers of elastic cement.

5. A brake [illegible] holding element [illegible] layers of wire fabric having the wires of the fabric in metallic contact and intervening layers of rubber composition, said fabric layers being spaced and united by said rubber composition.

6. A brake comprising a holding element and a liner therefor consisting of a plurality of stitched layers of wire fabric having

the wires of the fabric in metallic contact and intervening layers of elastic cement, said fabric layers being spaced and united by said layers of elastic cement.

7. A brake comprising a holding element and a liner therefor consisting of a plurality of stitched layers of wire fabric having the wires of the fabric in metallic contact and intervening layers of rubber composition, said fabric layers being spaced and united by said rubber composition.

In testimony whereof, I affix my signature in the presence of witnesses.

WILLIAM T. BONNER.

Witnesses:
WM. A. TURMAN,
W. A. FOOTE.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."**

EXHIBIT D. 15.

580-55

# UNITED STATES PATENT OFFICE.

FRANK A. HEADSON, OF MILWAUKEE, WISCONSIN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE ASBESTOS BRAKE COMPANY, A CORPORATION OF NEW JERSEY.

## BRAKE-BAND LINING.

997,498. Specification of Letters Patent. Patented July 11, 1911.

No Drawing. Application filed September 14, 1909. Serial No. 517,705.

*To all whom it may concern:*

Be it known that I, FRANK A. HEADSON, a citizen of the United States of America, residing at Milwaukee, county of Milwaukee, State of Wisconsin, have invented certain new and useful Improvements in Brake-Band Linings, of which the following is a specification.

My invention relates to apparatus for checking the speed of revolution of rotating members of various mechanisms, as in wheeled vehicles, hoisting machinery and the like, and comprises an improved flexible brake band adapted to be used as a facing for the ordinary metal brake band, and to bear upon the drum or other revolving member when the brake is set. Heretofore such linings have been made of woven strips of various fibers of mineral, animal, or vegetable origin. In use these linings are liable to become saturated with water or other liquids which cause them to swell up and interfere with the adjustment of the brake apparatus and which also injuriously affect their strength and wearing qualities. I have discovered that if such brake linings, particularly when made of asbestos, are treated with a compound whose main constituent is iron, mixed with a suitable waterproofing solution, it greatly improves their efficiency and lasting qualities.

The preferred composition for carrying out my invention comprises pulverized ferric oxid, magnetic iron ore, the chemical formula of which is $Fe_3O_4$, and metallic alcoholized iron, with some rubber compound or other cementing material. This mixture, in a powdered state is forced into the fabric, out of which the brake band linings are made, by spreading same on the fabric and running it through pressure rolls. It is driven into the fabric by this pressure and partly solidifies on the surface thereof, forming a soft, flexible metallic facing for the fabric which is waterproof, little affected by heat or cold, will not vaporize under the heat generated by heavy brake applications, and coöperates most satisfactorily with the brake drums of iron or other metals against which it is pressed in use. The cementing substance should be of a waterproof character. The most beneficial results are attained when woven asbestos bands are treated with the above specified composition, as a brake lining is then produced which is substantially composed of mineral substances.

The alcoholized iron used is composed of finely powdered metallic iron cleansed by passing alcohol through it.

Having described my invention, what I claim is:

1. A brake band lining composed of woven asbestos impregnated and faced with finely divided iron.

2. A brake lining composed of a woven textile fabric faced and impregnated with a pulverized mixture of ferric oxid, magnetic iron and metallic alcoholized iron, and a cementing substance.

3. A brake lining composed of a woven textile fabric faced and impregnated with a pulverized mixture of ferric oxid, magnetic iron and metallic alcoholized iron, and a rubber compound.

4. A brake band lining composed of woven asbestos impregnated and faced with a pulverized mixture of ferric oxid, magnetic iron, and metallic alcoholized iron.

5. A brake band lining composed of woven asbestos impregnated and faced with a pulverized mixture of ferric oxid, magnetic iron, and metallic alcoholized iron, together with a cementing substance.

6. A brake band lining composed of woven asbestos impregnated and faced with a pulverized mixture of ferric oxid, magnetic iron, and metallic alcoholized iron, together with a rubber compound.

FRANK A. HEADSON.

Witnesses:
P. HUHN,
LOUIS ROASCH.

580-TT

EXHIBIT D. 16.

L. R. HOFF.

ASBESTOS BRAKE BAND.

APPLICATION FILED NOV. 5, 1909.

**1,012,356.** Patented Dec. 19, 1911.

Fig. 1.

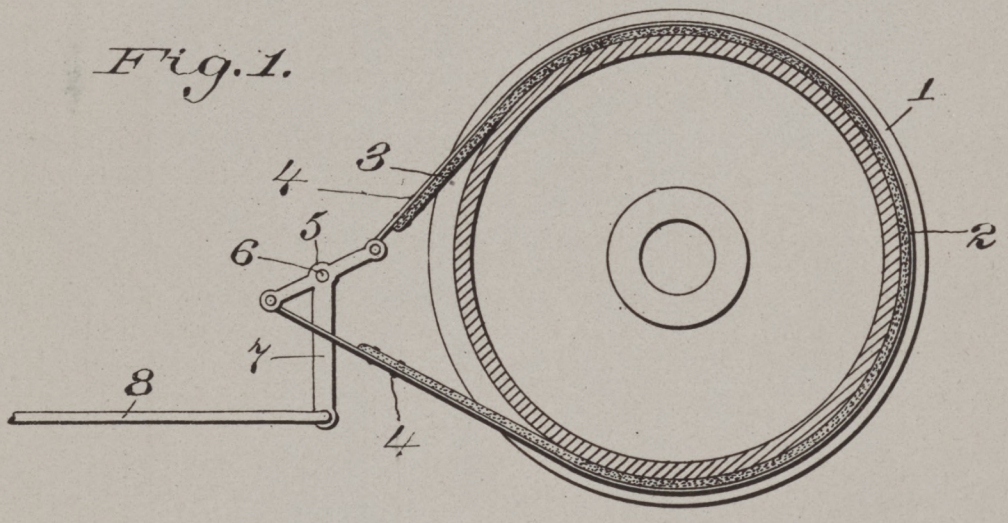



Fig. 2.

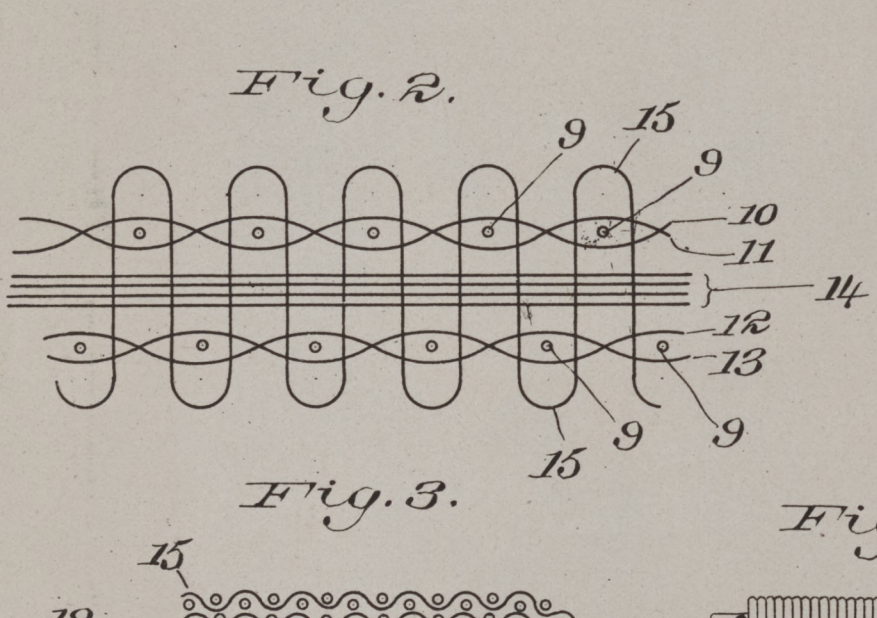



Fig. 3.

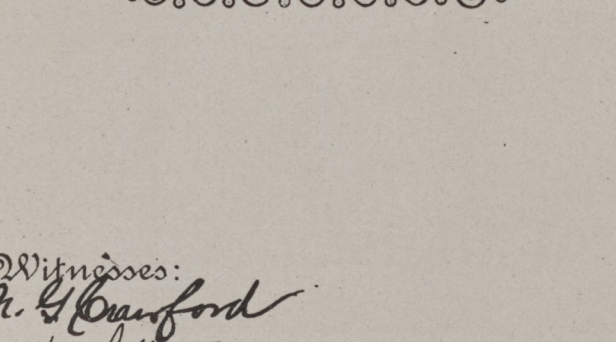
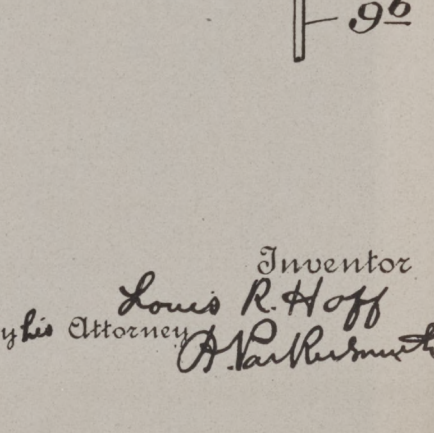



Fig. 4.




Witnesses:
M. G. Crawford
M. K. Lotterer

Inventor
Louis R. Hoff
By his Attorney
A. Van Rensselaer

# UNITED STATES PATENT OFFICE.

LOUIS R. HOFF, OF PATERSON, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE ASBESTOS BRAKE COMPANY, A CORPORATION OF NEW JERSEY.

## ASBESTOS BRAKE-BAND.

1,012,356. Specification of Letters Patent. Patented Dec. 19, 1911.

Application filed November 5, 1909. Serial No. 526,432.

*To all whom it may concern:*

Be it known that I, LOUIS R. HOFF, a citizen of the United States of America, residing at Paterson, county of Passaic, State of New Jersey, have invented certain new and useful Improvements in Asbestos Brake-Bands, of which the following is a specification.

My apparatus relates to apparatus for checking the speed of revolution of rotating members of various mechanism, as in wheeled vehicles, hoisting machinery and the like, and comprises an improved flexible brake band adapted to be used as a facing for the ordinary metal brake band, and to bear upon the drum or other revolving member when the brake is set.

Heretofore such brake band facings have sometimes been made of hair felt or other animal or vegetable fiber, these being used to give evenness and regularity to the braking action, but these materials burn out and wear out rapidly when heavy brake pressures are used, and do not have a sufficiently high retarding action. I have discovered that if such brake bands are faced with strips of woven asbestos fiber the above recited difficulties are overcome in large part. In order to give the asbestos tape or band additional strength, I incorporate strands of fine wire in the warp in weaving same, as a metallic reinforcement.

The best form of apparatus embodying my invention, at present known to me, is illustrated in the accompanying sheet of drawing, in which:

Figure 1 is a vertical section of one form of brake band and brake drum to which my invention has been applied. Fig. 2 is a cross section of one form of asbestos strip or band for use in such apparatus. Fig. 3 is another form, and Fig. 4 is a detail of one of the asbestos and wire strands used to form the warp.

Throughout the drawings, like reference figures indicate like parts.

1 represents the brake drum and 2 the usual metal band encircling the drum and having its ends connected to the two arms of lever 5. This lever is pivoted at 6 to a fixed pivot and has the bell crank arm 7, to which the brake rod 8 is connected.

3 is the strip of woven asbestos attached at or near either end to the metal band 2, by any suitable fastening means, 4, 4, and overlying the face of the metal band.

One form of double woven band is shown in cross section in exaggerated form in Fig. 2. This band is composed of a series of warp threads 9, 9, 9, etc. so interwoven with the woof threads that portions 10 and 11 of the woof combine with certain of the warp threads to form a facing for the band. Portions 12 and 13 of the woof combine with other warp threads to form a back portion. Portions 14 pass in between the face and the back to form a stuffing, and portions 15 of the woof intertwine with all the warp threads to bind the parts together in one integral structure. The warp threads are formed by twisting together a fine metal wire $9^a$ and an asbestos thread $9^b$, as shown in Fig. 4, the wire forming a reinforcing metallic strand, practically surrounded by asbestos.

Another form of band is shown in Fig. 3 in which the fabric 15 of wire and asbestos warp, and asbestos woof threads is woven in the ordinary manner and then folded or otherwise formed into a structure of several thicknesses or plies, 16, 17, 18, etc.

The asbestos band, however formed, may be impregnated with a solution of iron oxid, linseed oil, kauri gum and spirits of turpentine, of a consistency approximately that of varnish. This contributes to the lasting qualities of the band by increasing its density and cohesion. Any other combination of drying oil and suitable materials, or a drying oil alone may be used.

A particularly effective impregnating material is formed of the material known as gilsonite dissolved in naphtha. After impregnation the brake band is exposed to the air and the naphtha evaporates, leaving the gilsonite distributed throughout the fabric. This gilsonite not only makes the brake band impervious to moisture but adds to its friction creating qualities.

In operation the asbestos strip is fastened inside of the metal band, as shown in Fig. 1, and when the same is caused to grip the drum by movement of the lever 5, or equivalent means, a high degree of friction is developed between the metal drum and the asbestos, which latter serves to promptly and evenly retard the speed of revolution of the drum.

My invention finds a most useful application in the brake rigging of heavy motor cars.

Any other convenient form of holding means may be employed.

Among the advantages of my invention may be mentioned the high coefficient of friction of asbestos on metal which is much greater than that of metal on metal, or of animal or vegetable fiber on metal; the fact that asbestos being a pure mineral substance will not burn and does not heat so rapidly as other fiber; and that it wears longer and does not disintegrate so readily under the abrasive and heating effects of the brake action.

The particular forms of asbestos band shown are advantageous as possessing great lasting qualities on account of their thickness, and also that compressibility resulting from thickness which enables the braking effect on the two wheels of a motor car to be approximately equalized even if the adjustment of the two brake bands is not quite perfect.

Of course other arrangements of textile fabric formed of asbestos might be employed and these asbestos strips can be used to advantage in forms of brake rigging other than that here shown and described.

The relative degrees of twist given to the asbestos and wire strands may be varied so as to cause one or the other to form the greater portion of the exterior surface or coating of the strand.

Having, therefore, described my invention, I claim:

1. A brake provided with a liner comprising a layer of asbestos fabric impregnated with a drying oil and having a wire reinforcement.

2. In a brake, the combination with a holding element of a layer of asbestos impregnated with drying oil and having wire reinforcement.

3. In a braking element, a plurality of plies of fabric composed of interwoven, asbestos coated wires, said plies being impregnated with a drying oil.

4. In a braking element, a plurality of plies of wire reinforced asbestos fabric, said plies being impregnated with drying oil.

LOUIS R. HOFF.

Witnesses:

A. G. CUTTING,

J. E. ADELBERG.

# Johns-Manville
# NON-BURN
# Asbestos Brake Lining & Friction Clutch Facing
# DATA BOOK

EXHIBIT C. 21




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COVERS THE CONTINENT

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and its allied products

JOHNS-MANVILLE
*Serves in Conservation*

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# JOHNS-MANVILLE

# "NON-BURN"

## ASBESTOS BRAKE BAND LINING

## AND

# JOHNS-MANVILLE

## ASBESTOS FRICTION CLUTCH

## FACING DATA


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# *Foreword*

*¶ The data herein contained has been secured by direct reference to the manufacturers of the models listed or to the manufacturers of axles and clutches used as equipment.*

*¶ We assume no responsibility for errors and omissions and extend the use of this booklet to the trade in the firm belief that the original sources of information have transmitted as accurate information as was in their possession at the time of our inquiry.*

*¶ For sizes and data on models not listed we solicit your inquiry at the nearest Johns-Manville Branch or Service Station.*

JOHNS-MANVILLE, INC.

# ASBESTOS THE ONE PERFECT BRAKE LINING MATERIAL



Long Fibre Asbestos from which Johns-Manville Non-Burn Asbestos Brake Lining is made

Within hardly more than one man's lifetime asbestos has been taken from among the curios that merely astonish, or amuse us by their unusualness and, by reason of its peculiar properties, adapted to the service of industry in upwards of a thousand different ways.

Johns-Manville as the pioneer in this industry and today the largest miners and manufacturers of asbestos in the world, can choose—and do choose, for their Non-Burn Asbestos Brake Lining, the finest asbestos fibre from thousands of tons of asbestos which they mine every year.

And as the pioneer in the asbestos industry, Johns-Manville has naturally been a pioneer in the manufacture of Brake Lining. Years ago, before the motor car was even thought about by more than a few enthusiasts, Johns-Manville was making Brake Lining. This Brake Lining, it is true, was not for automobiles; it was for hoists, elevators, cranes and other industrial machines, in which a far harder service was required of Brake Lining than is now needed even on the heaviest motor truck.

Accordingly, as the automotive industry developed, it was natural that Johns-Manville should be among the first to produce the sort of Asbestos Brake Lining that was particularly adapted to this requirement.

And, as we have said, controlling their own mines, able at all times to get the very pick of long fibre asbestos to put into Brake Lining, it is natural that Johns-Manville Non-Burn Asbestos Brake Lining can be depended upon to give maximum service, safety and satisfaction.

# STANDARD PRICE LIST
# JOHNS-MANVILLE NON-BURN ASBESTOS BRAKE BAND LINING

Prices shown are per lineal foot. Subject to change without notice.

| | THICKNESS | | | | | |
|---|---|---|---|---|---|---|
| Width | 1/8" | 5/32" | 3/16" | 1/4" | 5/16" | 3/8" |
| 1" | $0.40 | $0.45* | $0.50 | $0.70 | $0.80 | $0.96 |
| 1 1/4" | .50 | .55* | .60* | .80 | .94 | 1.16 |
| 1 1/2" | .60 | .65* | .70* | .90 | 1.11 | 1.35 |
| 1 3/4" | .70 | .75* | .80* | 1.00* | 1.26 | 1.54 |
| 2" | .80 | .85* | .90* | 1.20* | 1.41 | 1.73 |
| 2 1/4" | .90 | .95* | 1.00* | 1.30* | 1.56 | 1.92 |
| 2 1/2" | 1.00 | 1.05* | 1.10* | 1.50* | 1.72 | 2.12 |
| 2 3/4" | 1.10 | 1.15* | 1.20* | 1.60* | 1.87 | 2.31 |
| 3" | 1.20 | 1.25* | 1.30* | 1.70* | 2.02 | 2.50 |
| 3 1/4" | 1.25 | 1.35* | 1.40* | 1.80* | 2.16 | 2.69 |
| 3 1/2" | 1.30 | 1.45* | 1.50* | 1.90* | 2.21* | 2.88 |
| 3 3/4" | 1.35 | 1.50 | 1.60* | 2.05* | 2.31* | 3.08 |
| 4" | 1.40 | 1.55 | 1.70* | 2.20* | 2.50* | 3.27 |
| 4 1/2" | 1.80 | 1.94 | 2.08 | 2.50* | 2.92* | 3.65 |
| 5" | 1.92 | 2.11 | 2.29 | 2.70* | 3.22* | 4.04 |
| 5 1/2" | 2.12 | 2.31 | 2.50 | 3.01* | 3.52* | 4.42 |
| 6" | 2.27 | 2.49 | 2.71 | 3.27* | 3.82* | 4.80 |

Essential sizes indicated by *. All other sizes special and not stocked.

3/8" size made only in Folded and Stitched Compressed.

Johns-Manville Non-Burn *Asbestos* Brake Band Lining is made in two styles:

1. WOVEN in sizes shown up to 5/16" for light, medium and fairly heavy service.

2. FOLDED AND STITCHED COMPRESSED for any service up to and including 3/8" for heavy duty, steep grade or extreme mountainous country service—3/8" sizes made in Folded and Stitched Compressed only.

*Note:—Standard Roll, 50 feet—all sizes.*

## SPECIAL JOHNS-MANVILLE BAND LINING FOR FORD CARS

Put up in 50 foot rolls and in cartons, all 1 1/8" x 5/32" size.

Style XX Asbestos. This is practically identical with Johns-Manville Non-Burn, except that it contains no wire, assuring safety from short circuiting the magneto. This asbestos lining, impregnated as it is with a special compound, renders long and efficient service.

List price, per foot.....$0.35

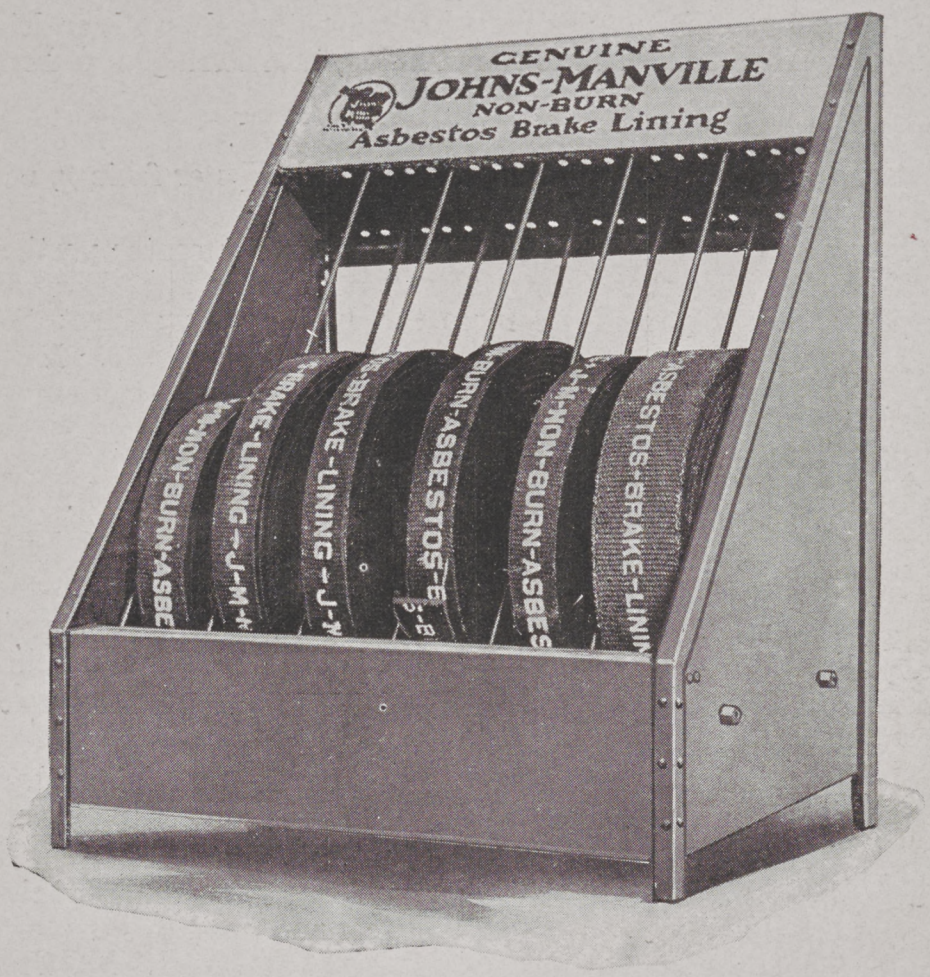
List price, per carton (3 pieces, 23 3/4" long, with necessary rivets) 2.00

Style F. Cotton, Impregnated. Contains no Wire.

List price, per foot.....$0.25

List price, per carton (3 pieces, 23 3/4" long, with necessary rivets) 1.50

# JOHNS-MANVILLE NON-BURN ASBESTOS BRAKE LINING CABINETS




These cabinets are a splendid dealers' display aid, an excellent "silent salesman" and a combined handy, sturdy stock rack and daily stores inventory.

Made of art metal, not wood, finished in rich olive green, this cabinet harmonizes with any showroom, office furniture or woodwork. It has six adjustable partitions to accommodate various widths of lining.

For an initial stock order of 500 feet, in one shipment (Ford sets not included) of Johns-Manville Non-Burn Asbestos Brake Band Lining we will ship one of the above cabinets free.

# DIRECTIONS FOR APPLYING EXTERNAL BRAKE BANDS

(ALL CARS EXCEPT FORD CARS)

Cut the lining to the correct length required for the particular band under consideration.

Place lining in position on inside of band, locate and punch or drill and countersink rivet holes on one end of lining, transferring same from holes in band.

Insert rivets and head over on outside of the band.

Where end lining rivets are used to hold band clips or fittings, use solid rivets at these points instead of tubular.

Bring lining to position within band, then draw out center portion of lining from band, so that unriveted end of lining will slide along band until it is just possible to force the lining back against the band; see Fig. 1. Having found this position experimentally, locate other end rivet holes transferring same from band.

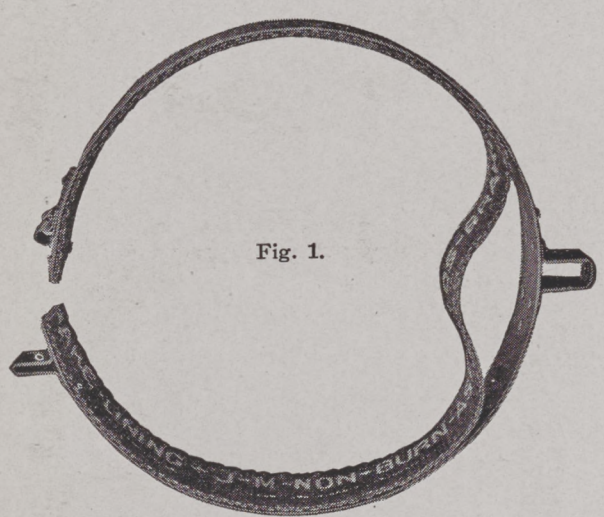


Fig. 1.

Insert rivets and head over on outside of band.

Force lining into position against band, making sure that it presses firmly against same.

Locate remaining rivet holes, transferring same from band.

Insert remainder of rivets and head over on outside of band. NOTE: Make sure that the rivet heads on the inner surface of the lining are pressed deep enough into same so that the rivet heads will set below the surface of the lining an amount equal to about one-quarter the thickness of the lining.

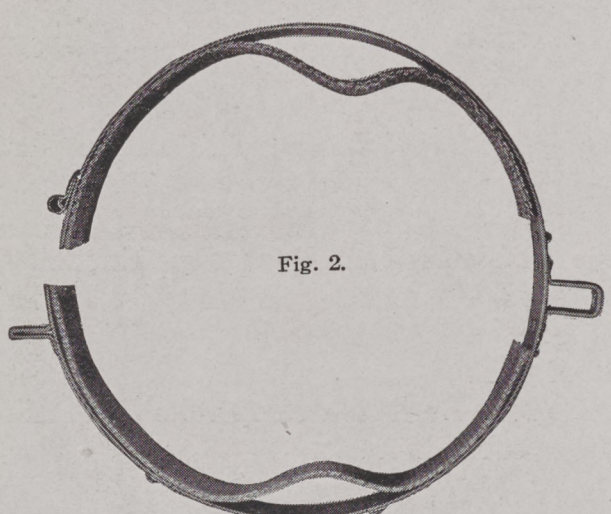


Fig. 2.

This same method applies to attachment of external band lining where more than one strip of lining is used. See figure 2.

# DIRECTIONS FOR APPLYING INTERNAL BRAKE BANDS

(ALL CARS EXCEPT FORD CARS)

When applying lining to internal brake shoes, proceed as for external brakes, with the exception that the rivet holes in the center of the lining are located and punched first and the lining riveted to the shoe at this point. After this, the lining is pulled tightly around shoe, and the remaining holes located and punched, and the rivets inserted, working from the center of the lining towards the end of same in each case. See figures 3 and 4.

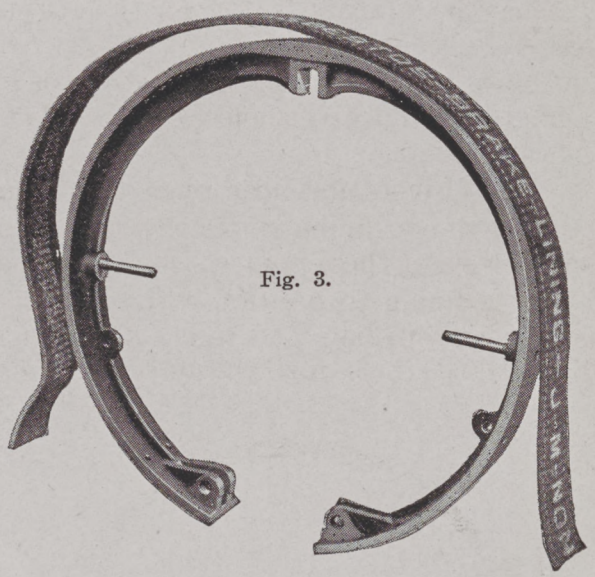


Fig. 3.

Another method of procedure applicable to internal brake bands, where one continuous strip of lining is used is as follows:—

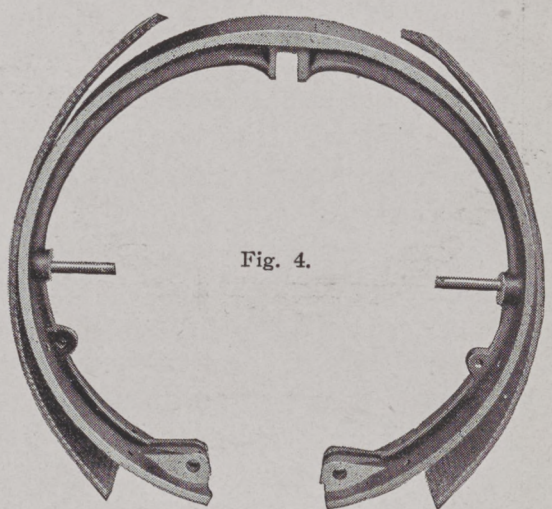


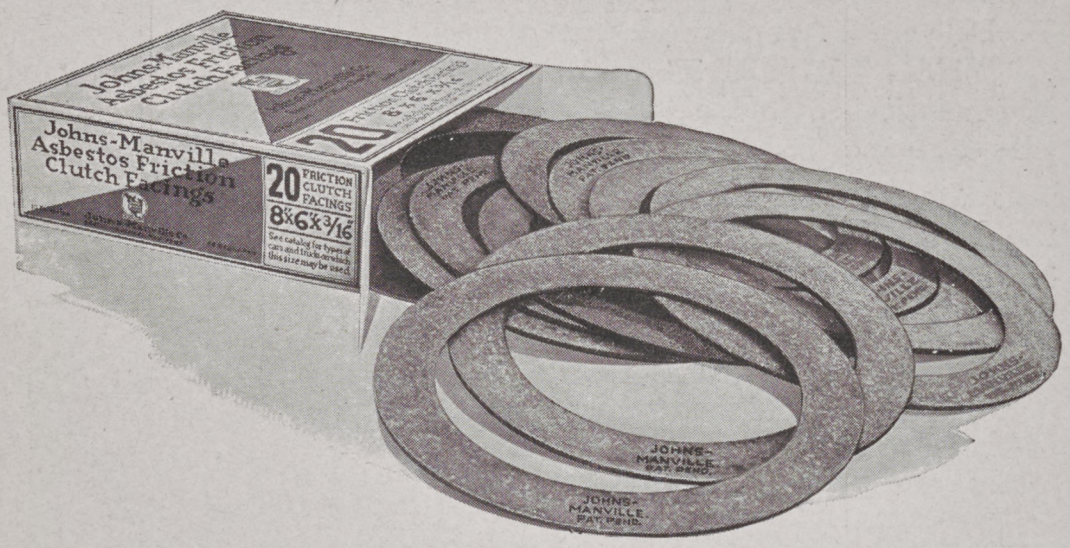
Fig. 4.

W r a p lining tightly around shoe. Locate and punch or drill and countersink end rivet holes so that lining will have to be slightly stretched to make holes in same line up with holes in shoe; lay band on edge. Attach lining with *solid* rivets through *upper* hole at each end. Do not wrap lining around band when attaching these end rivets. Head over rivets and then force lining over shoe. See figure 5. Insert solid rivets in other two end holes. Locate remaining rivet holes and attach balance of lining, using *tubular* rivets as before.




Fig. 5.

# JOHNS-MANVILLE ASBESTOS FRICTION CLUTCH FACINGS




Made from long fibred asbestos closely interlocked to a homogeneous texture, combined with a heat resisting bond and compressed into facings of uniform density and ground accurately to proper thickness.

Our grinding operation removes from the surface of the facing the film of impregnating material which would otherwise have to be worn off in operation of the clutch before maximum efficiency was received from this product. The compressing operation insures the absence of high spots or a wavy surface, making positive a perfect flat surface of uniform density throughout.

The exceptional care and special processes used in the manufacture of these facings result in a product which may be used without the necessity of continual readjustment of clutches in which these facings are used. As produced under our process, the facings possess a uniform coefficient of friction and an exceptionally long life.

Johns-Manville Asbestos Friction Clutch Facings are made of the best quality asbestos fibre, especially selected for this usage from our own mines and are manufactured in one solid mass, endless or in segments as may be required.

The frictional contact surfaces dependably transmit the power for which the clutch was designed without excessive wear of the facing and our special treatment of the material insures uniform clutch action at its maximum efficiency throughout the life of the facing.

Clutches equipped with Johns-Manville Asbestos Friction Clutch Facings engage easily and release without sticking.

Packed in carton containers of 20 rings properly labelled. All rings will be shipped plain as the drilling or countersinking of holes can be transferred to the facing from the clutch plate for which they are

intended with more accuracy by the user. Dodge Bros. Car Clutch Facings will be shipped with holes properly located, drilled and countersunk ready for attachment to clutch plates.

Deliveries of popular sizes can be made promptly.

WHEN ORDERING ring facings for disc clutches always give the quantity required, outside diameter, inside diameter and thickness; also car name, year and model.

## STANDARD PRICE LIST
## JOHNS-MANVILLE ASBESTOS FRICTION CLUTCH FACINGS

SUBJECT TO CHANGE WITHOUT NOTICE

| Size | List, Each | Suitable for |
|---|---|---|
| * 6 5/8" x 5 1/8" x 1/8" | $0.48 | Reo |
| 6 3/16" x 4 1/8" x 3/16" | .48 | Sterling |
| * 7 5/8" x 5 7/8" x 5/32" | .62 | Buick |
| 7 3/4" x 5 3/4" x 9/64" | .62 | Stearns-Knight |
| 7.70 x 6.38 x .125 | .62 | Locomobile |
| 8" x 6" x 5/64" | .75 | Service |
| * 8" x 6" x 3/16" | .75 | Packard |
| * 8" x 6" x 11/64" | .75 | Packard |
| * 8" x 6" x 5/32" | .75 | Republic |
| * 8" x 6" x 1/8" | .75 | Dart and King |
| * 8 7/16" x 6 1/4" x 5/32" | .75 | Paige |
| 8 1/2" x 6 1/4" x 5/32" | .75 | Sterling |
| 8 3/8" x 6 3/8" x 5/32" | .75 | Lexington |
| 8" x 7" x 1/8" | .75 | Kissel Kar |
| 8 3/8" x 6 1/4" x 5/32" | .75 | G. M. C. |
| 8 15/16" x 6 1/2" x 1/8" | .75 | 1916 Dodge |
| * 9" x 6 3/4" x .120 | .75 | Dodge 1917 to date |
| 9" x 7 11/32" x 5/32" | .75 | Chalmers |
| 9 5/8" x 7 3/8" x 1/8" | .99 | Hupmobile |
| * 9 11/16" x 6 11/16" x 1/8" | .99 | Mitchell |
| * 9 7/8" x 6 7/8" x 1/8" | .99 | Chandler |
| 9 15/16" x 6 7/8" x 1/8" | .99 | Haynes |
| 10.781 x 8 1/4" x 1/8" | 1.07 | Locomobile |
| 11 11/16" x 8 3/16" x 1/8" | 1.07 | Standard |
| *11 7/8" x 8 3/8" x 1/8" | 1.07 | Nash |
| 11 3/4" x 8 1/8" x 1/8" | 1.07 | Service |

The sizes indicated by an asterisk * are for popular makes of cars, trucks and tractors and we recommend a stock to be carried for each. These sizes are suitable for 125 different makes and models of passenger cars, trucks and tractors as can be shown by referring to data pages following. For other sizes suitable for vehicles not listed see other pages. For small quantities of sizes not listed we recommend our standard woven facings as described on page 10. We shall be pleased to receive your inquiry for prices on any sizes not shown.

## APPLYING JOHNS-MANVILLE ASBESTOS FRICTION CLUTCH FACINGS

Transfer hole location to ring from metal clutch plate, taking care to punch and counterbore the holes to register correctly with those in the metal plate; counterbore deeply enough to insure the rivet ends being below the contact surfaces of the facing as projecting rivets will cause scoring of the metal clutch plates.

Use tubular rivets preferably because washers will not be necessary. In all cases use either brass or copper rivets. Don't use steel, iron or brass plated rivets.

Make sure that the metal clutch plate is flat, that the facings are fastened tightly to it and that the contact surfaces do not bulge.

Riveting and counterboring tools and rivets of various sizes can be secured from our Distributor.

## JOHNS-MANVILLE NON-BURN ASBESTOS WOVEN DISC AND CONE CLUTCH FACINGS

Made from genuine Non-Burn Woven Asbestos, accurately formed, for passenger car, truck and tractor clutches.

Johns-Manville Woven Clutch Facings are manufactured from long fibre asbestos and are of the same high quality as is used in Johns-Manville Non-Burn Woven Brake Band Lining.

All rings are treated with a special impregnating compound to secure smooth yet positive engagement of the clutch.

Deliveries of popular sizes can be made promptly. When ordering ring facings for disc clutches always give the quantity required, outside diameter, inside diameter and thickness, also car name, year and model.

For cone clutches give large and small diameters, width, thickness and angle or a paper template stating thickness of the material required.

All prices on application.

## DIRECTIONS FOR LINING BANDS ON FORD CARS

After removing mat and floor boards, take off magneto wire and take out magneto plug by removing three small screws, which hold it in. (If this is not done, spring and point may drop into crankcase when transmission cover is pulled off). Then exhaust packing nut should be unscrewed and pipe turned over to right side of car or entirely removed. Exhaust manifold must also be removed on some cars.

Take out two bolts on upper side of universal joint housing and remove all bolts holding transmission cover down. This is best done with crank socket wrench from under car, while nuts are held by a second man from above. Remove plate and then back off all three band adjustments. By grasping low and reverse pedals, transmission cover may be easily pulled off. Turn motor over until one set of triple gears is slightly to right of center line of motor. Turn reverse band around on its drum until band opening is down, when it may be slipped forward on to triple gears and pulled straight up. Repeat this operation with low speed and brake bands.

First rivet one end of lining, then slightly straighten band and rivet other end; then, when band returns to original shape, lining will fit firmly against band. Split rivets are best, as they present less metal to drum. These should be put in from outside instead of from inside, as is general practice.

Bands are replaced by spreading ends and pushing down over triple gears, then turning them around and sliding into position.

Brake band goes on first; then low speed and last reverse. Tie slipknot and tie ends so that it will not pull out. Repeat with other two bands. Now straighten out gaskets (replace if pulled out of shape). It is usually best to put one and one-half gaskets on arch next to motor, short piece going in middle, with full gasket on top.

Replace transmission case cover, being sure to get high gear dog in proper place in collar. Be sure emergency brake is entirely released. Screw driver may be used between ends of bands. If case goes down hard, pry it downward and backward by placing screw driver between water jacket and top of case. Replace two bolts in universal joint housing and bolts around bottom of case. Pull off strings that held ends of bands together and adjust bands in usual way. Replace magneto plug and wire, then exhaust pipe.

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Abbott Downing** | | | | | | | | | | | | | |
| 1918-19-20 | A | I | 8 | 11½ | 3¼ | ¼ | D | 12 | 8 | 6 | ⅛ | ... | ..... |
| 1918-19-20 | B | I | 8 | 13 | 3½ | ¼ | D | 12 | 8 | 6 | ⅛ | ..... | ..... |
| **Ace Truck** | | | | | | | | | | | | | |
| 1919-20 | A-2½ Ton | ..... | 8 | 13½ | 3¼ | ¼ | D | 10 | 8½ | 6¼ | ⅛ | ..... | ... |
| 1919-20 | A-1½ Ton | ..... | 8 | 12 | 3¼ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Acme Truck** | | | | | | | | | | | | | |
| 1916-17 | AF | I | 4 | 48 | 3¼ | ¼ | D | 9 | 8 | 6¼ | ⅛ | ..... | ..... |
| 1916-17 | BF | I | 4 | 48 | 3¼ | ¼ | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1918-19-20 | B & F | | | | | | | | | | | | |
| 1918-19-20 | A | I | 4 | 52 | 3½ | ¼ | D | 2 | 11⅞ | 8⅜ | ⅛ | ..... | ..... |
| 1918 | C | I | 4 | 62 | 3¾ | ¼ | D | 2 | 11⅞ | 8⅜ | ⅛ | ..... | ..... |
| 1919-20 | C | I | 4 | 62 | 3¾ | ¼ | D | 2 | 11⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1918 | D | I | 4 | 72 | 4 | ¼ | D | 2 | 11⅞ | 8⅜ | ⅛ | ..... | ..... |
| 1918-19-20 | E | I | 4 | 72 | 4 | ¼ | D | 2 | 13⅞ | 7⅞ | ⅛ | ..... | ..... |
| **Allen** | | | | | | | | | | | | | |
| 1916-17 | 32-37 | I | 2 | 34¾ | 1¾ | 5/32 | C | 1 | 13½ | 12¾ | 3/16 | 2¼ | ..... |
| 1916-17 | 32-37 | E | 2 | 34¾ | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | 41 | I | 2 | 34¾ | 1¾ | 5/32 | D | 2 | 9 11/16 | 6 11/16 | ⅛ | ..... | ..... |
| 1918 | 41 | E | 2 | 34¾ | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | 43 | I | 2 | 34½ | 1¾ | 5/32 | D | 2 | 9 11/16 | 6 11/16 | ⅛ | ..... | ..... |
| 1919-20 | 43 | E | 2 | 38⅜ | 1¾ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **All American** | | | | | | | | | | | | | |
| 1918-19 | A | I | 2 | 41 1/16 | 2 | 5/32 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1918-19 | A | E | 2 | 42¼ | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **American** | | | | | | | | | | | | | |
| 1920 | B & C-6 | I | 1 | 41⅞ | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | B & C-6 | E | 1 | 43½ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **American Commercial** | | | | | | | | | | | | | |
| 1920 | C-1½ Ton | I | 2 | 41½ | 1¾ | 3/16 | D | 10 | 8 | 6 | ⅛ | ..... | ..... |
| 1920 | C-1½ Ton | E | 2 | 41½ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **A. & T. Tractor** | Shoe Clutch No Brake | | | Used | | | | | | | | | |
| 1917-18-19 | 15/30 | Band | 1 | 50 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | 18/36 | Band | 1 | 23 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | 18/36 | Flywhl. | 1 | 9 | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | 18/36 | Bd.wh. | 2 | 8⅜ | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | 25/50 | Band | 1 | 70 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | 25/50 | Flywhl. | 1 | 10¼ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | 25/50 | Bdwhl. | 2 | 11 | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | 30/60 | Band | 1 | 43 | 2¼ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | 30/60 | Flywhl. | 1 | 10⅝ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | 30/60 | Bdwhl. | 2 | 11 | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 22/45 | Band | 1 | 23 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 22/45 | Flywhl. | 1 | 9 | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 22/45 | Bdwhl. | 2 | 8⅜ | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Anderson** | | | | | | | | | | | | | |
| 1918-19 | ..... | I | 2 | 40 | 1¾ | 5/32 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1918-19 | ..... | E | 2 | 44 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | ..... | I | 2 | 40 | 2 | 5/32 | D | 2 | 9 11/16 | 6 11/16 | ⅛ | ..... | ..... |
| 1920 | ..... | E | 2 | 44 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Apperson** | | | | | | | | | | | | | |
| 1916 | 6-48-8-58 | E | 2 | 40 | 2¼ | 3/16 | D | 2 | 10¾ | 7 | 5/32 | ..... | ..... |
| 1917-18-19 | 8-19A | I | 2 | 44¾ | 2 | 3/16 | | | | | | | |
| 1917-18-19 | 8-19A | E | 2 | 49½ | 2¼ | 3/16 | | | Use | sam | e dis | cs | |
| 1920 | 8-20A | I | 2 | 44¾ | 2 | 3/16 | | | ALL | MOD | ELS | | |
| 1920 | 8-20A | E | 2 | 44¾ | 2¼ | 3/16 | | | 1916 | to 19 | 20 in | c. | |
| 1920 | 8-20S | I | 2 | 44¾ | 2 | 3/16 | | | | | | | |
| 1920 | 8-20S | E | 2 | 48½ | 2¼ | 3/16 | | | | | | | |
| **Armleder** | | | | | | | | | | | | | |
| 1916 | HW | Both | 8 | 12 | 3¼ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916 | KW | I | 8 | 13 | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916 | KW | E | 1 | 33 | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-19-20 | HW | Both | 8 | 13¼ | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| Late 1920 | HW | Both | 8 | 13¼ | 3½ | ¼ | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1918 | HW | Both | 8 | 16 | 3¾ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1917-18-19-20 | KW | I | 8 | 16 | 3¾ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1917-18-19-20 | KW | E | 1 | 33 | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Atlantic Elec. Truck** | | | | | | | | | | | | | |
| 1917-18-19-20 | 1-C, 2-C | Wheel | 2 | 45 | 2¾ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | 1-C, 2-C | Dif'l. | 1 | 29 | 2 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | 3-C 3½ T. | Wheel | 2 | 54 | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | 3-C 3½ T. | Dif'l. | 1 | 45 | 2 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | 5-C 5 T. 6-C 6½ T. | Wheel | 2 | 58 | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | 5-C 5 T. 6-C 6½ T. | Dif'l. | 1 | 55 | 2 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Atlas Truck** | | | | | | | | | | | | | |
| 1916-17-18 | 18-½ Ton | I | 2 | 32 | 1¾ | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | | |
| 1916-17-18 | 18-½ Ton | E | 2 | 33½ | 2 | 3/16 | | | | | | | |
| 1918-19 | 19-¾ Ton | I | 2 | 41½ | 2 | 3/16 | D | 2 | 10 | 7 | 3/16 | | |
| 1919-20 | 20-¾ Ton | E | 2 | 42 | 2 | 3/16 | | | | | | | |
| 1920 | 21-1 Ton | I | 2 | 41½ | 2½ | 3/16 | D | 2 | 10 | 7 | 3/16 | | |
| 1920 | 21-1 Ton | E | 2 | 42 | 2¼ | 3/16 | | | | | | | |
| **Atterbury Truck** | | | | | | | | | | | | | |
| 1916 | 6-B-1 Ton<br>6-R-1½ Ton<br>6-C-2 Ton | I | 8 | 12 | 3¼ | ¼ | D | 10 | 8 7/16 | 6¼ | 3/32 | | |
| 1916 | 6-D-3½ Ton | I | 8 | 13 | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | | |
| 1917-18-19 | 7-C-2 Ton | I | 8 | 13 3/16 | 3½ | ¼ | D | 10 | 8 7/16 | 6¼ | 3/32 | | |
| 1917-18-19 | 7-R-1½ Ton | I | 8 | 13 3/16 | 3½ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | | |
| 1917-18-19 | 7-D-3½ Ton | I | 8 | 15⅛ | 3¾ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | | |
| 1918-19-20 | 8-E-5 Ton | I | 8 | 17¾ | 4 | ¼ | D | 16 | 8½ | 6 3/16 | 5/32 | | |
| 1920 | 20-R 1½ T. | I | 8 | 11 5/16 | 3¼ | ¼ | | | | | | | |
| **Auburn Truck** | | | | | | | | | | | | | |
| 1916 | 6-38 | I | 2 | 42½ | 2 | 3/16 | | | | | | | |
| 1916 | 6-38 | E | 2 | 44 | 2 | 3/16 | | | | | | | |
| 1917 | 6-44 | I | 2 | 49 | 1¾ | 3/16 | D | 2 | 9 13/16 | 6⅞ | ⅛ | | |
| 1917 | 6-44 | E | 2 | 51 | 2 | 3/16 | | | | | | | |
| 1918 | 6-39 & 6-39B | I | 2 | 42½ | 1¾ | 3/16 | D | 2 | 9 13/16 | 6⅞ | ⅛ | | |
| 1918 | 6-39 & 6-39B | E | 2 | 44 | 2 | 3/16 | | | | | | | |
| 1919-20 | 6-39 H & K | I | 2 | 42½ | 1¾ | 3/16 | D | 2 | 9⅝ | 6⅝ | 5/32 | | |
| 1919-20 | 6-39 H & K | E | 2 | 44 | 2 | 3/16 | | | | | | | |
| **Austin** | | | | | | | | | | | | | |
| 1916 | 12 Cyl. & 36 x 66 | Both | 4 | 72 | 3 | ¼ | D | 12 | 8 | 6 | 3/16 | | |
| 1917-18-19-20 | 12 Cyl. | | | | | | | | | | | | |
| 1916 | 48 x 66 | Both | 4 | 72 | 3 | ¼ | Multiple | | Steel | Disc | | | |
| **Autocar** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | XXI-F | I | 4 | 13 | 2½ | 7/32 | D | 2 | 12¾ | 9½ | 3/16 | | |
| 1916-17-18-19-20 | XXI-F | E | 4 | 16¼ | 2½ | 7/32 | | | | | | | |
| **Available** | | | | | | | | | | | | | |
| 1918 | 1 Ton | I | 8 | 11¾ | 3¼ | ¼ | D | 8 | 8½ | 6¼ | ⅛ | | |
| 1918 | 5 Ton | I | 8 | 18 | 4 | ¼ | D | 12 | 8½ | 6¼ | ⅛ | | |
| 1918-19 | H-2 2 Ton | I | 8 | 13½ | 3½ | ¼ | D | 10 | 8½ | 6¼ | ⅛ | | |
| 1918-19-20 | H-3½ | I | 8 | 16 | 3¾ | ¼ | D | 12 | 8½ | 6¼ | ⅛ | | |
| 1920 | H-3½ | Serv. | 2 | 58 | 2½ | 3/16 | D | 12 | 8½ | 6¼ | ⅛ | | |
| 1920 | H-3½ | Emer. | 2 | 43 | 2½ | 3/16 | | | | | | | |
| 1920 | H-1½ | Serv. | 2 | 50 | 2½ | 3/16 | D | 8 | 8¼ | 6½ | 5/32 | | |
| 1920 | H-1½ | Emer. | 2 | 36 | 2½ | 3/16 | | | | | | | |
| 1920 | H-2½ | I | 8 | 13½ | 3½ | ¼ | D | 10 | 8½ | 6¼ | ⅛ | | |
| 1920 | H-2½ | Serv. | 2 | 58 | 2½ | 3/16 | D | 10 | 8½ | 6¼ | ⅛ | | |
| 1920 | H-2½ | Emer. | 2 | 43 | 2½ | 3/16 | | | | | | | |
| 1919-20 | H-5 | I | 8 | 18 | 4 | ¼ | D | 16 | 8½ | 6¼ | ⅛ | | |
| 1920 | H-5 | Serv. | 2 | 70 | 3½ | ¼ | D | 16 | 8½ | 6¼ | ⅛ | | |
| 1920 | H-5 | Emer. | 2 | 56 | 3½ | ¼ | | | | | | | |
| 1920 | H-7 | I | 4 | 61 | 3 | ¼ | D | 16 | 8½ | 6¼ | ⅛ | | |
| **Bartholomew** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | 6-40 | I | 2 | 40½ | 2 | 5/32 | D | 12 | 8¼ | 6½ | ⅛ | | |
| 1916-17-18-19-20 | 6-40 | E | 2 | 41 | 2 | 5/32 | | | | | | | |
| **Beck** | | | | | | | | | | | | | |
| 1917-18-19-20 | A & B | I | 1 | 47 | 2 | ⅛ | | | | | | | |
| 1917-18-19-20 | A & B | E | 1 | 48 | 2 | ⅛ | | | | | | | |
| 1917-18-19-20 | C | I | 1 | 49 | 3 | ⅛ | | | | | | | |
| 1917-18-19-20 | C | E | 1 | 50 | 3 | ⅛ | | | | | | | |
| **Bell** | | | | | | | | | | | | | |
| 1918-19-20-21 | All | Both | 4 | 36 | 1¾ | 5/32 | D | 2 | 9⅞ | 6⅞ | ⅛ | | |
| **Bessemer** | | | | | | | | | | | | | |
| 1918-19-20 | G-1 Ton | I | 2 | 45½ | 2¼ | 3/16 | | | | | | | |
| 1918-19-20 | G-1 Ton | E | 2 | 47½ | 2½ | 3/16 | | | | | | | |
| 1918-19-20 | H-2 1½ Ton<br>J-2 2½ Ton | I<br>E | 2 | 55<br>56½ | 2¼<br>2½ | 3/16<br>3/16 | | | | | | | |
| 1918-19-20 | K-2 4 Ton | I | 2 | 58⅛ | 3½ | 3/16 | | | | | | | |
| 1918-19-20 | K-2 4 Ton | E | 1 | 30¼ | 4½ | 3/16 | | | | | | | |
| **Bethlehem** | | | | | | | | | | | | | |
| 1917 | A | I | 2 | 40⅛ | 1¾ | 3/16 | D | 2 | 8⅞ | 5½ | ⅛ | | |
| 1917 | A | E | 2 | 43 | 2½ | 3/16 | | | | | | | |
| 1917 | B | I | 2 | 50 | 2 | 3/16 | D | 2 | 8¼ | 6⅜ | ⅛ | | |
| 1917 | B | E | 2 | 55 | 3 | 3/16 | | | | | | | |
| 1918-19 | D | I | 2 | 40⅛ | 1¾ | 3/16 | D | 2 | 11⅞ | 8¼ | ⅛ | | |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Bethlehem**—Cont. | | | | | | | | | | | | | |
| 1918-19 | D | E | 2 | 43 | 2½ | 3/16 | | | | | | | |
| 1918-19 | E | I | 2 | 49 | 2 | 3/16 | D | 2 | 11 7/8 | 8¼ | ⅛ | | |
| 1918-19 | E | E | 2 | 51 | 3 | 3/16 | | | | | | | |
| 1918-19 | F | I | 2 | 50 | 2 | 3/16 | D | 2 | 11 7/8 | 8¼ | ⅛ | | |
| 1918-19 | F | E | 2 | 55 | 3 | 3/16 | | | | | | | |
| 1920 | K | I | 2 | 20 | 2¼ | 3/16 | D | 2 | 9¾ | 6¾ | ⅛ | | |
| 1920 | K | E | 1 | 49½ | 2¼ | 3/16 | | | | | | | |
| 1920 | G | I | 1 | 40 | 2 | 3/16 | D | 2 | 11½ | 8⅛ | ⅛ | | |
| 1920 | G | E | 1 | 41 | 2½ | 3/16 | | | | | | | |
| 1920 | H | I | 1 | 47 | 2 | 3/16 | | | | | | | |
| 1920 | H | E | 1 | 49 | 3 | 3/16 | | | | | | | |
| 1920 | J | I | 1 | 51 | 2 | 3/16 | | | | | | | |
| 1920 | J | E | 1 | 54½ | 3 | 3/16 | | | | | | | |
| **Biddle** | | | | | | | | | | | | | |
| 1916-17 | C & D | I | 2 | 29 | 1¾ | 5/32 | D | 14 | 8 | 6⅛ | ⅛ | | |
| 1916-17 | C & D | E | 2 | 43 | 2 | 5/32 | | | | | | | |
| 1917 | H Early | I | 2 | 44 | 1⅞ | 3/16 | D | 14 | 8 | 6⅛ | ⅛ | | |
| 1917 | H Early | E | 2 | 46 | 1⅞ | 3/16 | | | | | | | |
| 1917-18-19 | H Late & K | I | 4 | 18 | 1¾ | 3/16 | D | 14 | 8 | 6⅛ | ⅛ | | |
| 1917-18-19 | H Late & K | I | 4 | 18 | 1 | 3/16 | | | | | | | |
| 1920 | B | I | 4 | 17 | 2 | 3/16 | D | 14 | 8 | 6⅛ | ⅛ | | |
| 1920 | B | E | 2 | 44 | 2 | 3/16 | | | | | | | |
| **Brinton Truck** | | | | | | | | | | | | | |
| 1920 | F | I | 8 | 13 | 3½ | ¼ | D | 12 | 8½ | 6¼ | ⅛ | | |
| **Brisco** | | | | | | | | | | | | | |
| 1916 | 4-38 & 8-38 | I | 2 | 30 | 1½ | 3/16 | C | 1 | 13 | 12¼ | 3/16 | 2 | 12½° |
| 1916 | 4-38 & 8-38 | E | 2 | 31¼ | 1½ | 3/16 | | | | | | | |
| 1916-17-18-19 | 4-24 | I | 2 | 30 | 1½ | 5/32 | C | 1 | 11 3/16 | 10 23/64 | 3/16 | 2 | 12° |
| 1916-17-18-19 | 4-24 | E | 2 | 29 | 1½ | 5/32 | | | | | | | |
| 1920 | 4-34 | R.Axle | 2 | 29 | 2 | 9/64 | C | 1 | 11 7/8 | 11 1/32 | 3/16 | 2 | 12° |
| 1920 | 4-34 | Trans. | 1 | 21½ | 2 | 9/64 | | | | | | | |
| **Brockway** | | | | | | | | | | | | | |
| 1918-19 | R | I | 8 | 15 5/8 | 3¾ | 5/16 | D | 12 | 8 7/16 | 6¼ | 5/32 | | |
| 1919-20 | R-2 | | | | | | | | | | | | |
| 1918-19 | K-3 | I | 8 | 12 | 3⅜ | 5/16 | C | 1 | 15¾ | | ¼ | 2⅝ | 12½° |
| 1919-20 | K-4 | I | 8 | 12 | 3⅜ | 5/16 | D | 10 | 8 7/16 | 6¼ | 5/32 | | |
| 1918 | J-2 | I | 4 | 46 | 2 | 3/16 | C | 1 | 15¾ | | ¼ | 2⅝ | 12½° |
| 1918-19-20 | S | I | 8 | 20 | 2 | 3/16 | D | 8 | 8 7/16 | 6¼ | 5/32 | | |
| 1918 | O | I | 8 | 20 | 2 | 3/16 | D | 10 | 8 | 6 | 5/32 | | |
| 1919-20 | T | I | 8 | 18 | 4 | 5/16 | D | 16 | 8 7/16 | 6¼ | 5/32 | | |
| **Brooks** | | | | | | | | | | | | | |
| 1920 | S-21 | E.Shft. | 1 | 18 5/8 | 1 | ⅛ | D | 1 | 7 3/16 | 3 | 5/32 | | |
| 1920 | S-21 | E.Axle. | 1 | 25 9/16 | 1 | ⅛ | | | | | | | |
| **Buick** | | | | | | | | | | | | | |
| 1916 | D-54-55 | I | 2 | 36½ | 1 5/8 | 3/16 | D | 11 | 7 5/8 | 5 7/8 | 5/32 | | |
| 1916 | D-54-55 | E | 2 | 49 5/8 | 2 3/8 | 3/16 | | | | | | | |
| 1916-17 | D-6-44-45-46-47 | I | 2 | 35 | 1 5/8 | 5/32 | | | | | | | |
| 1917 | H-2 K-6 44-45-46-47 | E | 2 | 38 | 1⅞ | 5/32 | | | | | | | |
| 1918-19-20 | E-6 44-45-46-47 | | | | | | Use same disc. All Models. | | | | | | |
| 1917 | D-4 34-D-35-E-37 | I | 2 | 29 | 1 3/8 | 5/32 | | | | | | | |
| | | E | 2 | 27¾ | 1 5/8 | 5/32 | | | | | | | |
| 1918-19-20 | E-4-34-35 | | | | | | | | | | | | |
| 1917 | H-2 K-6 49-50 | I | 2 | 41 | 1 5/8 | 5/32 | | | | | | | |
| | | E | 2 | 43 | 1⅞ | 5/32 | | | | | | | |
| 1918-19-20 | E-49-50 | | | | | | | | | | | | |
| **Buick Truck** | | | | | | | | | | | | | |
| 1916-17 | D-4 | I | 2 | 40 | 1 5/8 | 5/32 | | | | | | | |
| 1916-17 | D-4 | E | 2 | 42½ | 1⅞ | 5/32 | | | | | | | |
| **Commercial Truck** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | ½ Ton | I | 4 | 12½ | 2 | ¼ | | | | | | | |
| 1916-17-18-19-20 | 1 Ton | I | 4 | 15 | 2 | ¼ | | | | | | | |
| 1916-17-18-19-20 | 2 Ton | I | 4 | 18 | 2 | ¼ | | | | | | | |
| **Cadillac** | | | | | | | | | | | | | |
| 1916-17-18-19 | All | I | 2 | 51 | 2½ | 3/16 | D | 16 | 7¾ | 5¾ | 9/64 | | |
| 1916-17-18-19 | All | E | 2 | 54 | 2½ | 3/16 | | | | | | | |
| **Cameron** | | | | | | | | | | | | | |
| 1920 | | I | 2 | 42 | 2 | 3/16 | | | | | | | |
| 1920 | | E | 1 | 18 | 1¾ | 3/16 | | | | | | | |
| **Case** | | | | | | | | | | | | | |
| 1916 | T | I | 2 | 41⅛ | 1 5/8 | 5/32 | C | 1 | 12 9/32 | | ⅛ | 3 | 12½° |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Case—Cont.** | | | | | | | | | | | | | |
| 1916 | T | E | 2 | 40 7/8 | 1 7/8 | 5/32 | | | | | | | |
| 1917 | T | I | 2 | 42 | 2 | 3/16 | C | 1 | 14 1/8 | | 5/32 | 2 3/4 | 12 1/2° |
| 1917 | T | E | 2 | 44 | 2 | 3/16 | | | | | | | |
| 1918-19 | U | I | 2 | 40 | 1 3/4 | 5/32 | D | 2 | 9 11/16 | 6 11/16 | 1/8 | | |
| 1918-19 | U | E | 2 | 45 | 2 | 5/32 | | | | | | | |
| 1920 | V | I | 2 | 46 5/8 | 2 1/4 | 5/32 | D | 2 | 9 11/16 | 6 11/16 | 1/8 | | |
| 1920 | V | E | 2 | 48 | 2 1/2 | 5/32 | | | | | | | |
| **Chalmers** | | | | | | | | | | | | | |
| 1916 | 26-C & 32-B | Serv. | 2 | 43 1/2 | 2 3/16 | 3/16 | D | 10 | 9 | 7 11/32 | 5/32 | | |
| 1917-18-19 | 6-30-B 7 Pas | Emer. | 2 | 41 3/4 | 1 15/16 | 3/16 | | | | | | | |
| 1916-17 | 6-30-C 5 Pas. | Serv. | 2 | 37 3/16 | 1 15/16 | 3/16 | D | 10 | 9 | 7 11/32 | 5/32 | | |
| 1916-17 | 6-30-C 5 Pas. | Emer. | 2 | 35 1/4 | 1 3/4 | 3/16 | | | | | | | |
| 1918-19-20 | 6-30-C 5 Pas. | Serv. | 2 | 43 1/2 | 1 3/4 | 3/16 | D | 10 | 9 | 7 11/32 | 5/32 | | |
| 1920 | 6-30-B 7 Pas | Emer. | 2 | 41 3/4 | 1 1/2 | 3/16 | | | | | | | |
| **Chandler** | | | | | | | | | | | | | |
| 1916-17-18 | | I | 2 | 43 | 1 3/4 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | | |
| 1916-17-18 | | E | 2 | 45 1/8 | 2 | 3/16 | | | | | | | |
| 1919 | | I | 2 | 43 | 1 3/4 | 3/16 | D | 2 | 9 11/16 | 6 11/16 | 1/8 | | |
| 1919 | | E | 2 | 45 1/8 | 2 | 3/16 | | | | | | | |
| **Chevrolet** | | | | | | | | | | | | | |
| 1917-18-19-20 | 490 | I | 2 | 26 1/2 | 1 1/4 | 5/32 | C | 1 | 12 1/8 | | 3/16 | 1 1/2 | 12° |
| 1917-18-19-20 | 490 | E | 2 | 27 1/2 | 1 1/4 | 5/32 | | | | | | | |
| 1917-18-19-20 | D & Baby Grand | I | 2 | 34 1/2 | 1 3/4 | 5/32 | C | 1 | 13 25/32 | | 3/16 | 2 | 12° |
| 1917-18-19-20 | D & Baby Grand | E | 2 | 37 13/16 | 1 3/4 | 5/32 | | | | | | | |
| **Chevrolet Truck** | | | | | | | | | | | | | |
| 1918-19-20 | T | E | 8 | 15 19/64 | 2 | 3/16 | C | 1 | 13 25/32 | | 3/16 | 2 | 12° |
| **Cleveland Tractor** | | | | | | | | | | | | | |
| 1919-20 | S | teering Bands | 2 | 25 | 2 | 3/16 | | | | | | | |
| 1919-20 | | Emer. | 1 | 20 | 2 | 3/16 | | | | | | | |
| **Cleveland M.-C.** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | | | 1 | 12 1/8 | 3/4 | 1/8 | | | | | | | |
| **Cleveland Pass.** | | | | | | | | | | | | | |
| 1920 | 40 | I | 2 | 21 3/8 | 1 1/2 | 5/32 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | | |
| 1920 | 40 | E | 2 | 38 | 2 | 5/32 | | | | | | | |
| **Clydesdale Truck** | | | | | | | | | | | | | |
| 1918 | 30 | I | 2 | 37 | 2 1/2 | 1/4 | D | 8 | 8 7/16 | 6 1/4 | 5/32 | | |
| 1918 | 30 | E | 2 | 38 | 2 1/2 | 1/4 | | | | | | | |
| 1917-18 | 32 | Int Exp | 8 | 11 1/4 | 3 | 1/4 | D | 8 | 8 7/16 | 6 1/4 | 5/32 | | |
| 1917-18 | 45 | Int Exp | 8 | 12 | 3 1/4 | 1/4 | D | 10 | 8 7/16 | 6 1/4 | 5/32 | | |
| 1918-19 | 42 | Int. | 8 | 12 | 3 1/4 | 1/4 | D | 8 | 8 7/16 | 6 1/4 | 5/32 | | |
| 1920 | 42-C | Exp. | | | | | | | | | | | |
| 1917-18 | 65 | Int. | | | | | | | | | | | |
| 1919-20 | 65-X 65-EX | Exp. | 8 | 13 1/4 | 3 1/2 | 1/4 | D | 12 | 8 7/16 | 6 1/4 | 5/32 | | |
| 1919-20 | 65-C 65-EC | | | | | | | | | | | | |
| 1917-18 | 90 | Int Exp | 8 | 16 | 3 3/4 | 1/4 | D | 16 | 8 7/16 | 6 1/4 | 5/32 | | |
| 1919-20 | 90 & 90-C | Int Exp | 8 | 16 | 3 3/4 | 1/4 | D | 12 | 8 7/16 | 6 1/4 | 5/32 | | |
| 1917-18 | 120 | Int. | 8 | 18 | 4 | 1/4 | D | 16 | 8 7/16 | 6 1/4 | 5/32 | | |
| 1919-20 | 120-C | Exp. | | | | | | | | | | | |
| 1919-20 | 32-X | Int. | 8 | 20 | 1 3/4 | 1/4 | D | 8 | 8 7/16 | 6 1/4 | 5/32 | | |
| 1920 | 32-C | Exp. | | | | | | | | | | | |
| **Cole** | | | | | | | | | | | | | |
| 1916-860 to 863 | 30001 Ser. | I | 2 | 43 1/16 | 1 3/4 | 5/32 | C | 1 | 12 13/16 | 11 15/32 | 7/32 | 2 1/4 | 11° |
| 1916-860 to 863 | 30001 Ser. | E | 2 | 45 | 2 | 5/32 | | | | | | | |
| 1917-860 to 864 | 40001 Ser. | I | 2 | 43 1/16 | 1 3/4 | 5/32 | C | 1 | 13 1/8 | 12 | 3/16 | 2 7/8 | 11 1/4° |
| 1918-870 to 877 | 50001 Ser. | E | 2 | 45 | 2 | 5/32 | | | | | | | |
| 1919-884 to 887 | 52266 upSer. | | | | | | | | | | | | |
| 1919-870 to 883 | 6000 up Ser. | I | 2 | 46 5/8 | 2 1/4 | 5/32 | C | 1 | 13 1/8 | 12 | 3/16 | 2 7/8 | 11 1/4° |
| 1920 | All | E | 2 | 48 | 2 1/2 | 5/32 | | | | | | | |
| **Collier Truck** | | | | | | | | | | | | | |
| 1916-17-18-19 | 15 | I | 2 | 40 | 2 | 1/8 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | | |
| 1916-17-18-19 | 15 | E | 2 | 41 | 2 | 1/8 | | | | | | | |
| **Columbia Pass.** | | | | | | | | | | | | | |
| 1920 | All | I | 1 | 41 3/4 | 1 1/2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | | |
| 1920 | All | E | 1 | 44 | 1 3/4 | 3/16 | | | | | | | |
| **Columbia Truck** | | | | | | | | | | | | | |
| 1917-18-19 | E | I | 2 | 50 | 2 | 3/16 | | | | | | | |
| 1920 | G | E | 2 | 55 | 3 | 3/16 | | | | | | | |
| 1919-20 | F | I | 2 | 40 1/2 | 1 3/4 | 3/16 | | | | | | | |
| 1919-20 | F | E | 2 | 39 1/4 | 2 1/2 | 3/16 | | | | | | | |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Commerce** | | | | | | | | | | | | | |
| 1917-18-19-20 | E | I | 2 | 43 | 2¼ | 5/32 | C | 1 | 13¾ | ..... | ¼ | 2 | 11° |
| 1919-20 | E-P | E | 2 | 45 | 2½ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Commonwealth Pass.** | | | | | | | | | | | | | |
| 1920 | ..... | I | 2 | 35¼ | 1¾ | 5/32 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1920 | ..... | E | 2 | 37 7/16 | 1¾ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Conestoga** | | | | | | | | | | | | | |
| 1919 | 12 | Both | 2 | 39 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 20 & 30 | I | 2 | 22 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 20 & 30 | I | 2 | 14 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 91 | I | 2 | 18 | 2 | ¼ | C | 1 | 14⅝ | ..... | 3/16 | 3⅛ | 12½° |
| 1920 | 02 | I | 2 | 11½ | 1¾ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Corbitt Truck** | | | | | | | | | | | | | |
| 1918-19-20 | A. A. | Both | 4 | 68¾ | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | A | Both | 4 | 56⅞ | 2½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1918-19-20 | B | Both | 4 | 49⅝ | 2¼ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1918-19-20 | C | Both | 4 | 49⅝ | 2¼ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1918-19-20 | D | Both | 4 | 42⅝ | 2 | ¼ | D | 8 | 8 7/16 | 6¼ | 5/32 | or | |
| 1918-19-20 | E | Both | 8 | 18 | 2 | 3/16 | D | ..... | 8 | 6 | 5/32 | ..... | ..... |
| **Couple Gear Truck** | | | | | | | | | | | | | |
| 1916-17 | A-AC-H-HC | Cont. | 4 | 48 | 2 | ¼ | D | 4 | 16½ | 15¾ | ⅜ | ..... | ..... |
| 1918-19-20 | A-AC-L.D. | Cont. | 4 | 48 | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | H | Cont. | 4 | 48 | 2 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Crane** | | | | | | | | | | | | | |
| 1915-17 | 5 | Serv. | 1 | 20 | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1915-17 | 5 | Emer. | 2 | 30 | 2½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Crane Simplex** | | | | | | | | | | | | | |
| 1915-17 | 38 | I | 4 | 16 | 2⅜ | 3/16 | D | 12 | 9 | 6 | ⅛ | ..... | ..... |
| 1915-17 | 38 | E | 4 | 20½ | 2¾ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1915-17 | 50 | Serv. | 4 | 14 | 3 | 3/16 | D | 12 | 9 | 6 | ⅛ | ..... | ..... |
| 1915-17 | 50 | I | 4 | 16 | 2⅜ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1915-17 | E | E | 4 | 13⅜ | 4 | 3/16 | D | 12 | 9 | 6 | ⅛ | ..... | ..... |
| **Crow-Elkhart** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | All | I | 2 | 35¼ | 1¾ | 5/32 | D | 2 | 7⅞ | 5⅜ | ⅛ | ..... | ..... |
| 1916-17-18-19-20 | All | E | 2 | 37 7/16 | 1¾ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Cunningham** | | | | | | | | | | | | | |
| 1916-17-18-19 | All | Both | 4 | 53 | 2½ | 3/16 | D | 14 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1920 | V-4 | Both | 4 | 50 | 2½ | 3/16 | D | 14 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| **Daniels** | | | | | | | | | | | | | |
| 1916-17-18-19 | All | I | 1 | 43½ | 2½ | 3/16 | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19 | All | E | 1 | 48½ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | D | I | 1 | 46 9/16 | 2½ | 3/16 | D | 16 | 8 7/16 | 6 5/16 | 5/32 | ..... | ..... |
| 1920 | D | E | 1 | 50⅛ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | C | I | 1 | 43½ | 2½ | 3/16 | D | 16 | 8 7/16 | 6 5/16 | 5/32 | ..... | ..... |
| 1920 | C | E | 1 | 48½ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Dart Truck** | | | | | | | | | | | | | |
| 1918 | L | I | 8 | 16 | 3¾ | ¼ | D | 14 | 8 | 6¼ | ⅛ | ..... | ..... |
| 1919 | L | I | 8 | 16 | 3¾ | ¼ | D | 18 | 8 | 6 | ⅛ | ..... | ..... |
| 1918 | CC-4 | I | 8 | 12 | 3½ | ¼ | D | 16 | 8 | 6 | ⅛ | ..... | ..... |
| 1919 | CC-4 | I | 8 | 13 | 3½ | ¼ | D | 14 | 8 | 6 | ⅛ | ..... | ..... |
| 1918-19 | E | I | 8 | 12 | 3¼ | ¼ | D | 10 | 8 | 6 | ⅛ | ..... | ..... |
| 1920 | M | Serv. | 2 | 9 | 2½ | 3/16 | D | 14 | 8 | 6 | ⅛ | ..... | ..... |
| 1920 | M | Emer. | 4 | 18 | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | H. & S. | 1 | 8 | 19 | 1¾ | ¼ | D | 10 | 8 | 6 | ⅛ | ..... | ..... |
| 1920 | W | 1 | 8 | 28 | 2¾ | ¼ | D | 16 | 7¼ | 6¼ | ⅛ | ..... | ..... |
| **Dart Tractor** | | | | | | | | | | | | | |
| 1918 | ..... | ..... | ..... | ..... | ..... | ..... | D | 12 | 8 | 6 | ⅛ | ..... | ..... |
| 1919-20 | ..... | ..... | ..... | ..... | ..... | ..... | D | 10 | 8¼ | 6¼ | ⅛ | ..... | ..... |
| **Day Elder Truck** | | | | | | | | | | | | | |
| 1918-19 | A-1 Ton | Emer. | 2 | 33 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | B-1½ Ton | Serv. | 2 | 47 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | D-2 Ton | | | | | | | | | | | | |
| 1918-19 | C-2½ Ton | Emer. | 2 | 42 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | F-3½ Ton | Serv. | 2 | 56 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | E-5 Ton | Both | 4 | 68 | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | A-1 Ton | Both | 8 | 19 | 2 | 3/16 | D | 10 | 8¼ | 6½ | ⅛ | ..... | ..... |
| 1920 | B-1½ Ton | | | | | | | | | | | | |
| 1920 | D-2 Ton | Both | 4 | 45 | 2 | ¼ | D | 14 | 8¼ | 6½ | ⅛ | ..... | ..... |
| 1920 | C-2½ Ton | Both | 4 | 52 | 2¼ | ¼ | D | 14 | 8¼ | 6½ | ⅛ | ..... | ..... |
| 1920 | F-3½ Ton | Both | 4 | 56½ | 2½ | ¼ | D | 16 | 8⅜ | 6 3/16 | ⅛ | ..... | ..... |
| 1920 | E-5 Ton | Both | 4 | 69½ | 3 | ¼ | D | 12 | 8⅜ | 6 3/16 | ⅛ | ..... | ..... |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Dearborn** | | | | | | | | | | | | | |
| 1919 | B. W. | E | 4 | 17¼ | 2¼ | 3/16 | D | 4 | 9¾ | 6¾ | ⅛ | ..... | ..... |
| 1919 | B. W. | E | 4 | 17¼ | 1½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | F. X. | E | 4 | 17¼ | 2¼ | 3/16 | D | 10 | 8 | 6 | ⅛ | ..... | ..... |
| 1920 | B. W. | E | 4 | 17¼ | 1½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | C | I | 2 | 41 | 2 | ⅛ | D | 4 | 9 | 4½ | ⅛ | ..... | ..... |
| 1919-20 | C | E | 2 | 38½ | 2 | ⅛ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **De Martini Truck** | | | | | | | | | | | | | |
| 1919-20 | 1 Ton | I | 8 | 18 | 2 | 3/16 | D | 8 | 8½ | 6⅜ | ⅛ | ..... | ..... |
| 1919-20 | 3 Ton | I | 4 | 52 | 2¼ | 3/16 | D | 10 | 8½ | 6⅜ | ⅛ | ..... | ..... |
| 1919-20 | 4 Ton | I | 4 | 56¾ | 2½ | ¼ | D | 12 | 8½ | 6⅜ | ⅛ | ..... | ..... |
| **Denby Truck** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | 12 | I | 2 | 39½ | 1¾ | 3/16 | D | 10 | 8 | 6 | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | 12 | E | 2 | 43½ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19-20 | 13 | I | 2 | 47 | 2 | 3/16 | D | 10 | 8 | 6 | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | 13 | E | 2 | 51¼ | ¼ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17 | 15 | I | 2 | 51 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17 | 15 | E | 2 | 55¾ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | 25 | I | 2 | 51 | 2 | 3/16 | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1918-19-20 | 25 | E | 2 | 55¾ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | 27 | I | 2 | 58 | 2½ | 3/16 | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1918-19-20 | 27 | E | 2 | 61½ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | 210 | I | 4 | 89 | 2¼ | 3/16 | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| **Detroit Electric** | | | | | | | | | | | | | |
| 1916 | 56-60 inc. | R.Whl. | 2 | 47½ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 62-66 inc. | R.Whl. | 4 | 18¾ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 68-69 | R. Whl.I | 4 | 16¼ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | 75-76 | Motor E | 2 | 12 11/16 | 1¾ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | 70-74 inc. | R.Whl.I | 4 | 18¾ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | 70-74 inc. | Mtr. E | 2 | 12 11/16 | 1¾ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 78-88 inc. | R.Whl.I | 4 | 18 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 78-88 inc. | Mtr. E | 2 | 12 11/16 | 1¾ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Diamond T. Truck** | | | | | | | | | | | | | |
| 1916 | JA | Duplex | 4 | 11⅜ | 2½ | 3/16 | D | 8 | 8 7/16 | 6¼ | 5/32 | or | |
| | | | | | | | D | 12 | 8 | 6 | 5/32 | ..... | ..... |
| 1916 | JB | I | 2 | 44¾ | 2½ | 3/16 | | | | | | | |
| 1916 | JB | E | 2 | 48¾ | 2½ | 3/16 | D | 8 | 8 7/16 | 6¼ | 5/32 | or | |
| 1916 | JB | Duplex | 4 | 11¾ | 3¼ | ¼ | D | 12 | 8 | 6 | 5/32 | ..... | ..... |
| 1916 | J-2, J-3 | I | 2 | 42¾ | 2¾ | ¼ | | | | | | | |
| 1916 | J-2, J-3 | E | 2 | 52½ | 2¾ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | or | |
| 1916 | J-2, J-3 | Duplex | 4 | 11¾ | 3¼ | ¼ | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1916 | L | Duplex | 4 | 13 3/16 | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1917-18-19 | J-5 | Duplex | 4 | 11¾ | 3¼ | ¼ | D | 8 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1917-18-19 | J-4 | Duplex | 4 | 13 3/16 | 3½ | ¼ | D | 8 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1917-18-19 | J-3, L | Duplex | 4 | 13 3/16 | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1917-18-19 | LB | Duplex | 4 | 15⅝ | 3¾ | ¼ | D | 12-14 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1917-18 | R | | | | | | | | | | | | |
| 1919 | RS | Duplex | 4 | 17 15/16 | 4 | ¼ | D | 16 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1919-20 | FS, T | Duplex | 4 | 11¾ | 3¼ | ¼ | | | | | | | |
| 1919-20 | FS, T | I | 2 | 33¾ | 2½ | 3/16 | D | 10 | 8½ | 6½ | 5/32 | ..... | ..... |
| 1919-20 | FS, T | E | 2 | 48 | 2½ | 3/16 | | | | | | | |
| 1920 | U | Duplex | 4 | 13 3/16 | 3½ | ¼ | D | 14 | 8½ | 6½ | 5/32 | ..... | ..... |
| 1920 | K | Duplex | 4 | 15⅝ | 3¾ | ¼ | D | 18 | 8½ | 6½ | 5/32 | ..... | ..... |
| 1920 | E | Duplex | 4 | 17 5/16 | 4 | ¼ | D | 18 | 8¼ | 6½ | 5/32 | ..... | ..... |
| 1920 | S | Duplex | 4 | 17 5/16 | 4 | ¼ | D | 16 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| **Dispatch** | | | | | | | | | | | | | |
| 1916-17 | All | I | 4 | 20 | 1½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | All | Both | 8 | 10 | 1½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Dixie Flyer** | | | | | | | | | | | | | |
| 1916-17 | L | I | 2 | 28⅜ | 1¾ | 3/16 | D | 2 | 7⅞ | 5⅜ | ⅛ | ..... | ..... |
| 1916-17 | L | E | 2 | 30⅜ | 1¾ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | L | I | 2 | 36½ | 1¾ | 3/16 | D | 2 | 7⅞ | 5⅜ | ⅛ | ..... | ..... |
| 1920 | H | E | 2 | 36 | 1¾ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Doane** | | | | | | | | | | | | | |
| 1919 | 2½ Ton | I | 1 | 34¼ | 3 | ¼ | D | 12 | 8½ | 6¼ | ⅛ | ..... | ..... |
| 1919 | 2½ Ton | E | 2 | 17½ | 3 | 5/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| To May, 1920 | 2½ Ton | E | 2 | 18 | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 3½ Ton | I | 1 | 34½ | 3 | ¼ | D | 12 | 8½ | 6¼ | ⅛ | ..... | ..... |
| 1919 | 3½ Ton | E | 2 | 18 | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 6 Ton | I | 1 | 37½ | 3 | ¼ | D | 16 | 8½ | 6¼ | ⅛ | ..... | ..... |
| 1920 | 6 Ton | E | 2 | 24 | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Dodge** | | | | | | | | | | | | | |
| 1916 | ..... | I | 2 | 34 9/16 | 2 | 3/16 | D | 6 | 8 15/16 | 6 1/2 | 1/8 | or | |
| 1916 | ..... | E | 2 | 42 3/4 | 2 1/4 | 3/16 | ..... | 8 | 9 | 6 3/4 | 1/8 | ..... | ..... |
| | | | | Cha | nges | in ab | ove A | pril a | nd N | ovem | ber ' | 16. | |
| 1917 | Up to Car | I | 2 | 34 9/16 | 2 | 3/16 | D | 8 | 9 | 6 3/4 | 1/8 | ..... | ..... |
| | No. 292088 | E | 2 | 42 3/4 | 2 1/4 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | Car No. | I | 4 | 14 3/8 | 1 3/4 | 3/16 | D | 8 | 9 | 6 3/4 | 1/8 | '18-'1 | 9. |
| | 292089 up | E | 4 | 19 1/4 | 2 1/4 | 3/16 | D | 8 | 9 | 6 3/4 | .120 | 1920 | ..... |
| **Dorris Pass.** | | | | | | | | | | | | | |
| 1916 | I-B-6 | Both | 4 | 45 1/2 | 2 1/4 | 3/16 | D | 12 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1917-18 | I-C-6 | | | | | | | | | | | | |
| 1918-19-20 | 6-80 | I | 2 | 46 1/2 | 2 1/2 | 3/16 | D | 14 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1918-19-20 | 6-80 | E | 2 | 47 1/2 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Dorris Truck** | | | | | | | | | | | | | |
| 1916-17 | 1-BW | Both | 8 | 12 1/4 | 3 1/4 | 1/4 | D | 12 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1918-19-20 | K-4 2 Ton | Both | 8 | 13 1/2 | 3 1/2 | 1/4 | D | 14 | 8 | 6 3/16 | 5/32 | ..... | ..... |
| 1919-20 | K-7 3 1/2 Ton | Both | 8 | 15 3/4 | 3 3/4 | 1/4 | D | 14 | 8 | 6 3/16 | 5/32 | ..... | ..... |
| **Dort** | | | | | | | | | | | | | |
| 1916 | 5-A | I | 2 | 28 11/16 | 1 5/8 | 5/32 | C | 1 | 12 | 11 5/8 | 3/16 | 2 1/4 | 10° |
| 1917 | 6-9 | E | 2 | 27 1/8 | 1 5/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | 8-11 | I | 2 | 35 3/4 | 1 5/8 | 5/32 | C | 1 | 12 | 11 5/8 | 3/16 | 2 1/4 | 10° |
| 1919 | 11 | E | 2 | 35 3/8 | 1 5/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 10-15 | | | | | | | | | | | | |
| **Duplex Truck** | | | | | | | | | | | | | |
| 1916 | C | E | 2 | 52 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | | E | 2 | 7 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | D | E | 4 | 7 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | E | E | 2 | 52 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | EL | E | 2 | 9 1/2 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | E-EL | E | 2 | 51 3/4 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | | E | 2 | 9 3/8 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | A | E | 8 | 18 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Elgin** | | | | | | | | | | | | | |
| 1917 | All | I | 1 | 35 3/4 | 1 3/4 | 5/32 | D | 1 | 7 3/4 | 5 3/8 | 1/8 | ..... | ..... |
| 1917 | All | E | 1 | 34 1/4 | 1 3/4 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | All | I | 1 | 35 3/4 | 1 3/4 | 5/32 | D | 1 | 7 3/4 | 5 3/8 | 1/8 | ..... | ..... |
| 1919 | All-H | E | 1 | 34 1/4 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | All-K | I | 1 | 39 | 1 3/4 | 5/32 | D | 1 | 9 11/16 | 6 11/16 | 1/8 | ..... | ..... |
| 1919 | All-K | E | 1 | 43 7/8 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Ellsworth** | | | | | | | | | | | | | |
| 1917-18-19 | 25-A | I | 4 | 16 | 1 1/4 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Emblem M/C** | ..... | ..... | ..... | ..... | ..... | ..... | D | 2 | 5 3/16 | 3 11/16 | .145 | ..... | ..... |
| **Fageol Truck** | | | | | | | | | | | | | |
| 1918 and 1920 | 2 Ton | I | 8 | 13 1/4 | 3 1/2 | 1/4 | D | 12 | 8 7/16 | 6 1/4 | 1/8 | ..... | ..... |
| 1918 and 1920 | 3 1/2 Ton | I | 8 | 15 3/4 | 3 3/4 | 1/4 | D | 18 | 8 7/16 | 6 1/4 | 1/8 | ..... | ..... |
| 1918 and 1920 | 5 Ton | I | 8 | 18 | 4 | 1/4 | D | 18 | 8 7/16 | 6 1/4 | 1/8 | ..... | ..... |
| 1919 | 2 Ton | I | 8 | 13 1/4 | 3 1/2 | 1/4 | D | 2 | 11 7/8 | 8 3/8 | 1/8 | ..... | ..... |
| 1919 | 3 1/2 Ton | I | 8 | 15 3/4 | 3 3/4 | 1/4 | D | 2 | 11 7/8 | 8 3/8 | 1/8 | ..... | ..... |
| 1919 | 5 Ton | I | 8 | 18 | 4 | 1/4 | D | 2 | 11 7/8 | 8 3/8 | 1/8 | ..... | ..... |
| 1920 | 1 1/2 Ton | I | 8 | 20 | 1 3/4 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| **Fargo Truck** | | | | | | | | | | | | | |
| 1917 | O-2 Ton | I | 2 | 50 1/2 | 2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1917 | P-2 Ton | E | 2 | 52 | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | P-18 | I | 2 | 50 1/2 | 2 | 3/16 | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1919 | P-19 | E | 2 | 52 | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | P-20 | | | | | | | | | | | | |
| **Famous** | | | | | | | | | | | | | |
| 1920 | B-10, B-12 | E | 1 | 21 | 2 1/2 | 3/16 | D | 10 | 8 | 6 | 1/8 | ..... | ..... |
| | | E | 2 | 23 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Farmers** | | | | | | | | | | | | | |
| 1919 | A | E | 1 | 23 5/8 | 3 1/2 | 1/4 | D | 10 | 8 1/2 | 6 | 1/8 | ..... | ..... |
| | | E | 2 | 43 7/16 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Federal Truck** | | | | | | | | | | | | | |
| 1916 | P-O-M | I | 8 | 12 | 3 1/4 | 1/4 | C | 1 | 15 1/8 | ..... | 1/4 | 2 5/8 | 12 1/2° |
| 1916 | L | I | 8 | 13 3/16 | 3 1/2 | 1/4 | D | 12 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1917 | X | I | 8 | 17 15/16 | 4 | 1/4 | D | 2 | 11 7/8 | 8 3/8 | 1/8 | ..... | ..... |
| 1918 | XC | | | | | | | | | | | | |
| 1917 | W | | | | | | | | | | | | |
| 1918 | WC | I | 8 | 15 5/8 | 3 3/4 | 1/4 | D | 2 | 11 7/8 | 8 3/8 | 1/8 | ..... | ..... |
| 1919-20 | WD | | | | | | | | | | | | |
| 1917 | U-T | | | | | | | | | | | | |
| 1918 | UC-TC | I | 8 | 13 3/16 | 3 1/2 | 1/4 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1919-20 | UD-TD | | | | | | | | | | | | |
| 1917 | S | I | 8 | 12 | 3 1/4 | 1/4 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |

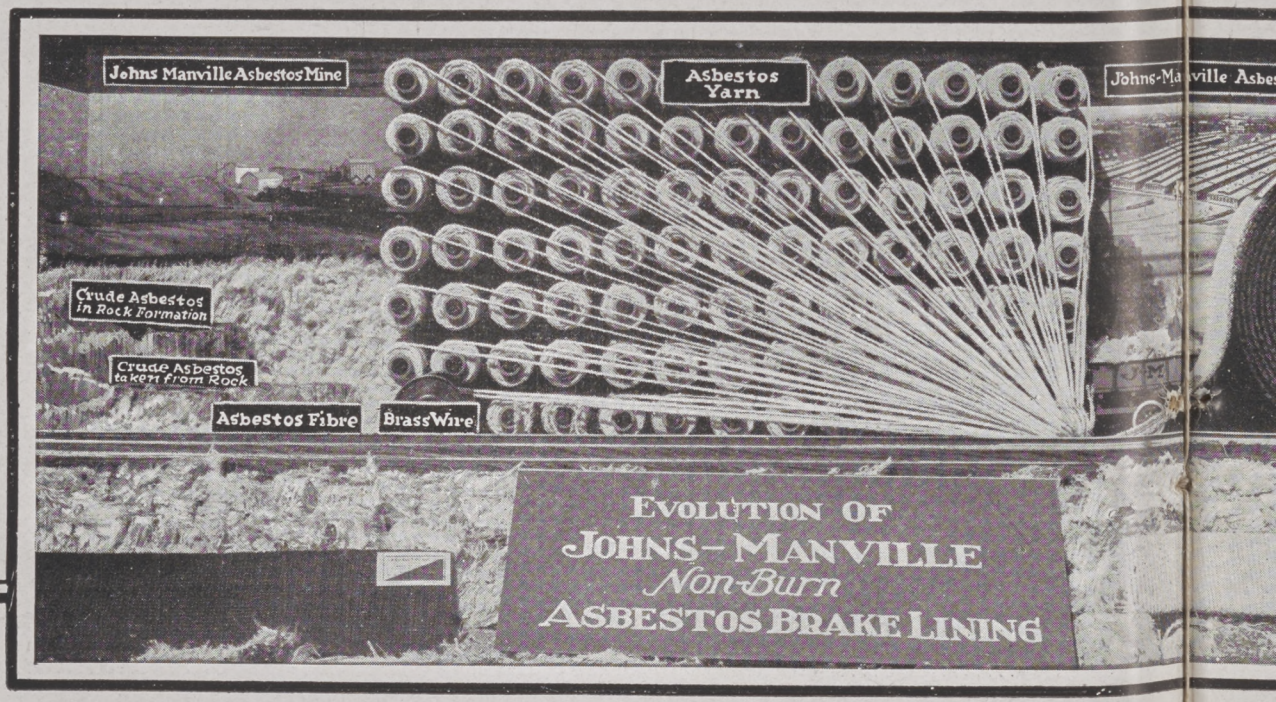
| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Fiat** | | | | | | | | | | | | | |
| 1917-18-19-20 | All | Emer. | 4 | 17⅛ | 2 | ¼ | | Met | al Di | sc. | | | |
| 1917-18-19-20 | All | Serv. | 4 | 21 9/16 | 2½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ford Truck | 1 Ton | Shoe | 4 | 12 | 1⅝ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Passenger (all) | All | ..... | 3 | 23¾ | 1⅛ | 5/32 | Ban | ds fo | r Pla | netar | y Tra | nsmi | ssion |
| **Forschler** | | | | | | | | | | | | | |
| 1918-19-20 | A | I | 8 | 19¼ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | B | I | 4 | 45½ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | S | I | 8 | 16¾ | 1¾ | ⅛ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Four Wheel Drive Truck** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | B | E | 1 | 27 | 3½ | ¼ | | | Met | al Di | sc. | | |
| | | E | 2 | 43 | 2¾ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Franklin** | | | | | | | | | | | | | |
| 1917 | Ser. 9 | Trans. | 1 | 23⅞ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | Ser. 9 | R. Axle | 1 | 28 | 2⅝ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | Ser. 9 | Trans. | 1 | 23⅞ | 3 | 3/16 | D | 2 | 9 11/16 | 6 11/16 | ⅛ | ..... | ..... |
| 1918-19-20 | Ser. 9 | R. Axle | 1 | 28 | 2⅝ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Fulton Truck** | | | | | | | | | | | | | |
| 1917-18-19 | FX-FI | I | 2 | 40 | 1¾ | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1917-18-19 | FX-FI | E | 2 | 44 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | C | I | 2 | 53 | 3 | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1919-20 | C | E | 1 | 25 | 2¼ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Gabriel Truck** | | | | | | | | | | | | | |
| 1916 | C | I | 2 | 49 | 2½ | 3/16 | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916 | C | E | 2 | 53½ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | D | Both | 8 | 11¾ | 3¼ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1918 | F | | | | | | | | | | | | |
| 1917-18 | E | Both | 8 | 13 3/16 | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| **Garford Truck** | | | | | | | | | | | | | |
| 1916 | 77-3½ Ton | R.Whl. | 8 | 13 3/16 | 3½ | ¼ | D | 16 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916 | 77-3½ Ton | Prp.Sft. | 2 | 12¼ | 4 | ⅜ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 and 1919 | 77-B-3½ T. | R.Whl. | 8 | 15⅝ | 3¾ | ¼ | D | 16 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916 and 1919 | 77-B-3½ T. | Prp.Sft. | 2 | 12¼ | 4 | ⅜ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 and 1919 | 70-B-2 Ton | Both | 8 | 13 3/16 | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1917 and 1919 | 66-B-1¼ T. | | | | | | | | | | | | |
| 1918 | 75-B-1 Ton | Both | 8 | 11¾ | 3¼ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1918-19 | 75-C-1 Ton | Both | 8 | 11¾ | 3¼ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1919 | 68-B 5 & 6 T. | R.Whl. | 4 | 21⅝ | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 68-B 5 & 6 T. | Tns.Sft. | 2 | 10½ | 4 | ⅜ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 25-1¼ Ton | Both | 8 | 11¾ | 3¼ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 70-H 2 Ton | Both | 8 | 13 3/16 | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 77-C & -D | Both | 8 | 15⅝ | 3¾ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | 3½ Ton | | | | | | | | | | | | |
| ..... | 79-6 Ton | R.Whl. | 4 | 21⅝ | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | 79-6 Ton | Tns.Sft | 2 | 12¼ | 4 | ⅜ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | 89-6 Ton | R.Whl. | 4 | 21⅝ | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | 89-6 Ton | Tns.Sft | 2 | 10½ | 4 | ⅜ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **G. M. C.** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | 16 | I | 2 | 40 15/16 | 1⅝ | 5/32 | D | 10 | 8⅜ | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | 16 | E | 2 | 43 1/16 | 3⅞ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19-20 | 21 | I | 4 | 11¾ | 3¼ | ¼ | D | 10 | 8⅜ | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | 31, 41 | I | 4 | 13 3/16 | 3½ | ¼ | D | 10-12 | 8⅜ | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | 71 | I | 4 | 15⅝ | 3¾ | ¼ | D | 16 | 8⅜ | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | 101 | I | 4 | 17 15/16 | 4 | ¼ | D | 16 | 8⅜ | 6¼ | 5/32 | ..... | ..... |
| **Gersix** | | | | | | | | | | | | | |
| 1916 | H | I | 2 | 47 | 2¼ | ¼ | D | 2 | 11⅞ | 8¼ | ⅛ | ..... | ..... |
| 1917-18 | G | E | 4 | 20 | 2½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | K | | | | | | | | | | | | |
| 1920 | M | I | 4 | 48 | 2 | ¼ | D | 2 | 11⅞ | 8¼ | ⅛ | ..... | ..... |
| **Giant** | | | | | | | | | | | | | |
| 1916-17 | H | Jk.Sft. | 2 | 38¼ | 2½ | 3/16 | | | | | | | |
| 1916-17-18 | 15 | I | 8 | 12 | 3¼ | 3/16 | | | | | | | |
| 1916-17-18 | 16 | I | 8 | 12¼ | 3¼ | 3/16 | | | | | | | |
| 1917 | 17 | I | 8 | 16 | 3¾ | 3/16 | D | 14 | 8 5/16 | 6⅜ | ⅛ | ..... | ..... |
| 1918 | 17 | I | 8 | 12¾ | 3¾ | 3/16 | | | | or | | | |
| 1919-20 | 15 | I | 8 | 19 | 2 | 3/16 | D | 10 | 8⅝ | 6⅜ | ⅛ | ..... | ..... |
| 1919-20 | 16 | I | 4 | 45½ | 2 | 3/16 | | | | | | | |
| 1919-20 | 17 | I | 4 | 56½ | 2½ | ¼ | | | | | | | |
| **Gramm-Bernstein** | | | | | | | | | | | | | |
| 1916 | W-1 Ton | Both | 8 | 18¼ | 1 3/16 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | W-1½ Ton | Both | 4 | 44 | 2 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | W-2 Ton | I | 2 | 43 | 2¼ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | W-2 Ton | E | 2 | 44½ | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | W-2½ Ton | Both | 4 | 51¾ | 2¼ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

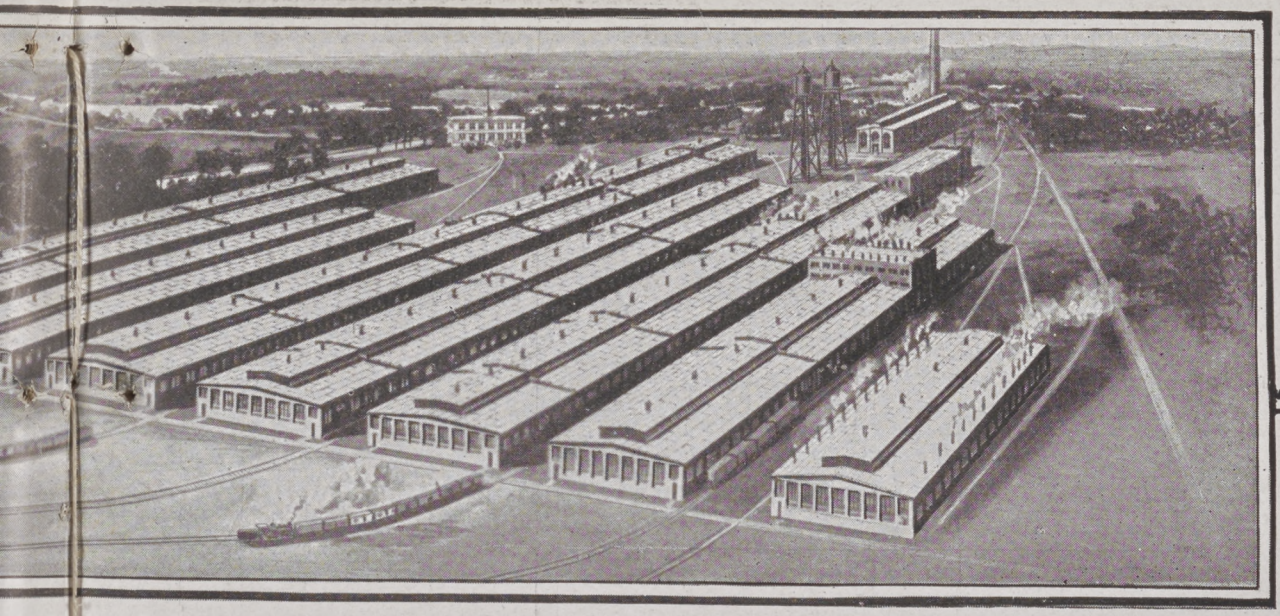
# The Evolution of Johns-Manville Non-Burn Asbestos Brake Lining



From its very beginning, Johns-Manville Non-Burn Asbestos Brake Lining is a Johns-Manville product. Johns-Manville takes thousands of tons of asbestos from their own mines every year, from this large output they select the finest long fibre Asbestos for Johns-Manville Non-Burn Asbestos Brake Lining.

From Johns-Manville mines, this specially sorted asbestos fibre goes to Johns-Manville factories, where the first step in the manufacturing process is spinning the fibre into a pliable, workable yarn, reinforced with copper or brass wire interwoven in each strand to give additional mechanical strength. It is next woven into one piece to the required width and thick-





MANVILLE, N. J. PLANT, ONE OF THE TEN JOHNS-MANVILLE FACTORIES

ness after which it is impregnated with chemicals that increase its naturally high resistance to the action of oil, grease, water and gasoline and also greatly increase and preserve its frictional qualities. Folded and stitched compressed lining is made from woven asbestos cloth, the yarn employed being reinforced with copper or brass wire which gives added mechanical strength. The cloth is then folded, cemented, stitched, compressed and vulcanized under tremendous pressure.

Thus, as the illustration shows, Johns-Manville Non-Burn Asbestos Brake Lining, from mine to brake, is exclusively a Johns-Manville product. At every stage it is under Johns-Manville supervision, it is at all times subject to the rigid requirements of the Johns-Manville organization; requirements that are based on the experience of over twenty-five years in the manufacture of asbestos frictional materials.



| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Gramm-Bernstein** Con | | | | | | | | | | | | | |
| 1916 | W-3½ Ton | Both | 4 | 59 | 2½ | ¼ | | | | | | | |
| 1916 | W-5 Ton | Both | 4 | 69 | 3 | ¼ | | | | | | | |
| 1920 | 25 | Both | 8 | 23 | 2¼ | ¼ | | | | | | | |
| 1920 | 35 | Both | 8 | 28 | 2¾ | ¼ | | | | | | | |
| 1920 | 50 | Both | 8 | 32 | 2¾ | ¼ | | | | | | | |
| 1920 | 20 | Both | 4 | 45¼ | 2 | ¼ | | | | | | | |
| 1920 | 15 | I | 2 | 46¾ | 1½ | 3/16 | | | | | | | |
| 1920 | 15 | E | 2 | 46½ | 2 | 3/16 | | | | | | | |
| **Grant** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | 10-11 | I | 2 | 43 1/16 | 2¼ | 5/32 | D | 2 | 9 11/16 | 6 11/16 | ⅛ | | |
| 1920 | 17 | E | 2 | 45 | 2½ | 5/32 | | | | | | | |
| 1917-18-19-20 | 15-16 | I | 2 | 52⅛ | 2¼ | 5/32 | | | Use | same | disc. | | |
| 1917-18-19-20 | 15-16 | E | 2 | 54 9/16 | 2½ | 5/32 | | A | LL | MOD | ELS | | |
| 1917-18-19-20 | 12 | I | 2 | 41 1/16 | 2 | 5/32 | | | | | | | |
| 1917-18-19-20 | 12 | E | 2 | 42¼ | 2 | 5/32 | | | | | | | |
| **Gray Tractor** | | | | | | | | | | | | | |
| | All | Con.Ex. | 2 | 6 | 2 | ¼ | C | 1 | 15½ | 13¾ | 7/32 | 4 | 12½° |
| **Hahn Truck** | | | | | | | | | | | | | |
| 1917-18-19-20 | B | I | 2 | 44 | 2¼ | ⅛ | D | 10 | 8 7/16 | 6¼ | 5/32 | | |
| 1917-18-19-20 | B | E | 2 | 45 | 2½ | ⅛ | | | | | | | |
| 1917-18-19-20 | C, D and E | Duplex | 8 | 12 | 3¼ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | | |
| 1917-18-19-20 | G-H | I | 2 | 54 | 2½ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | | |
| 1917-18-19-20 | G-H | E | 2 | 55 | 2½ | ¼ | | | | | | | |
| 1919-20 | F | Duplex | 4 | 15 | 4 | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | | |
| 1919-20 | FE | Duplex | 4 | 18 | 4 | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | | |
| **Harley-Davidson M /C.** | | | | | | | | | | | | | |
| 1916-17-18 | B-C-E (F&J) | | 1 | 15⅞ | 25/32 | 7/32 | D | 4 | 6 11/16 | 5 3/32 | .120 | | |
| 1919 | 19 F & J | | | | | | | | | | to.130 | | |
| 1919 | W | | 1 | 17¾ | 1 | 3/16 | | | | | | | |
| 1920 | 20 WF &WJ | | | | | | | | | | | | |
| 1920 | 20 F & J | | 1 | 15⅞ | 1 | 7/32 | D | 4 | 6 11/16 | 5 3/32 | .110 to.120 | | |
| | HAND BR | AKE A | CCE | SSOR | Y | | | | | | | | |
| **Harley-Davidson M /C.** | | | | | | | | | | | | | |
| 1916 | All | | 1 | 17 51/64 | 25/32 | 7/32 | | | | | | | |
| 1917-18-19-20-21 | All | | 1 | 16¾ | 25/32 | 7/32 | | | | | | | |
| 1920 | Sport | | 2 | 8⅛ | 25/32 | 7/32 | | | | | | | |
| **Harvey Truck** | | | | | | | | | | | | | |
| 1917-18-19-20 | WFA 2½ T. | Both | 4 | 52 | 2¼ | ¼ | D | 2 | 11 11/16 | 8 3/16 | ⅛ | | |
| 1917-18-19-20 | WHA-3½ T. | Both | 4 | 56 | 2½ | ¼ | D | 2 | 11 11/16 | 8 3/16 | ⅛ | | |
| 1917-18-19-20 | WKA-5 T. | Both | 4 | 69 | 3 | 5/16 | D | 2 | 11 11/16 | 8 3/16 | ⅛ | | |
| 1919-20 | WEA-1½ T. | Both | 4 | 46 | 2 | ¼ | D | 14 | 7⅞ | 5¾ | ⅛ | | |
| **Haynes** | | | | | | | | | | | | | |
| 1916-17-18 | All | I | 8 | 15½ | 1¾ | 5/32 | D | 2 | 9 15/16 | 6⅞ | .125 to.135 | | |
| 1919 | 45-46 | I | 4 | 46⅝ | 1¾ | 5/32 | D | 2 | 9 15/16 | 6⅞ | .125 to.135 | | |
| **Hawkeye Truck** | | | | | | | | | | | | | |
| 1917 | J | Serv. | 2 | 47¼ | 1¾ | 3/16 | D | 2 | 9⅞ | 6⅞ | 5/32 | | |
| 1917 | J | Emer. | 2 | 47 | 1½ | 3/16 | | | | | | | |
| 1918-19-20 | K | Serv. | 2 | 47¼ | 1¾ | 3/16 | D | 14 | 8 | 6 | 5/32 | | |
| 1918-19-20 | K | Emer. | 2 | 47 | 1½ | 3/16 | | | | | | | |
| 1918-19-20 | L | Serv. | 2 | 47¼ | 3 | ¼ | D | 16 | 8 | 6 | 5/32 | | |
| 1918-19-20 | L | Emer. | 2 | 47 | 2¼ | ¼ | | | | | | | |
| **Hollier** | | | | | | | | | | | | | |
| 1916-17-18-19 | 176-178-206 | I | 2 | 34 13/16 | 1½ | 3/16 | C | 1 | 11 9/16 | | 3/16 | 1⅞ | 12½° |
| 1916-17-18-19 | 176-178-206 | E | 2 | 37 1/16 | 2 | 3/16 | | | | | | | |
| 1916-17-18-19 | 206-B | I | 2 | 34 13/16 | 1½ | 3/16 | D | 10 | 10 | 8 | 3/16 | | |
| 1916-17-18-19 | 206-B | E | 2 | 37 1/16 | 2 | 3/16 | | | | | | | |
| **Holmes** | | | | | | | | | | | | | |
| 1919 | All | R.Whl. | 2 | 41 | 2 | ¼ | D | 8 | 8 7/16 | 6¼ | 5/32 | | |
| 1919 | All | Trans. | 1 | 22½ | 2¼ | ¼ | | | | | | | |
| **Hoover** | | | | | | | | | | | | | |
| 1916 | 15-A | I | 8 | 16 | 1¾ | 3/16 | D | 2 | 9 | 5½ | ⅛ | | |
| 1917-18-19-20 | 15-B | I | 8 | 16 | 1¾ | 3/16 | D | 10 | 8 | 6 | ⅛ | | |
| 1918-19-20 | 20-A | I | 8 | 19 | 2 | 3/16 | D | 10 | 8 | 6 | ⅛ | | |
| **Huber Tractor** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | Light 4 | | 1 | 6 | 3 | 5/32 | | 2 | 8⅛ Lg. | | 5/32 | 2¼ | |
| | | | | | | | Two Shoe Expanding Fr'tn. Clutch | | | | | | |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Hudson** | | | | | | | | | | | | | |
| 1916 | 6-40 | I | 2 | 40 5/8 | 2 | 3/16 | | | | | | | |
| 1916 | 6-40 | E | 2 | 44 1/8 | 2 | 3/16 | | | | | | | |
| 1917 | H | I | 2 | 39 1/8 | 2 | 3/16 | | | | | | | |
| 1917 | H | E | 2 | 44 1/8 | 2 | 3/16 | | | | | | | |
| 1918 | M | I | 2 | 39 1/8 | 2 | 3/16 | | | | | | | |
| 1918 | M | E | 4 | 16 5/8 | 2 | 3/16 | Steel Disc. Cork Insert. | | | | | | |
| 1919-20 | O | I | 4 | 20 3/8 | 2 1/2 | 3/16 | | | | | | | |
| 1919-20 | O | E | 4 | 22 1/4 | 2 1/2 | 3/16 | | | | | | | |
| **Hudson Essex** | | | | | | | | | | | | | |
| 1920 | L | I | 2 | 42 1/8 | 1 1/2 | 3/16 | | | | | | | |
| 1920 | L | E | 4 | 20 3/16 | 1 3/4 | 3/16 | | | | | | | |
| **Hupmobile** | | | | | | | | | | | | | |
| 1916-17 | N | I | 2 | 39 7/8 | 2 | 5/32 | Steel Disc. | | | | | | |
| 1916-17 | N | E | 2 | 41 1/4 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | R | I | 2 | 33 7/8 | 1 3/4 | 1/8 | D | 8 | 9 5/8 | 7 3/8 | 1/8 | ..... | ..... |
| 1918-19-20 | R | E | 2 | 33 1/8 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Hurlburt Truck** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | 1 1/2 Ton | Serv. | 4 | 9 | 2 1/4 | 1/4 | | | | | | | |
| 1916-17-18-19-20 | 1 1/2 Ton | Emer. | 4 | 17 1/2 | 3 | 1/4 | D | 10 | 8 3/8 | 6 | 1/8 | or | |
| 1916-17-18-19-20 | 1 1/2 Ton | Serv. | 4 | 20 1/2 | 2 1/2 | 3/16 | D | 12 | 8 1/8 | 5 3/4 | 1/8 | ..... | ..... |
| 1916-17-18-19-20 | 1 1/2 Ton | Emer. | 2 | 50 | 2 1/2 | 3/16 | | | | | | | |
| 1916-17-18-19-20 | 2 Ton | Serv. | 2 | 10 | 3 | 5/16 | D | 10 | 8 3/8 | 6 | 1/8 | ..... | ..... |
| 1916-17-18-19-20 | 2 Ton | Emer. | 4 | 14 | 3 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19-20 | 3 1/2 & 5 Ton | Serv. | 2 | 10 | 3 | 5/16 | D | 12 | 8 3/8 | 6 | 1/8 | ..... | ..... |
| 1916-17-18-19-20 | 3 1/2 & 5 Ton | Emer. | 4 | 16 1/2 | 3 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19-20 | 5 Ton | Both | 8 | 27 1/2 | 2 1/2 | 5/16 | D | 12 | 8 3/8 | 6 | 1/8 | ..... | ..... |
| 1916-17-18-19-20 | 7 Ton | Serv. | 2 | 15 | 3 | 1/4 | D | 16 | 8 3/8 | 6 | 1/8 | ..... | ..... |
| 1916-17-18-19-20 | 7 Ton | Emer. | 2 | 60 | 4 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Imperial Tractor** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | All | ..... | 1 | 40 | 5 | 3/16 | B'd. Con | 4 | 22 L'g. | ..... | 3/16 | 5 | ..... |
| **Indiana** | | | | | | | | | | | | | |
| 1916 | S | I | 8 | 10 1/8 | 3 | 1/4 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1916-17-18-19 | D | I | 4 | 48 7/8 | 2 1/4 | 1/4 | D | 2 | 11 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1920 | 25 | | | | | | | | | | | | |
| 1916-17-18-19 | R | I | 4 | 56 7/8 | 2 1/2 | 1/4 | D | 2 | 11 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1920 | 35 | | | | | | | | | | | | |
| 1916-17-18-19 | L | I | 4 | 68 3/4 | 3 | 1/4 | D | 2 | 11 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1920 | 50 | | | | | | | | | | | | |
| 1917-18-19 | T | I | 8 | 20 1/2 | 2 | 1/4 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1918-19 | Q | I | 4 | 45 | 2 | 1/4 | D | 2 | 11 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1920 | 20 | | | | | | | | | | | | |
| 1920 | 12 | I | 8 | 17 1/2 | 2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| **International Harvester Truck** | | | | | | | | | | | | | |
| 1916-17 | H & F | I | 4 | 43 3/4 | 2 1/4 | 3/16 | C | 1 | ..... | 13 9/32 | 3/16 | 2 13/16 | 13° |
| 1917-18-19-20 | K-1 1/2 Ton G-2 Ton. | I | 4 | 50 5/8 | 2 1/4 | 3/16 | D | 12 | 8 | 6 | 3/16 | ..... | ..... |
| 1917-18-19-20 | H-3/4 Ton, F-1 Ton. | I | 4 | 43 3/4 | 2 1/4 | 3/16 | D | 10 | 8 | 6 | 3/16 | ..... | ..... |
| 1920 | L-3 1/2 Ton | I | 4 | 74 3/8 | 2 1/2 | 3/16 | D | 12 | 8 | 6 | 3/16 | ..... | ..... |
| **International Motor Co., New York. See Mack.** | | | | | | | | | | | | | |
| **Iver Johnson M/C.** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | All | ..... | 1 | 14 | 3/4 | 1/8 | ..... | 1 | 21 1/2 Lg. | ..... | 1 1/4 | 3/16 | ..... |
| **Jackson** | | | | | | | | | | | | | |
| 1916 | 34 First 500 | I | 2 | 35 1/4 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | 34 First 500 | E | 2 | 37 1/2 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | 34-8 Bal. | I | 2 | 35 1/4 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 349 and 350 | E | 2 | 38 1/2 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | 68 | I | 2 | 42 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | 68 | E | 2 | 44 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 6-38 | E | 2 | 35 1/4 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 6-38 | Trans. | 1 | 15 1/4 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Jackson Truck** | | | | | | | | | | | | | |
| 1920 | B | ..... | 2 | 57 3/4 | 3 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Jordan** | | | | | | | | | | | | | |
| 1917 | J-60-4 | I | 2 | 38 3/4 | 2 | 3/16 | D | 10 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1917 | J-60-4 | E | 2 | 43 3/4 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | F | I | 2 | 38 3/4 | 2 | 3/16 | D | 2 | 9 7/8 | 7 | 5/32 | ..... | ..... |
| 1918-19 | F | E | 2 | 43 3/4 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | F | I | 2 | 38 3/4 | 2 | 3/16 | D | 2 | 9 7/8 | 7 | 5/32 | ..... | ..... |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Jordan—Con.** | | | | | | | | | | | | | |
| 1920 | F | E | 2 | 43¾ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | M | I | 2 | 42½ | 1½ | 3/16 | D | 2 | 9⅞ | 7 | 5/32 | ..... | ..... |
| 1920 | M | E | 4 | 20 3/16 | 1¾ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Kelly-Springfield** | | | | | | | | | | | | | |
| 1916-17 | K-32 and 36 | I | 8 | 18 | 1⅞ | 3/16 | | | | | | | |
| 1916-17 | K-40-45-50-60 | Hand | 4 | 23⅞ | 2½ | 3/16 | | | | | | | |
| 1916-17 | K-40-45-50-60 | Foot | 4 | 23⅞ | 3 | 3/16 | C Same Disc. | 1 Me D | 15 17/32 | 14 11/16 All M | 3/16 odels | 2 15/16 | 11½° |
| 1916 | K-31 and 35 | I | 4 | 46 | 1⅞ | 3/16 | | | | | | | |
| 1917 | K-31 and 35 | I | 8 | 17 | 1⅞ | 3/16 | | | | | | | |
| 1918-19-20 | K-32 and 36 | I | 8 | 17⅜ | 1⅞ | 3/16 | | | | | | | |
| 1918 | K-40-45-50-60 | Hand | 4 | 20½ | 2⅜ | 3/16 | | | | | | | |
| 1918 | K-40-45-50-60 | Foot | 4 | 20½ | 2⅞ | 3/16 | | | | | | | |
| 1918-19 | K-31 and 35 | I | 8 | 15⅜ | 1⅞ | 3/16 | C Same Disc. | 1 Me D | 15 13/16 | 14 11/16 All M | 3/16 odels | 2 15/16 | 11½° |
| 1919 | K-40-45-50-60 | Hand | 4 | 20¾ | 2⅜ | 3/16 | | | | | | | |
| 1919 | K-40-45-50-60 | Foot | 4 | 20¾ | 2⅞ | 3/16 | | | | | | | |
| 1920 | K-31 and 35 | I | 8 | 16¾ | 1⅞ | 3/16 | | | | | | | |
| 1920 | K-40-45-50-60 | Hand | 4 | 21 | 2⅜ | 3/16 | | | | | | | |
| 1920 | K-40-45-50-60 | Foot | 4 | 21 | 2⅞ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **King** | | | | | | | | | | | | | |
| 1916 | E | Serv. | 2 | 41 | 2 | 5/32 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1917 | EE First 1000 | Emer. | 1 | 18¾ | 2 | ⅛ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | EE Over 1000 | Serv. | 2 | 45 | 2 | 5/32 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1918 | F | Emer. | 2 | 43 1/16 | 1¾ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | G | I | 2 | 43 1/16 | 1¾ | 5/32 | D | 4 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1919 | G | E | 2 | 45 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | G Last 500 | I | 2 | 46⅝ | 2¼ | 5/32 | D | 4 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1919 | G Last 500 | E | 2 | 48 | 2½ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | H | I | 2 | 46⅝ | 2¼ | 5/32 | D | 4 | 9 | 5¾ | ⅛ | ..... | ..... |
| 1920 | H | E | 2 | 48 | 2½ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **King Truck** | | | | | | | | | | | | | |
| 1917-18 | 3½ Ton | R.Whl. | 4 | 22 | 3½ | ¼ | D | 20 | 8 | 6 | ⅛ | ..... | ..... |
| 1917-18 | 3½ Ton | Jk.Shft | 2 | 27 | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Kissel Kar** | | | | | | | | | | | | | |
| 1916 | ..... | Both | 4 | 34½ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 100 Pt. 6 | | | | | | | | | | | | |
| 1918-19 | Custom Built 6 | E | 4 | 44¼ | 2 | 3/16 | D | 12 | 8 | 7 | ⅛ | ..... | ..... |
| **Kleiber Truck** | | | | | | | | | | | | | |
| 1917-18-19-20 | ¾ Ton | I | 4 | 11¾ | ¾ | ¼ | D | 10 | 8½ | 6¼ | ⅛ | ..... | ..... |
| 1917-18-19-20 | A-1½ Ton | I | 2 | 46 7/16 | 3 | 3/16 | D | 10 | 8½ | 6¼ | ⅛ | ..... | ..... |
| 1917-18-19-20 | A-1½ Ton | E | 2 | 46 9/16 | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | B-2½ Ton | I | 2 | 46 7/16 | 3 | 3/16 | D | 14 | 8½ | 6¼ | ⅛ | ..... | ..... |
| 1917-18-19-20 | B-2½ Ton | E | 2 | 46 9/16 | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | C-3½ Ton | I | 4 | 56⅞ | 2½ | ¼ | Metal Disc. | | | | | | |
| 1917-18-19-20 | D-5 Ton | I | 4 | 68¾ | 3 | ¼ | Metal Disc. | | | | | | |
| **Koehler** | | | | | | | | | | | | | |
| 1919-20 | M | ..... | 8 | 13 | 3½ | ¼ | D | 10 | 8½ | 6¼ | 5/32 | ..... | ..... |
| 1919-20 | C | E | 2 | 46½ | 2½ | 3/16 | D | 10 | 8 | 6 | ⅛ | ..... | ..... |
| 1919-20 | C | I | 2 | 45 | 2¼ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **La Fayette** | | | | | | | | | | | | | |
| 1920 | ..... | I | 2 | 51 11/16 | 2½ | 3/16 | D | 13 | 7¾ | 5¾ | .130 to.140 | ..... | ..... |
| 1920 | ..... | E | 2 | 54 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Lange Truck** | | | | | | | | | | | | | |
| ..... | B-1, 1½, 2, 2½ Ton | Serv. | 2 | 29 | 2 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | C-1, 1½, 2, 2½ Ton | Emer. | 4 | 18 | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Larrabee Deyo** | | | | | | | | | | | | | |
| 1916 | 1½ and 2 T. | Both | 4 | 48 | 3 | ¼ | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1917 | M-1 Ton | I | 4 | 48 | 2 | ¼ | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1917 | O & P 2½ T. | I | 4 | 54 | 2¼ | ¼ | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1917 | R & S 3½ T. | I | 4 | 60 | 2½ | ¼ | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1918-19-20 | T-5 Ton | I | 4 | 72 | 3 | ¼ | D | 16 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Larrabee Deyo—Con.** | | | | | | | | | | | | | |
| 1918-19-20 | A & B 3½ T. | I | 4 | 60 | 2½ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1918-19-20 | C & D 2½ T. | I | 4 | 54 | 2¼ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1918-19-20 | U 1½ Ton | I | 4 | 48 | 2 | ¼ | D | 8 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| **Lexington** | | | | | | | | | | | | | |
| 1917-18 | 6-0 | I | 2 | 33 | 1¾ | ⅛ | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1917-18 | 6-0 | E | 2 | 35 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 6-0 | I | 2 | 33 | 1¾ | ⅛ | D | 12 | 8⅜ | 6⅜ | 5/32 | ..... | ..... |
| 1917 | 6-0 | E | 2 | 35 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 6-P | I | 2 | 45½ | 2½ | 5/32 | C | 1 | 13 25/32 | ..... | 3/16 | 3 | 12° |
| 1917 | 6-P | E | 2 | 48 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 4-H | I | 8 | 15½ | 1¾ | 5/32 | D | 8 | 8⅜ | 6⅜ | 5/32 | ..... | ..... |
| 1917 | 4-K, 6-L, 6-N | I | 8 | 15½ | 1¾ | 5/32 | D | 10 | 8⅜ | 6⅜ | 5/32 | ..... | ..... |
| 1918 | 6-0 | I | 2 | 38 | 2 | 5/32 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1919 | ..... | E | 1 | 24 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | ..... | I | 2 | 45 | 2 | 5/32 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1920 | ..... | E | 1 | 24 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Liberty** | | | | | | | | | | | | | |
| 1917 | 10-A | Tns.E. | 1 | 23 3/16 | 2½ | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1918-19 | 10-B | E | 2 | 37 3/16 | 1 15/16 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 10-C | Trans.E | 1 | 20 3/16 | 1¾ | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1920 | 10-C | E | 2 | 23 3/16 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Locomobile** | | | | | | | | | | | | | |
| 1916-17 | R-38, M-48 | I | 4 | 14½ | 2½ | 3/16 | D | 16 | 7.70 | 6.38 | .125 | ..... | ..... |
| 1916-17 | R-38, M-48 | E | 2 | 48⅝ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | R-38, M-48 | I | 4 | 14½ | 2½ | 3/16 | D | 11 | 10.781 | 8¼ | .125 | ..... | ..... |
| 1918 | R-38, M-48 | E | 2 | 48⅝ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | M-48 | I | 4 | 14½ | 2½ | 3/16 | D | 10 | 10.781 | 8¼ | .135 | ..... | ..... |
| 1919-20 | M-48 | E | 2 | 48⅝ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Locomobile Truck** | | | | | | | | | | | | | |
| 1916 | Riker | I | 4 | 20 | 4 | 3/16 | C | 1 | 18⅝ | ..... | 3/16 | 2½ | 10° |
| 1916 | B & BB | E | 2 | 7½ | 4½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | Riker | I | 4 | 20 | 4 | 3/16 | C | 1 | 18 13/16 | ..... | 3/16 | 2½ | 12° |
| 1917-18-19-20 | B & BB | E | 2 | 7½ | 4½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Louisiana Pass** | | | | | | | | | | | | | |
| 1916-17-18-19 | All | Both | 4 | 43 | 2 | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| **Louisiana Truck** | | | | | | | | | | | | | |
| 1919 | L.M.C. 2-20 | I | 2 | 47 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 2½ Ton | E | 2 | 48½ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **McFarlan** | | | | | | | | | | | | | |
| 1916 | All | I | 2 | 48 | 1⅞ | 3/16 | C | 1 | 13 15/16 | ..... | ¼ | 3 | 12½° |
| 1916 | All | E | 2 | 51 | 2⅜ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19 | All | I | 2 | 49½ | 2½ | 3/16 | D | ..... | 11¾ | 10 | ⅛ | ..... | ..... |
| 1917-18-19 | All | E | 2 | 54 | 2½ | 7/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | All | I | 2 | 49½ | 2½ | 3/16 | D | ..... | 11¾ | 6¾ | ⅛ | ..... | ..... |
| 1920 | All | E | 2 | 54 | 2½ | 7/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1921 | All | I | 2 | 46⅜ | 2½ | 3/16 | D | ..... | 11¾ | 6¾ | ⅛ | ..... | ..... |
| 1921 | All | E | 2 | 50⅞ | 2½ | 7/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Maccar Truck** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | L-1½ Ton. | ..... | 8 | 11 5/16 | 3¼ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | H-2½ Ton | ..... | 8 | 13 | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | M-3½ Ton | ..... | 8 | 15⅛ | 3¾ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18 | U-5½ Ton | ..... | 8 | 17¾ | 4 | ¼ | D | 16 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1919-20 | G-5 Ton | | | | | | | | | | | | |
| 1920 | S-1 Ton | ..... | 8 | 11 | 3 | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| **Mack Truck** | | | | | | | | | | | | | |
| 1911 | Jr., 1, 1½ & 2 Ton | Emer. | 2 | 36 | 2½ | 3/16 | D | 1 | 6 3/16 | 4 3/16 | 3/16 | ..... | ..... |
| 1911 | Jr., 1, 1½ & 2 Ton | Cntr. Shft. | 2 | 32 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1912 | Jr., 1, 1½ & 2 Ton | Emer. Cntr. | 2 | 41 | 2½ | 3/16 | D | 1 | 6 3/16 | 4 3/16 | 3/16 | ..... | ..... |
| 1912 | Jr., 1, 1½ & 2 Ton | Shft. | 4 | 14¼ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1911-12 | Sr., 3, 4, 5, 7½ Ton | Emer. | 4 | 19½ | 3½ | 3/16 | ..... | 13 | 5¼ Lg. | .... | 3/16 | 2 | ..... |
| 1911-12 | Sr., 3, 4, 5, 7½ Ton | Cntr. Shft. | 4 | 14 | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17 | Saurer | Diff. | 2 | 15 | 3½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Mack Chain Drive** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | AB-1½ & 2T | Serv. | 2 | 12¼ | 4 | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | AB-1½ & 2T | Emer. | 4 | 16½ | 2½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Mack Worm Drive** | | | | | | | | | | | | | |
| 1916-17-18-19 | AB-1 Ton | I | 2 | 44¾ | 2½ | 3/16 | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19 | AB-1 Ton | E | 2 | 48¾ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19-20 | AB-1 Ton | Duplex | 8 | 12 | 3¼ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19 | AB-2 Ton | I | 2 | 43¾ | 2¾ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916-17-18-19 | AB-2 Ton | E | 2 | 52½ | 2¾ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-29-20 | AB-2 Ton | Duplex | 8 | 13½ | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1920 | AB-1, 1½ & 2 Ton | Duplex | 4 | 49 5/8 | 2¼ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| **Mack Chain** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | AC-3½, 5, | Jk.Sh. | 4 | 16⅛ | 3 | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| | 5½,6½,7½T | Emer. | 4 | 20½ | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Maibohm** | | | | | | | | | | | | | |
| 1916-17-18 | A | I | 1 | 29 | 1 5/8 | 5/32 | D | 8 | 8 | 6 | ⅛ | ..... | ..... |
| 1916-17-18 | A | E | 1 | 27⅛ | 1 5/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | B | I | 1 | 35¼ | 1¾ | 5/32 | D | 2 | 7 5/8 | 5 5/16 | ⅛ | ..... | ..... |
| 1918-19 | B | E | 1 | 37 7/16 | 1¾ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | B | I | 1 | 35¼ | 1¾ | 5/32 | D | 2 | 9 11/16 | 6 11/16 | ⅛ | ..... | ..... |
| 1920 | B | E | 1 | 37 7/16 | 1¾ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Marmon** | | | | | | | | | | | | | |
| 1916 | 34 | I | 2 | 47⅛ | 1½ | 3/16 | C | 1 | 14 11/32 | 13 13/32 | 5/32 | 2½ | 12½° &14° |
| 1916 | 34 | E | 2 | 54 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19 | 34 | I | 2 | 47⅛ | 1½ | 3/16 | C | 1 | 14 15/32 | 13 17/64 | 5/32 | 2½ | 14° |
| 1917-18-19 | 34 | E | 2 | 54 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 34 | I | 2 | 47⅛ | 1½ | 3/16 | D | 18 | 7¾ | 5¾ | ⅛ | ..... | ..... |
| 1920 | 34 | E | 2 | 54 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Maxim Fire Truck** | | | | | | | | | | | | | |
| 1916-17-18 | All | I | 4 | 48 7/8 | 2¼ | ¼ | D | 2 | 11 7/8 | 8 3/8 | ⅛ | ..... | ..... |
| 1919-20 | All | I | 4 | 48 7/8 | 2¼ | ¼ | D | 2 | 11 7/8 | 6 7/8 | ⅛ | ..... | ..... |
| **Maxwell Touring** | | | | | | | | | | | | | |
| 1916-17 | 25 | Serv. | 2 | 34 7/8 | 1¼ | 3/16 | | | | | | | |
| 1916-17 | 25 | Emer. | 4 | 15 | 1¼ | 3/16 | | | | | | | |
| 1918 | 25 | Serv. | 2 | 34 7/8 | 1½ | 3/16 | C | 1 | 11 55/64 | 11 5/16 | 3/16 | 1¾ | 9° |
| 1918 | 25 | Emer. | 4 | 15 | 1¼ | 3/16 | Use | Same | e Dis | c. All | Mod | els. | |
| 1919-20 | 25 | Serv. | 2 | 38⅜ | 1½ | 3/16 | | | | | | | |
| 1919-20 | 25 | Emer. | 1 | 19½ | 1¾ | 3/16 | | | | | | | |
| **Maxwell Truck** | | | | | | | | | | | | | |
| 1917-18-19-20 | ..... | Both | 16 | 16 | 1¾ | 3/16 | | | | | | | |
| **Menominee** | | | | | | | | | | | | | |
| 1916 | E | I | 2 | 49 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | E | E | 2 | 53½ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17 | EW-H-D | | | | | | | | | | | | |
| 1917 | FW | ..... | 8 | 12 | 3¼ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | H. T. | | | | | | | | | | | | |
| 1918-19 | H.-D. | ..... | 8 | 12 | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17 | G | ..... | 8 | 13½ | 3¼ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | J | ..... | 8 | 18½ | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | G | ..... | 8 | 18½ | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | J | ..... | 8 | 16 | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Mercer** | | | | | | | | | | | | | |
| 1916 | 22-72 | R.Whl | 2 | 47 | 2½ | 3/16 | D | 22 | 5.82 | 4 1/16 | ⅛ | ..... | ..... |
| 1917 | 22-73 | Trans. | 2 | 12 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | Ser. 4 | R.Whl. | 4 | 17⅜ | 2½ | 3/16 | D | 22 | 5.82 | 4 1/16 | ⅛ | ..... | ..... |
| 1918-19 | Ser. 4 | Trans. | 2 | 12 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | Ser. 5 | R.Whl. | 4 | 17⅜ | 2½ | 3/16 | D | 22 | 5⅞ | 3.9375 | ⅛ | ..... | ..... |
| 1919 | Ser. 5 | Trans. | 2 | 12 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Metz** | | | | | | | | | | | | | |
| 1916-17-18 | All | I | 2 | 13⅜ | 1¾ | 5/32 | Fric | tion | Drive | . | | | |
| 1916-17-18 | All | E | 1 | 30¼ | 1¾ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | Master Six | Both | 4 | 43 | 1¾ | 3/16 | D | 2 | 9 5/8 | 6½ | ⅛ | ..... | ..... |
| **Milburn** | | | | | | | | | | | | | |
| 1916-17 | 15-151 | I | 2 | 34¼ | 1¾ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17 | 15-151 | E | 2 | 32⅞ | 1¾ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 22 | I | 2 | 34 5/8 | 1½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | All | E | 2 | 34⅛ | 1½ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 27-L | I | 2 | 35¾ | 1½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 27-L | E | 2 | 34⅛ | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Militaire** | | | | | | | | | | | | | |
| 1916-17 | S | I | 2 | 6 5/8 | 1 | ⅛ | D | 4 | 5¾ | 4 | ⅛ | ..... | ..... |
| 1916-17 | S | E | 1 | 19⅜ | 1 | ⅛ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | L | Serv. | 2 | 23¼ | 2 | 7/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Militaire--Con.** | | | | | | | | | | | | | |
| 1920 | L | Emer. | 2 | 29 3/8 | 1 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | L | Clutch Brake | 1 | 4 15/16 | 1 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | T.T. | Serv. | 5 | 13 1/8 | 4 1/2 | 1/4 | C | 1 | 6 1/8 | 4 1/8 | 3/16 | 1 | 15° |
| **Mitchell** | | | | | | | | | | | | | |
| 1916 | C-42 | I | 1 | 40 | 1 1/2 | 3/16 | C | 3 | 14 | ..... | 3/16 | 2 1/2 | 10° |
| 1916 | C-42 | E | 1 | 44 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | C-42 | I | 1 | 40 | 1 1/2 | 3/16 | C | 3 | 14 | ..... | 3/16 | 2 1/2 | 10° |
| 1917-18 | C-42 | E | 1 | 39 1/2 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | D-40 | I | 1 | 35 1/2 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | D-40 | E | 1 | 38 1/2 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | E-40, E-42 | I | 1 | 40 | 1 1/2 | 3/16 | D | 2 | 9 11/16 | 6 11/16 | 1/8 | ..... | ..... |
| 1920 | E-40 | E | 1 | 39 1/2 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Moline Knight** | | | | | | | | | | | | | |
| 1918-19 | L | I | 1 | 40 | 2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1918-19 | L | E | 1 | 42 1/2 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Monroe** | | | | | | | | | | | | | |
| 1915-16-17 | All | Both | 4 | 28 | 1 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | S-9 Tour. | I | 2 | 31 1/4 | 1 3/4 | 5/32 | D | 4 | 8 | 6 | .122 to.127 | ..... | ..... |
| 1919-20 | S-10 Road. | E | 2 | 35 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Moon** | | | | | | | | | | | | | |
| 1919 | Victory | I | 2 | 41 | 1 1/2 | 3/16 | D | 2 | 9 7/8 | 6 3/4 | 1/8 | ..... | ..... |
| 1920 | 648 | E | 2 | 41 | 1 3/4 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 666 | I | 2 | 37 | 2 | 3/16 | D | 2 | 9 7/8 | 6 3/4 | 1/8 | ..... | ..... |
| 1920 | 668 | E | 2 | 42 1/2 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Moore** | | | | | | | | | | | | | |
| ..... | ..... | I | 2 | 35 1/4 | 1 3/4 | 3/16 | D | 2 | 9 | 5 5/8 | 1/8 | ..... | ..... |
| ..... | ..... | E | 2 | 37 7/16 | 1 3/4 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Moreland Truck** | | | | | | | | | | | | | |
| 1916-17 | 16-N-3/4 T. | I | 8 | 10 1/4 | 2 | 3/16 | D | 8 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1916-17-18 | 16-D-1 T. | I | 8 | 12 | 3 1/4 | 1/4 | D | 8 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1916-17 | 15-B-1 1/2 T. 15-C-2 1/2 T. | I | 8 | 12 | 3 1/4 | 1/4 | D | 12 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1918 | 15-B-1 1/2 T. | | | | | | | | | | | | |
| 1919 | 19-B-1 1/2-T. | | | | | | | | | | | | |
| 1920 | 20-B-1 1/2 T. | | | | | | | | | | | | |
| 1916-17 | 15-G-4-T | I | 8 | 13 1/2 | 3 3/4 | 1/4 | D | 16 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1918 | 18-G-4 T. | | | | | | | | | | | | |
| 1916-17-18 | 16-J-5 T. | | | | | | | | | | | | |
| 1918 | 17-J-5 T. | | | | | | | | | | | | |
| 1918 | 18-J-5 T. | I | 8 | 18 | 4 | 1/4 | D | 16 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1919 | 19-J-5 T. | | | | | | | | | | | | |
| 1920 | 20-J-5 T. | | | | | | | | | | | | |
| 1918 | 15-C-2 1/2 T. | | | | | | | | | | | | |
| 1919 | 19-C-2 1/2 T. | I | 8 | 13 1/2 | 3 1/2 | 1/4 | D | 12 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1920 | 20-C-2 1/2 T. | | | | | | | | | | | | |
| 1918 | 15-G-4 T. | | | | | | | | | | | | |
| 1919 | 19-G-3 1/2 T. | I | 8 | 16 | 3 3/4 | 1/4 | D | 16 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1920 | 20-G-3 1/2 T. | | | | | | | | | | | | |
| 1917-18 | 17-N-1 1/2 T. | I | 8 | 12 | 3 1/2 | 1/4 | D | 8 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1917-18 | 17-B-1 1/2 T. | I | 8 | 12 | 3 1/2 | 1/4 | D | 12 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1918 | 17-C-2 1/2 T. | | | | | | | | | | | | |
| 1919 | 19-N-1 T. | I | 8 | 11 | 3 | 1/4 | D | 8 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1920 | 20-N-1 T. | | | | | | | | | | | | |
| **Muskegon Truck** | | | | | | | | | | | | | |
| 1918-19-20 | 20 | I | 1 | 52 | 2 1/4 | 3/16 | D | 12 | 8 | 6 | 5/32 | ..... | ..... |
| 1918-19-20 | 20 | E | 1 | 54 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Nash** | | | | | | | | | | | | | |
| 1916-17 | 671 | Wheel | 2 | 40 11/16 | 2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1916-17 | 671 | Trans. | 1 | 20 7/16 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17 | 2017 | Wheel | 2 | 49 1/8 | 2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1916-17 | 2017 | Trans. | 1 | 20 7/16 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17 | 3017 | Wheel | 2 | 50 5/8 | 3 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1916-17 | 3017 | Trans. | 1 | 20 7/16 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17 | 4016-17 | Wheel | 4 | 49 1/4 | 2 1/2 | 1/4 | D | 2 | 11 7/8 | 8 3/8 | 1/8 | ..... | ..... |
| 1916-17 | 4016-17 | Trans. | 1 | 25 7/16 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | 681 to 687, inc. | Wheel | 2 | 40 13/32 | 2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1918-19-20 | 681 to 687, inc. | Trans. | 1 | 18 11/16 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | 2018 | Wheel | 2 | 49 1/8 | 2 | 3/16 | D | 2 | 11 7/8 | 8 3/8 | 1/8 | ..... | ..... |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Nash—Cont.** | | | | | | | | | | | | | |
| 1918-19-20 | 2018 | Trans. | 1 | 20 7/16 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | 3018 | Wheel | 2 | 50 5/8 | 3 | 3/16 | D | 2 | 11 7/8 | 8 3/8 | 1/8 | ..... | ..... |
| 1918-19-20 | 3018 | Trans. | 1 | 20 7/16 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 4 Cyl. | Wheel | 2 | 37 | 2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1920 | 4 Cyl. | Trans. | 1 | 18 11/16 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **National** | | | | | | | | | | | | | |
| 1916 | AC-AD | I | 1 | 43 1/16 | 1 3/4 | 5/32 | C | 1 | 14 9/32 | ..... | 3/16 | 2 1/2 | 10° |
| 1917 | AE-AH | E | 1 | 45 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | AF-AK | | | | | | | | | | | | |
| 1919 | AL-AM | I | 1 | 43 1/16 | 1 3/4 | 5/32 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1919 | AL-AM | E | 1 | 15 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | BB | I | 1 | 16 5/8 | 2 1/4 | 5/32 | D | 2 | 11 3/16 | 8 1/16 | 1/8 | ..... | ..... |
| 1920 | BB | E | 1 | 48 | 2 1/2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Nelson Pass.** | | | | | | | | | | | | | |
| 1918 | C | I | 4 | 36 | 1 1/4 | 5/32 | D | 14 | 3 1/2 | 1 5/8 | 3/32 | ..... | ..... |
| 1919 | D | | | | | | | | | | | | |
| 1920 | E | I | 4 | 36 | 1 1/4 | 5/32 | D | 10 | 6 | 4 | 1/8 | ..... | ..... |
| **Nelson & LE Moon** | | | | | | | | | | | | | |
| 1917 | E-1 | I | 1 | 46 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | E-1 | E | 1 | 49 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | E-2 | I | 1 | 45 | 2 3/4 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | E-2 | E | 1 | 52 | 2 3/4 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | E-3 | I | 4 | 12 | 3 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | E-1, E-2 | I | 4 | 12 | 3 1/4 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | F-1 | | | | | | | | | | | | |
| 1919 | F-2 | I | 4 | 13 1/2 | 3 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | F-3 | I | 4 | 16 1/2 | 3 3/4 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | F-5 | I | 4 | 18 | 4 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Netco Truck** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | D | I | 4 | 12 | 3 1/4 | 1/4 | D | 12 | 8 1/2 | 6 1/4 | 1/8 | ..... | ..... |
| 1917 | E | | | | | | | | | | | | |
| 1918-19-20 | II | I | 4 | 13 1/4 | 3 1/2 | 1/4 | D | 12 | 8 1/2 | 6 1/4 | 1/8 | ..... | ..... |
| **Niles Truck** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | All | E | 8 | 12 | 3 1/4 | 1/4 | D | 2 | 11 7/8 | 8 7/8 | 1/8 | ..... | ..... |
| **Northwestern Truck** | | | | | | | | | | | | | |
| 1917 | A | I | 2 | 42 | 2 3/4 | 3/16 | C | 1 | 15 3/4 | 14 3/4 | 1/4 | 2 1/2 | 15° |
| 1917 | A | E | 2 | 42 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | W | I | 2 | 48 | 3 | 3/16 | C | 1 | 15 3/4 | 14 3/4 | 1/4 | 2 1/2 | 15° |
| 1918-19 | W | E | 2 | 48 | 3 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | W | I | 4 | 52 | 2 1/4 | 1/4 | C | 1 | 15 3/4 | 14 3/4 | 1/4 | 2 1/2 | 15° |
| **Oakland** | | | | | | | | | | | | | |
| 1916 | 32 | I | 2 | 34 9/16 | 1 1/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | 32 | E | 2 | 36 | 1 5/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | 50 | I | 2 | 40 15/16 | 1 5/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | 50 | E | 2 | 43 7/16 | 1 7/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | 38 | I | 2 | 37 3/8 | 1 3/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | 38 | E | 2 | 35 1/4 | 1 7/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 34 | I | 2 | 35 | 1 5/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 34 | E | 2 | 34 3/4 | 1 7/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 32B | I | 2 | 35 | 1 5/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 32B | E | 2 | 35 1/4 | 1 7/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | 34B | I | 2 | 35 3/8 | 1 5/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 34C | E | 2 | 35 1/8 | 1 7/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Oldsmobile** | | | | | | | | | | | | | |
| 1916 | 43 | I | 2 | 34 3/4 | 1 3/8 | 5/32 | C | ..... | 12 1/2 | ..... | 7/32 | 2 1/2 | 11° |
| 1916 | 43 | E | 2 | 35 3/4 | 1 7/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | 44 | I | 2 | 35 | 1 5/8 | 5/32 | C | ..... | 13 3/16 | ..... | 7/32 | 2 1/4 | 11° |
| 1917 | 45 | E | 2 | 38 1/8 | 1 7/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | 37 | I | 2 | 35 | 1 5/8 | 5/32 | C | ..... | 12 1/4 | ..... | 7/32 | 1 1/2 | 11° |
| 1919 | 37-A | E | 2 | 38 1/8 | 1 7/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | 45-A | I | 2 | 40 15/16 | 1 5/8 | 5/32 | C | ..... | 13 3/16 | ..... | 7/32 | 2 1/4 | 11° |
| 1920 | 45-B | E | 2 | 43 1/16 | 1 7/8 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Oldsmobile Truck** | | | | | | | | | | | | | |
| 1919 | T | I | 2 | 11 1/16 | 2 | 5/32 | C | ..... | Long 40 | ..... | 3/16 | 2 | 12° |
| 1919 | T | E | 2 | 12 1/4 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Overland** | | | | | | | | | | | | | |
| 1916 | 83-83-B | | | | | | | | | | | | |
| 1917-18 | 83B-O. E. | I | 4 | 10 3/16 | 2 1/4 | 3/16 | C | 1 | 13 7/8 | 13 1/16 | 3/16 | 2 | 11 1/2 |
| 1917-18 | 85-85-6 | E | 2 | 41 | 2 1/4 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19 | 80 | | | | | | | | | | | | |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Overland—Cont.** | | | | | | | | | | | | | |
| 1916-17 | 75-75-B | I | 4 | 12½ | 1¾ | 3/16 | C | 1 | 11 27/32 | 11 1/32 | 3/16 | 2 | 11½° |
| 1917-18-19 | 90-90-B | E | 2 | 38 | 1¾ | 3/16 | | | | | | | |
| 1917-18-19 | Truck 86 | | | | | | | | | | | | |
| 1916 | | | | | | | | | | | | | |
| 1917 | 86-B-88-6 | I | 4 | 13 | 2¼ | 3/16 | C | 1 | 13 7/8 | 13 1/16 | 3/16 | 2 | 11½° |
| 1916 W. K. | 84 | E | 2 | 44 | 2¼ | 3/16 | | | | | | | |
| 1917-18-19 W. K. | 88-4-88-8 | | | | | | | | | | | | |
| **Packard Pass.** | | | | | | | | | | | | | |
| 1916 | 125 and 135 | I | 2 | 47½ | 2 | 3/16 | D | 12 | 8 | 6 | 11/64 | | |
| 1916 | 125 and 135 | E | 2 | 53 3/32 | 2½ | ¼ | | | | | | | |
| 1917 | 225 and 235 | I | 2 | 47 | 2½ | ¼ | D | 12 | 8 | 6 | 11/64 | | |
| 1918-19-20 | 325 and 335 | E | 2 | 53 3/32 | 2½ | ¼ | | | | | | | |
| **Packard Truck** | | | | | | | | | | | | | |
| 1916-17-18-19 | 1-1½-2-E | Hand | 4 | 14 | 2 | 5/16 | D | 10 | 8 | 6 | 3/16 | | |
| 1916-17-18-19 | 1-1½-2-E | Foot | 4 | 7 13/16 | 4¾ | ¼ | | | | | | | |
| 1916-17-18-19 | 3-E | Hand | 4 | 17 | 3 | 5/16 | D | 14 | 8 | 6 | 3/16 | | |
| 1916-17-18-19 | 3-E | Foot | 2 | 9 9/16 | 4¾ | ¼ | | | | | | | |
| 1916-17-18-19 | 4-E | Hand | 4 | 18¾ | 3 | 5/16 | D | 14 | 8 | 6 | 3/16 | | |
| 1916-17-18-19 | 4-E | Foot | 2 | 9 9/16 | 4¾ | ¼ | | | | | | | |
| 1916-17-18-19 | 5-6-E | Hand | 4 | 18¾ | 3½ | 5/16 | D | 14 | 8 | 6 | 3/16 | | |
| 1916-17-18-19 | 5-6-E | Foot | 2 | 9 9/16 | 6½ | ¼ | | | | | | | |
| **Paige Pass.** | | | | | | | | | | | | | |
| 1916 | 6-46 | Serv. | 2 | 44 | 2 | 3/16 | D | | 9 7/8 | 6 7/8 | 1/8 | | |
| 1916-17-18-19 | 6-55 | Emer. | 2 | 42 | 2 | 3/16 | | | | | | | |
| 1917 | 6-51 | | | | | | | | | | | | |
| 1918-19 | 6-51 | Serv. | 2 | 37 1/8 | 2 | 5/32 | D | | 9 7/8 | 6 7/8 | 1/8 | | |
| 1918-19 | 6-51 | Emer. | 2 | 35¼ | 2 | 5/32 | | | | | | | |
| 1917-18 | 6-39 | Serv. | 2 | 38 | 2 | 3/16 | D | | 9 7/8 | 6 7/8 | 1/8 | | |
| 1917-18 | 6-39 | Emer. | 2 | 35¼ | 2 | 5/32 | | | | | | | |
| **Paige Truck** | | | | | | | | | | | | | |
| 1919-20 | 50-18 | I | 4 | 13 3/16 | 3½ | ¼ | | | | | | | |
| 1919-20 | 50-18 | I | 1 | 48 7/8 | 2¼ | ¼ | D | | 8 7/16 | 6¼ | 5/32 | | |
| 1919-20 | 51-18 | I | 4 | 15 5/8 | 3¾ | ¼ | | | | | | | |
| **Pan American** | | | | | | | | | | | | | |
| 1920 | | I | 1 | 40 | 2 | ¼ | D | 2 | 9 11/16 | 6 11/16 | 1/8 | | |
| 1920 | | E | 1 | 45 | 2 | ¼ | | | | | | | |
| **Parker** | | | | | | | | | | | | | |
| 1919 | F-9-C. & W. | I | 4 | 17½ | 2½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | | |
| 1919 | F-9-C. & W. | E | 2 | 10¾ | 5 | ¼ | | | | | | | |
| 1919 | J-9 | I | 4 | 19 | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | | |
| 1920 | J-20 | E | 2 | 10¾ | 5 | ¼ | | | | | | | |
| 1919 | M-9 | I | 8 | 18 | 4 | ¼ | D | 16 | 8 7/16 | 6¼ | 5/32 | | |
| 1919 | M-9 | E | 2 | 10¾ | 5 | ¼ | | | | | | | |
| 1920 | F-20 | I | 4 | 19 | 2½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | | |
| 1920 | F-20 | E | 2 | 10¾ | 5 | ¼ | | | | | | | |
| 1920 | M-20 | I | 4 | 24½ | 4 | ¼ | D | 16 | 8 7/16 | 6¼ | 5/32 | | |
| 1920 | M-20 | E | 2 | 10¾ | 5 | ¼ | | | | | | | |
| **Peerless** | | | | | | | | | | | | | |
| 1916-17-18-19 | 56 Ser. 1, 2, 3, 4, 5 | I | 2 | 38¾ | 2 | 3/16 | D | 10 | 8 7/16 | 6¼ | 5/32 | | |
| | | E | 2 | 43¾ | 2 | 3/16 | | | | | | | |
| 1920 | 56-Ser. 6 | I | 2 | 38¾ | 2¼ | 3/16 | D | 10 | 8 7/16 | 6¼ | 5/32 | | |
| 1920 | 56-Ser. 6 | E | 4 | 19¼ | 2¼ | 3/16 | | | | | | | |
| 1916-17-18 | 3-4 T | I | 2 | 37 1/8 | 4 | ¼ | | | | | | | |
| 1916-17-18 | 3-4T | E | 4 | 20 | 3¼ | 11/32 | | | | | | | |
| 1916-17-18 | 5-6T | I | 2 | 37 1/8 | 4 | ¼ | | | | | | | |
| 1916-17-18 | 5-6T | E | 4 | 23 27/32 | 3¾ | 3/8 | | | | | | | |
| **Pierce Arrow Truck** | | | | | | | | | | | | | |
| 1916-17 | R-8 5 T. | I | 4 | 18 | 4¾ | 7/32 | C | 1 | 17½ | | 3/16 | 2½ | 12° |
| 1918-19 | R-9 5 T. | E | 2 | 7¼ | 3½ | 3/16 | | | | | | | |
| 1916-17 | X-3 2 T. | I | 4 | 18 13/16 | 3 | 3/16 | C | 1 | 15¾ | | 3/16 | 2 11/16 | 12° |
| 1918-19 | X-4 2 T. | E | 2 | 8 9/64 | 5 | 3/16 | | | | | | | |
| **Pilot** | | | | | | | | | | | | | |
| 1916-17-18 | 6/45 | I | 2 | 33¼ | 2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | | |
| 1916-17-18 | 6/45 | E | 2 | 32¾ | 1¾ | 3/16 | | | | | | | |
| 1919-20 | 6/45 | I | 2 | 41½ | 1¾ | 5/32 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | | |
| 1919-20 | 6/45 | E | 2 | 44½ | 2 | 5/32 | | | | | | | |
| **Premier** | | | | | | | | | | | | | |
| 1916 | 6/51 | I | 2 | 44¾ | 2½ | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | | |
| 1916 | 6/51 | E | 2 | 49 3/8 | 2½ | 3/16 | | | | | | | |
| 1917 | 6-B | I | 2 | 40¼ | 2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | | |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Premier**—Cont. | | | | | | | | | | | | | |
| 1917 | 6-B | E | 2 | 43¾ | 2 | 3/16 | | | | | | | |
| 1918-19 | 6-C | I | 2 | 38¾ | 2 | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | | |
| 1918-19 | 6-C | E | 2 | 43¾ | 2 | 3/16 | | | | | | | |
| 1920 | 6-D | I | 4 | 19 9/16 | 2¼ | 5/32 | D | 2 | 9⅞ | 6⅞ | ⅛ | | |
| 1920 | 6-D | E | 2 | 49⅝ | 2¼ | 5/32 | | | | | | | |
| **Reading Standard M/C** | | | | | | | | | | | | | |
| 1917-18-19-20 | All | I | 1 | 15⅞ | ⅞ | 3/16 | | | | | | | |
| 1917-18-29-20 | All | E | 1 | 17⅜ | 1 | 3/16 | | | | | | | |
| **Reliance** | | | | | | | | | | | | | |
| 1919 | 10-1½ T. | I | 8 | 15 | 2 | 3/16 | | | | | | | |
| 1920 | 10-A-1½ T. | | | | | | | | | | | | |
| 1919 | 20-2½ T. | I | 8 | 15 | 2 | 3/16 | D | 14 | 8 | 6 | 5/32 | | |
| 1920 | 20-A-2½ T. | | | | | | | | | | | | |
| **Reo** | | | | | | | | | | | | | |
| 1916-17—Truck | F | I | 2 | 38 13/16 | 2 | 3/16 | D | 14 | 6⅝ | 5⅛ | ⅛ | | |
| 1916-17—Passenger | M-N | E | 2 | 43 | 2¼ | 3/16 | | | | | | | |
| 1916-17 | J | Jkshft. | 2 | 33½ | 2 | 3/16 | D | 14 | 6⅝ | 5⅛ | ⅛ | | |
| 1916-17 | J | Hub | 2 | 52 | 3 | ¼ | | | | | | | |
| 1919-20 | T-6 | I | 2 | 39 | 2 | 3/16 | D | 14 | 6⅝ | 5⅛ | ⅛ | | |
| 1919-20 | T-6 | E | 2 | 43 | 2 | 3/16 | | | | | | | |
| 1919-20 | F 20 | I | 4 | 15¾ | 2 | 3/16 | D | 14 | 6⅝ | 5⅛ | ⅛ | | |
| 1919-20 | F 20 | E | 2 | 43 | 2¼ | 3/16 | | | | | | | |
| **Republic Truck** | | | | | | | | | | | | | |
| 1917-18 | 9-9S | Serv. | 2 | 42¼ | 2 | 5/32 | D | 8 | 8⅜ | 6⅜ | 5/32 | | |
| 1917-18 | 9-9S | Emer. | 1 | 29⅝ | 3 | 3/16 | | | | | | | |
| 1917-18-19 | 10 | Serv. | 2 | 45 | 2½ | 5/32 | D | 10 | 8 | 6 | 5/32 | | |
| 1917 | 11 | Emer. | 2 | 43 1/16 | 2¼ | 5/32 | | | | | | | |
| 1919 | 16 | | | | | | | | | | | | |
| 1917 | 12 | Serv. | 2 | 54 9/16 | 2½ | 3/16 | D | 14 | 8 | 6 | 5/32 | | |
| 1917 | 12 | Emer. | 2 | 52⅛ | 2¼ | 3/16 | | | | | | | |
| 1917 | T | Serv. | 2 | 61¼ | 3 | ¼ | D | 16 | 8 | 6 | 5/32 | | |
| 1917 | T | Emer. | 2 | 59¼ | 2¼ | ¼ | | | | | | | |
| 1918 | 10-X | Serv. | 2 | 45 | 2½ | 5/32 | D | 8 | 8⅜ | 6⅜ | 5/32 | | |
| 1918 | 10-X | Emer. | 2 | 43 1/16 | 2¼ | 5/32 | | | | | | | |
| 1918-19 | 11-X | Serv. | 2 | 54 9/16 | 2½ | 3/16 | D | 10 | 8 | 6 | 5/32 | | |
| 1918-19 | 11-X | Emer. | 2 | 52⅛ | 2¼ | 3/16 | | | | | | | |
| 1918 | 12-X | Serv. | 2 | 54 9/16 | 2½ | 3/16 | D | 14 | 8 | 6 | 5/32 | | |
| 1919 | 19 | Emer. | 2 | 52⅛ | 2¼ | 3/16 | | | | | | | |
| 1918 | TX | Serv. | 2 | 55¾ | 3½ | 3/16 | D | 16 | 8 | 6 | 5/32 | | |
| 1918 | TX | Emer. | 1 | 30 15/16 | 4½ | 3/16 | | | | | | | |
| 1919 | 20 | Serv. | 2 | 55¾ | 3½ | 3/16 | D | 14 | 8 | 6 | 5/32 | | |
| 1919 | 20 | Emer. | 1 | 30 15/16 | 4½ | 3/16 | | | | | | | |
| **Riker. See Locomobile.** | | | | | | | | | | | | | |
| **Roamer** | | | | | | | | | | | | | |
| 1916-17 | RA & RAC | | | | | | | | | | | | |
| 1918-19 | D-4-75 & C-6-54 | I | 8 | 15 | 1¾ | 5/32 | D | 2 | 9⅞ | 6⅞ | ⅛ | | |
| 1917 | RAH | I | 2 | 44 | 2½ | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | | |
| 1917 | RAH | E | 2 | 48 | 2½ | 3/16 | | | | | | | |
| 1918 | 6-90 | I | 2 | 44¼ | 2½ | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | | |
| 1918 | 6-90 | E | 2 | 48½ | 2½ | 3/16 | | | | | | | |
| 1919 | D-4-75 & C-6-54 | I | 2 | 41 | 2¼ | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | | |
| 1920 | | E | 2 | 49½ | 2¼ | 3/16 | | | | | | | |
| **Rowe Truck** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | CDW-2½ T. | I | 4 | 51½ | 2¼ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | | |
| 1916-17 18-19-20 | DEW-3½ T. | I | 4 | 56½ | 2½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | | |
| 1916-17-18-19-20 | FW-5 T. | I | 4 | 68 | 3 | 5/16 | D | 16 | 8 7/16 | 6¼ | 5/32 | | |
| 1919-20 | CDW-2 T. | I | 4 | 45 | 2 | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | | |
| 1920 | CW-1½ T. | I | 8 | 19 | 2 | 3/16 | D | 12 | 8 7/16 | 6¼ | 5/32 | | |
| **R. & V. Knight** | | | | | | | | | | | | | |
| 1920 | J | I | 2 | 20⅞ | 2½ | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | | |
| 1920 | J | E | 2 | 21⅝ | 2½ | 3/16 | | | | | | | |
| 1920 | R | I | 1 | 41½ | 2 | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | | |
| 1920 | R | E | 1 | 43½ | 2 | 3/16 | | | | | | | |
| **Sanford Truck** | | | | | | | | | | | | | |
| 1917 | S | I | 2 | 48½ | 2½ | 3/16 | D | 10 | 8 7/16 | 6¼ | 5/32 | | |
| 1917 | S | E | 2 | 50⅝ | 3 | 3/16 | | | | | | | |
| 1917-18-19-20 | 25-2½ Ton | Int.Ex. | 4 | 50½ | 2¼ | ¼ | D | 2 | 11⅞ | 8⅜ | ⅛ | | |
| 1917-18-19-20 | 35-3½ Ton | Int.Ex. | 4 | 56 | 2½ | ¼ | D | 2 | 11⅞ | 8⅜ | ⅛ | | |
| 1917-18-19-20 | 50-5 T. | Int.Ex. | 4 | 69 | 3 | ¼ | D | 2 | 11⅞ | 8⅜ | ⅛ | | |

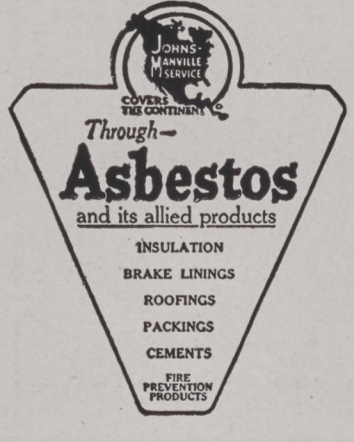
| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Saxon** | | | | | | | | | | | | | |
| 1917 | Four | Both | 4 | 21½ | 1¼ | ⅛ | D | 4 | 7⅞ | 5⅜ | ⅛ | ..... | ..... |
| 1917 | Six | I | 2 | 24 | 1¾ | ⅛ | D | 6 | 7⅞ | 5⅜ | ⅛ | ..... | ..... |
| 1917 | Six | E | 2 | 30½ | 1¾ | ⅛ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | Six S-4-Six T. 18 | I | 2 | 35¼ | 1¾ | 3/16 | D | 6 | 7⅞ | 5⅜ | ⅛ | ..... | ..... |
| 1918 | Six S-4 Six T. 18 | E | 2 | 37 3/16 | 1 15/16 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 118 T | I | 2 | 34¼ | 1¾ | 3/16 | D | 6 | 7⅞ | 5⅜ | ⅛ | ..... | ..... |
| 1919 | 118 T | E | 2 | 37 3/16 | 1 15/16 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 125 | I | 2 | 41½ | 1¾ | 5/32 | D | 6 | 7⅞ | 5 7/16 | ⅛ | ..... | ..... |
| 1920 | 125 | E | 2 | 44½ | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Sayers** | | | | | | | | | | | | | |
| 1917-18 | Six | I | 2 | 32 | 2 | ⅛ | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1917-18 | Six | E | 2 | 33½ | 1¾ | ⅛ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | S. & S. Ambulance | I | 8 | 19 | 1¾ | ⅛ | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1917-18-19-20 | S.& S.Hearse | | | | | | | | | | | | |
| 1919-20 | Six | I | 2 | 17¼ | 2 | 7/32 | D | 2 | 9¾ | 6¾ | ⅛ | ..... | ..... |
| 1919-20 | Six | E | 2 | 42 9/16 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Schacht Truck** | | | | | | | | | | | | | |
| 1918 | 2, 2½ & 3½ Ton | I | 4 | 13½ | 3 | ¼ | C | 1 | 15¾ | ..... | 3/16 | 2⅝ | 12½° |
| 1918 | 2, 2½ & 3½ Ton | Serv. | 2 | 8½ | 3½ | ⅜ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | 5 Ton | I | 4 | 15¼ | 4 | ⅜ | C | 1 | 15¾ | ..... | 3/16 | 2⅝ | 12½° |
| 1918 | 5 Ton | Serv. | 2 | 8½ | 3½ | ⅜ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | 2, 2½ & 3½ Ton | I | 4 | 13½ | 3 | ¼ | C | 1 | 15¾ | ..... | 3/16 | 2⅝ | 12½° |
| 1919-20 | 2, 2½ & 3½ Ton | Serv. | 4 | 8¼ | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | 5 Ton | I | 4 | 15 | 4 | ⅜ | C | 1 | 15¾ | ..... | 3/16 | 2⅝ | 12½° |
| 1919-20 | 5 Ton | Serv. | 4 | 8¼ | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Scripps-Booth** | | | | | | | | | | | | | |
| 1916-18 | 4 Cyl. | I | 2 | 28 21/32 | 1⅝ | 5/32 | C | 1 | 11 27/32 | 11 9/16 | 3/16 | 1½ | ..... |
| 1916-18 | 4 Cyl. | E | 2 | 27⅛ | 1⅝ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | All | I | 1 | 35⅜ | 1⅝ | 5/32 | C | 1 | 11 27/32 | 11 9/16 | 7/32 | 1½ | ..... |
| 1919-20 | All | E | 1 | 35⅛ | 1⅞ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Selden Truck** | | | | | | | | | | | | | |
| 1916 | TL | I | 8 | 11¾ | 3¼ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | TWL | | | | | | | | | | | | |
| 1918 | TXL | I | 1 | 38½ | 1¾ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | TXL | E | 1 | 42½ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | TXR | I | 1 | 46 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | TXR | E | 1 | 50¾ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | JWL | I | 2 | 43¾ | 2¾ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | JWL | E | 2 | 52½ | 2¾ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | JWB-JWBL-NL | I | 8 | 13 3/16 | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | NL | I | 8 | 15⅝ | 3¾ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | DL | I | 8 | 17 15/16 | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 5A | | | | | | | | | | | | |
| 1919-20 | 1½A | I | 8 | 11¾ | 3¼ | ¼ | D | 8 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1920 | 2½A | I | 8 | 13 3/16 | 3½ | ¼ | D | 12 | 8⅞ | 6¼ | 5/32 | ..... | ..... |
| 1919-20 | 3½A | I | 8 | 15⅝ | 3¾ | ¼ | D | 16 | 8⅞ | 6¼ | 5/32 | ..... | ..... |
| **Seneca Passenger** | | | | | | | | | | | | | |
| 1917 | A | I | 8 | 14 | 1 | ⅛ | D | 6 | 8⅜ | 6⅜ | ⅛ | ..... | ..... |
| 1918 | D | I | 2 | 34 | 1¾ | 5/32 | | | | | | | |
| 1919 | H | E | 2 | 37 | 2 | 5/32 | | | | | | | |
| 1920 | H-2 | I | 2 | 35¼ | 1¾ | 5/32 | Same Disc. All Models. | | | | | | |
| **Seneca Truck** | | | | | | | | | | | | | |
| 1919-20 | J-2 | E | 2 | 37¼ | 1¾ | 5/32 | | | | | | | |
| 1917 | F | I | 2 | 34 | 1¾ | 5/32 | | | | | | | |
| 1918 | F & J | E | 2 | 37 | 2 | 5/32 | | | | | | | |
| **Service Truck** | | | | | | | | | | | | | |
| 1916 | 120 | Exp. | 8 | 11 5/16 | 3¼ | ¼ | D | 12 | 8 | 6 | 5/64 | ..... | ..... |
| 1917-18-19-20 | 220 | | | | | | | | | | | | |
| 1916 | 130-140 | Exp. | 8 | 11 5/16 | 3¼ | ¼ | D | 2 | 11¾ | 8⅛ | ⅛ | ..... | ..... |
| 1919-20 | 31-36 | | | | | | | | | | | | |
| 1916 | 170-175 | | | | | | | | | | | | |
| 1917-18 | 230-240 | Exp. | 8 | 13 | 3½ | ¼ | D | 2 | 11¾ | 8⅛ | ⅛ | ..... | ..... |
| 1919-20 | 41-51 | | | | | | | | | | | | |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Service Truck**—Con. | | | | | | | | | | | | | |
| 1916 | 200 | Exp. | 8 | 17¾ | 4 | ¼ | D | 2 | 11¾ | 8⅛ | ⅛ | ..... | ..... |
| 1917-18 | 300 | | | | | | | | | | | | |
| 1919-20 | 101 | | | | | | | | | | | | |
| 1917-18 | 270-275 | Exp. | 8 | 15¾ | 3¾ | ¼ | D | 2 | 11¾ | 8⅛ | ⅛ | ..... | ..... |
| 1919-20 | 71-76 | | | | | | | | | | | | |
| **Signal Truck** | | | | | | | | | | | | | |
| 1919-20 | F. & H. | ..... | 8 | 11½ | 3¼ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1919.20 | J | ..... | 8 | 13¼ | 3½ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1919-20 | M | ..... | 8 | 15½ | 3¾ | ¼ | D | 16 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1919-20 | R | ..... | 8 | 18 | 4 | ¼ | D | 16 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| **Simplex. See Crane.** | | | | | | | | | | | | | |
| **Standard.** | | | | | | | | | | | | | |
| 1916-17 | ..... | I | 2 | 37½ | 2 | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1916-17 | ..... | E | 2 | 43¾ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | ..... | I | 2 | 38¾ | 2 | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1918 | ..... | E | 2 | 43¾ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | ..... | I | 4 | 20 | 2½ | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | or | |
| 1919 | ..... | E | 4 | 21 3/16 | 2½ | 3/16 | ..... | 2 | 11 11/16 | 8 3/16 | ⅛ | ..... | ..... |
| 1920 | ..... | I | 4 | 20 | 2½ | 3/16 | D | 2 | 11 11/16 | 8 3/16 | ⅛ | ..... | ..... |
| 1920 | ..... | E | 4 | 21 13/16 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | ..... | Intrnl. | 4 | 16¾ | 2½ | 3/16 | D | 2 | 11 11/16 | 8 3/16 | ⅛ | ..... | ... |
| | | Expdg. | 4 | 16¾ | 1¼ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Stanley** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | All | I | 2 | 37½ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19-20 | All | E | 2 | 39 | 2 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Stearns-Knight** | | | | | | | | | | | | | |
| 1919-20 | Skl. -4 | Serv. | 1 | 46 | 2½ | 3/16 | D | 10 | 7¾ | 5¾ | 9/64 | ..... | ..... |
| 1919-20 | Skl.-4 | Emer. | 2 | 18¼ | 1½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Sterling Truck** | | | | | | | | | | | | | |
| 1920 | ½ Ton | Both | 16 | 11⅝ | 3¼ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 2½ Ton | Serv. | 8 | 13⅛ | 3½ | ¼ | D | 12 | 8½ | 6¼ | ⅛ | ..... | ..... |
| 1920 | 2½ Ton | Emer. | 8 | 13⅜ | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 3½ Ton | Both | 16 | 15½ | 3¾ | ¼ | D | 1 | 6 3/16 | 4⅛ | 3/16 | ..... | ..... |
| 1920 | 5 T. Worm | Both | 16 | 18 | 4 | ¼ | D | 1 | 6 3/16 | 4⅛ | 3/16 | ..... | ..... |
| 1920 | 5 & 7½ T. Chain | Serv. | 2 | 56½ | 3½ | ¼ | D | 1 | 6 3/16 | 4⅛ | 3/16 | ..... | ..... |
| 1920 | 5 & 7½ T. Chain | Emer. | 1 | 28¾ | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920-21 | 1½ & 2 T. | ..... | ..... | ..... | ..... | ..... | D | 10 | 8½ | 6¼ | ⅛ | ..... | ..... |
| 1921 | 2½ Ton | ..... | ..... | ..... | ..... | ..... | D | 12 | 8½ | 6¼ | ⅛ | ..... | ..... |
| 1921 | 3½ Ton | ..... | ..... | ..... | ..... | ..... | D | 1 | 6 3/16 | 4⅛ | 3/16 | ..... | ..... |
| 1921 | 5 T. Worm | ..... | ..... | ..... | ..... | ..... | D | 1 | 6 3/16 | 4⅛ | 3/16 | ..... | ..... |
| 1921 | 5 & 7½ Ton Chain | ..... | ..... | ..... | ..... | ..... | D | 1 | 6 3/16 | 4⅛ | 3/16 | ..... | ..... |
| **Stevens Duryea** | | | | | | | | | | | | | |
| ..... | All except E | Serv. | 4 | 15 | 2¼ | 3/16 | D | 12-14 | 7⅞ | 6 | ⅛ | ..... | ..... |
| 1920 | E | Serv. | 4 | 15 | 2¼ | 3/16 | D | 14 | 7⅞ | 6 | ⅛ | ..... | ..... |
| **Stewart Truck** | | | | | | | | | | | | | |
| 1916 | 6-¾ Ton | I | 2 | 42 | 2 | 3/16 | D | ..... | 8 | 6 | ⅛ | ..... | ..... |
| 1916-17-18-19-20 | 8-1 Ton | Ts.Ex. | 1 | 22¾ | 2 | 5/32 | D | 2 | 9 11/16 | 6 11/16 | 5/32 | ..... | ..... |
| 1919-20 | 11-¾ Ton | R.W.E | 1 | 41⅜ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19-20 | 9-1½ Ton | Ts.Ext. | 2 | 8 | 5 | 3/16 | D | 10 | 8 | 6 | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | 9-1½ Ton | R.Wl. Ext. | 1 | 48¼ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19-20 | 7-2 Ton | Tns.Ext | 2 | 8 | 5 | 3/16 | D | 12 | 8 | 6 | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | 7-2 Ton | R.Wl. Ext. | 1 | 50⅝ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | 10-3½ Ton. | Tns.Ex. | 2 | 8 | 5 | 3/16 | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1919-20 | 10-3½ Ton | R.Wl. Ext. | 1 | 60 | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **St. Louis Car** | | | | | | | | | | | | | |
| 1920 | Skelton | I | 2 | 35¼ | 1¾ | 5/32 | D | 2 | 7⅜ | 5⅜ | ⅛ | ..... | ..... |
| 1920 | Skelton | E | 2 | 37 7/16 | 1¾ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Studebaker** | | | | | | | | | | | | | |
| 1916-17-18 | ED-SF-7 | I | 2 | 42¼ | 1¾ | 3/16 | C | 1 | 16⅜ | ..... | 3/16 | 2 1/16 | 11½° |
| 1916-17-18 | ED-SF-7 | E | 2 | 44 1/16 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | EG-EH | I | 4 | 18⅞ | 1¾ | 5/32 | C | 1 | 16⅜ | ..... | 3/16 | 2 1/16 | 11½° |
| 1919 | EG-EH | E | 4 | 20 13/16 | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | SH | I | 4 | 17 29/32 | 1¾ | 5/32 | C | 1 | 14⅛ | ..... | 3/16 | 2¼ | 11½° |
| 1919 | SH | E | 4 | 19⅝ | 2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Stutz** | | | | | | | | | | | | | |
| 1918-19-20 | All | Both | 8 | 16½ | 1¾ | 5/32 | C | 1 | 13⅞ | 12.626 | 15/64 | 2 15/16 | 12° |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Sullivan Truck** | | | | | | | | | | | | | |
| 1916-17 | E | I | 8 | 12 | 3¼ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916 | G | I | 4 | 16 | 2½ | 3/16 | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1916 | G | E | 2 | 31 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19-20 | E | I | 8 | 13 | 3½ | ¼ | D | 10 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| 1920 | H | E | 4 | 16 | 3¾ | ¼ | D | 12 | 8 7/16 | 6¼ | 5/32 | ..... | ..... |
| **Templar** | | | | | | | | | | | | | |
| 1917 | 445 | I | 2 | 15½ | 2 | 3/16 | D | 2 | 9 11/16 | 6 11/16 | ⅛ | ..... | ..... |
| 1917 | 445 | I | 1 | 15½ | 1 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | 445 | I | 2 | 15½ | 2 | 3/16 | D | 2 | 9 11/16 | 6 11/16 | ⅛ | ..... | ..... |
| 1918 | 445 | I | 2 | 15½ | 1 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | 445 | Serv. | 2 | 17½ | 2 | 3/16 | D | 2 | 9 11/16 | 6 11/16 | ⅛ | ..... | ..... |
| 1919-20 | 445 | Emer. | 2 | 17½ | 1 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Texan Passenger** | | | | | | | | | | | | | |
| 1919-20 | ..... | I | 2 | 36 | 1¾ | 5/32 | D | 2 | 9¾ | 6¾ | ⅛ | ..... | ..... |
| 1919-20 | ..... | E | 2 | 37 | 1¾ | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Texan Truck** | | | | | | | | | | | | | |
| 1919-20 | ..... | I | 4 | 17½ | 2¼ | 3/16 | D | 2 | 9¾ | 6¾ | ⅛ | ..... | ..... |
| 1919-20 | ..... | I | 4 | 17½ | 1½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Tiffin** | | | | | | | | | | | | | |
| 1916-17 | AW | I | 2 | 23 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | MW | I | 2 | 23 | 3 | ¼ | C | 1 | 15¾ | ..... | 3/16 | 2⅝ | 12½° |
| 1917-18 | MW | I | 2 | 23 | 3 | ¼ | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1919-20 | MW | I | 2 | 26 | 2¼ | ¼ | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1916-17-18-19-20 | GW | I | 2 | 23 | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 | RW | | | | | | | | | | | | |
| 1917-18-19 | RW & SW | I | 2 | 34 | 3 | ¼ | D | 2 | 11 7/8 | 6 7/8 | ⅛ | ..... | ..... |
| 1920 | TW & UW | | | | | | | | | | | | |
| 1917-18-19-20 | PW | I | 2 | 29 | 2½ | ¼ | D | 2 | 11 7/8 | 8¼ | ⅛ | ..... | ..... |
| 1917-18 | A | I | 2 | 17 | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Traffic** | | | | | | | | | | | | | |
| 1920 | C | I | 2 | 39½ | 1¾ | 3/16 | D | 8 | 8⅜ | 6⅜ | 3/16 | ..... | ..... |
| 1920 | C | E | 2 | 42½ | 2½ | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Transport Truck** | | | | | | | | | | | | | |
| 1919-20 | 20 & 30 | I | 2 | 47 | 1½ | 3/16 | D | 10 | 8 | 6 | 5/32 | ..... | ..... |
| 1919-20 | 20 & 30 | E | 2 | 46½ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | 50 | I | 2 | 48½ | 2½ | 3/16 | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1919-20 | 50 | E | 2 | 50 | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Triangle Truck** | | | | | | | | | | | | | |
| 1919 | A | Serv. | 2 | 10 | 4 | 5/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | A | Emer. | 2 | 49 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | B | Serv. | 2 | 10 | 4 | 5/16 | D | 14 | 8 | 6 | 5/32 | ..... | ..... |
| 1919 | B | Emer. | 2 | 50½ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | AA | Serv. | 2 | 23⅛ | 2½ | 3/16 | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1919 | AA | Emer. | 2 | 46 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | C | Serv. | 2 | 10 | 4 | 5/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | C | Emer. | 2 | 50½ | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Tulsa** | | | | | | | | | | | | | |
| 1919 | ..... | I | 2 | 36 | 2 | 3/16 | D | 2 | 8 | 5½ | ⅛ | ..... | ..... |
| 1919 | ..... | E | 2 | 38 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | ..... | I | 2 | 42 | 2 | 3/16 | D | 2 | 8 | 5½ | ⅛ | ..... | ..... |
| 1920 | ..... | E | 2 | 44 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Union Truck** | | | | | | | | | | | | | |
| 1919-20 | F | I | 2 | 50 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | F | E | 2 | 55 | 3 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **United States Truck** | | | | | | | | | | | | | |
| 1916-17-18-19 | D | I | 2 | 46 | 3½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19 | D | E | 2 | 32 | 2 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19 | E | I | 2 | 40 | 3 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19 | E | E | 2 | 28 | 2 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19 | H | I | 4 | 46 | 2¼ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19 | J | I | 4 | 50 | 2½ | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19 | K | I | 4 | 62 | 3 | ¼ | D | 2 | 12 | 8⅜ | ⅛ | ..... | ..... |
| 1919 | N | I | 2 | 46½ | 1½ | 3/16 | D | 8 | 8½ | 6⅜ | ⅛ | ..... | ..... |
| 1919 | N | E | 2 | 51½ | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | NW | Both | 8 | 18 | 2 | 3/16 | D | 8 | 8½ | 6⅜ | ⅛ | ..... | ..... |
| 1920 | R | Both | 4 | 46 | 2¼ | ¼ | D | 10 | 8½ | 6⅜ | ⅛ | ..... | ..... |
| 1920 | S | Both | 4 | 50 | 2½ | ¼ | D | 12 | 8½ | 6⅜ | ⅛ | ..... | ..... |
| 1920 | T | I | 4 | 62 | 3 | ¼ | D | 16 | 8½ | 6⅜ | ⅛ | ..... | ..... |
| 1920 | T | E | 1 | 33 | 4 | ¼ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Velie Passenger** | | | | | | | | | | | | | |
| 1916 | 22 | I | 2 | 31½ | 1¾ | ⅛ | D | 2 | 9⅞ | 6⅞ | ⅛ | ..... | ..... |
| 1916 | 22 | E | 2 | 34¼ | 2 | ⅛ | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **Velie Passenger—Con.** | | | | | | | | | | | | | |
| 1916 | 15 | I | 2 | 40 1/4 | 2 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1917 | 27 | | | | | | | | | | | | |
| 1918 | 39 | E | 2 | 43 3/4 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917 | 28 | I | 2 | 35 1/4 | 1 3/4 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1917 | 28 | E | 2 | 37 3/16 | 1 15/16 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918-19 | 38 | I | 2 | 36 | 1 3/4 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1918-19 | 38 | E | 2 | 37 1/2 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 34 | I | 2 | 34 | 1 3/4 | 5/32 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1920 | 34 | E | 2 | 38 3/8 | 1 3/4 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 48 | I | 4 | 19 13/16 | 1 3/4 | 3/16 | D | 2 | 9 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1920 | 48 | E | 2 | 42 1/2 | 1 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Velie Truck** | | | | | | | | | | | | | |
| 1916 | 26 | R. W. Duplex | 8 | 13 3/16 | 3 1/2 | 1/4 | D | 2 | 12 13/16 | 9 | 1/8 | ..... | ..... |
| 1916 | 25 | R. W. Duplex | 8 | 12 | 3 1/4 | 1/4 | D | 2 | 12 13/16 | 9 | 1/8 | ..... | ..... |
| 1917 | 25-A | | | | | | | | | | | | |
| 1917 | 26-A | R. W. Duplex | 8 | 15 5/8 | 3 3/4 | 5/16 | D | 2 | 12 13/16 | 9 | 1/8 | ..... | ..... |
| 1918—First Half | 25-B | R. W. Duplex | 8 | 12 | 3 1/4 | 1/4 | D | 2 | 11 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1918—Last Half | 25-B | R. W. Duplex | 8 | 13 3/16 | 3 1/2 | 1/4 | D | 2 | 11 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1918 | 26-B | R. W. Duplex | 8 | 15 5/8 | 3 3/4 | 5/16 | D | 2 | 11 7/8 | 6 7/8 | 1/8 | ..... | ..... |
| 1919-20 | 46 | I | 2 | 52 1/8 | 2 1/4 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | 46 | E | 2 | 59 9/16 | 2 1/2 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Vim Truck** | | | | | | | | | | | | | |
| 1918 | 21 1/2T | I | 2 | 37 | 1 3/4 | 3/16 | ..... | ..... | ..... | .... | .... | .... | .... |
| 1918 | 21 1/2T | E | 2 | 36 | 1 3/4 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | 21 1/2T | I | 2 | 37 | 1 3/4 | 3/16 | D | ..... | 12 | 9 1/2 | 1/4 | ..... | ..... |
| 1919 | 21 1/2T | E | 2 | 36 | 1 3/4 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 29 1/2T& 30 1/2T | Both | 8 | 14 1/2 | 1 1/2 | 3/16 | D | 2 | 7 7/8 | 5 1/4 | 1/8 | ..... | ..... |
| 1920 | 31 1T | Both | 8 | 19 | 2 | 3/16 | D | 2 | 7 7/8 | 5 1/4 | 1/8 | ..... | ..... |
| 1920 | 32 2T | Both | 4 | 44 1/2 | 2 | 1/4 | D | 2 | 7 7/8 | 5 1/4 | 1/8 | ..... | ..... |
| 1920 | 33 3T | Both | 4 | 51 1/2 | 2 1/4 | 1/4 | D | 2 | 7 7/8 | 5 1/4 | 1/8 | ..... | ..... |
| **Ward** | | | | | | | | | | | | | |
| 1919 | WS | I | 2 | 29 | 1 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | WS | Emer Ext | 1 | 15 3/4 | 1 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | WA | Both | 16 | 16 | 1 3/4 | 3/16 | ..... | ..... | ..... | ..... | ..... | .... | .... |
| 1919 | WB | Both | 16 | 20 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | WD | Both | 8 | 40 7/8 | 2 1/4 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | WF | Both | 8 | 56 7/8 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | WH | Both | 8 | 68 3/4 | 3 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Westcott** | | | | | | | | | | | | | |
| 1916 | 41, 42, 51 | I | 2 | 41 | 2 | 3/16 | D | 7 | 8 1/2 | 5 25/32 | 3/32 | ..... | ..... |
| 1917 | S-17 | E | 2 | 44 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | S-18-S-18A | I | 2 | 41 | 2 | 3/16 | D | 12 | 8 1/16 | 6 3/16 | 1/8 | ..... | ..... |
| 1918 | S-18-S-18A | E | 2 | 44 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1918 | S-18-S-18A | I | 2 | 41 | 2 | 3/16 | D | 8 | 8 3/8 | 6 3/8 | 5/32 | ..... | ..... |
| 1918 | S-18-S-18A | E | 2 | 44 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | A48 | I | 2 | 41 | 2 | 3/16 | D | 2 | 9 11/16 | 6 11/16 | 1/8 | ..... | ..... |
| 1919 | A48 | E | 2 | 44 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | A38, B-38 | I | 2 | 42 1/2 | 1 1/2 | 3/16 | D | 2 | 9 11/16 | 6 11/16 | 1/8 | ..... | ..... |
| 1920 | C-38 | E | 4 | 20 1/4 | 1 3/4 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | B-48 | I | 4 | 20 1/4 | 2 1/4 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919 | B-48 | E | 2 | 49 5/8 | 2 1/4 | 5/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | C-48 | I | 4 | 20 1/4 | 2 1/4 | 5/32 | D | 2 | 9 11/16 | 6 11/16 | 1/8 | or | |
| 1920 | C-48 | E | 2 | 49 5/8 | 2 1/4 | 5/32 | ..... | 12 | 8 1/16 | 6 3/16 | 1/8 | ..... | ..... |
| 1920 | C-48 | I | 4 | 20 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | C-48 | E | 4 | 22 1/4 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **White Touring** | | | | | | | | | | | | | |
| 1916-17-18 | GM-7 Pass | E | 2 | 44 7/8 | 2 1/2 | 3/16 | D | 2 | 15 | 10 1/2 | 1/8 | ..... | ..... |
| 1916 | GED-5 Pass | E | 2 | 44 7/8 | 2 1/2 | 3/16 | D | 2 | 15 1/2 | 10 1/2 | 1/8 | ..... | ..... |
| 1917 | GED-7 Pass | | | | | | | | | | | | |
| 1916-17 | GFE-7 Pass | E | 2 | 53 9/16 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17 | GAH-4 Pass | E | 2 | 33 25/32 | 2 1/2 | 3/16 | D | 2 | 13 1/2 | 9 | 1/8 | ..... | ..... |
| **White Taxi** | | | | | | | | | | | | | |
| 1916-17-18 | 15-A-4 Pass | R.Whl.I | 2 | 41 5/16 | 2 1/2 | 3/16 | D | 2 | 13 1/2 | 9 | 1/8 | ..... | ..... |
| 1916-17-18 | 15-A-4 Pass | R.Whl. E | 2 | 54 9/16 | 3 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| CAR—YEAR | Model | Type | Size of Brake Lining | | | | Cone and Disc Facings | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. Pcs. | Long | Wide | Thick | Type | No. Pcs. | Large Dia. | Small Dia. | Thick | Wide | Angle |
| **White Pumper** | | | | | | | | | | | | | |
| 1917-18-19-20 | 20-35 2T | R.Whl.I | 2 | 50 7/8 | 3 1/2 | 3/16 | D | 2 | 15 | 10 1/2 | 1/8 | ..... | ..... |
| 1917-18-19-20 | 20-35 2T | E | 2 | 54 9/16 | 3 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **White Truck** | | | | | | | | | | | | | |
| 1916-17-18-19-20 | 15 3/4T | R.Whl.I | 2 | 41 5/16 | 2 1/2 | 3/16 | D | 2 | 13 1/2 | 9 | 1/8 | ..... | ..... |
| 1916-17-18-19-20 | 15 3/4T | E | 2 | 44 7/8 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19-20 | 20 2T | R.Whl.I | 2 | 50 7/8 | 3 1/2 | 3/16 | D | 2 | 13 1/2 | 9 | 1/8 | ..... | ..... |
| 1916-17-18-19-20 | 20 2T | E | 2 | 56 21/32 | 3 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18 | 25 3T | R.Whl.I | 4 | 22 | 6 | 1/4 | D | 2 | 13 1/2 | 9 | 1/8 | ..... | ..... |
| 1916-17-18 | 25 3T | Jk. Shft.E | 2 | 33 25/32 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916 & 18 | 30 3 & 5T | R.Wh. | 4 | 22 | 6 | 1/4 | D | 2 | 15 1/2 | 10 1/2 | 1/8 | .... | .... |
| 1917 & 19 | 30 5T | Jk. Shft.E. | 2 | 44 7/8 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18 | ATAD 3T | R.Whl.I | 4 | 28 | 6 | 5/16 | D | 2 | 13 1/2 | 9 | 1/8 | ..... | ..... |
| 1916-17-18 | ATAD 3T | Jk. Shft.E | 2 | 33 25/32 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19 | ATCD 5T | R.Whl.I | 4 | 28 | 6 | 5/16 | D | 2 | 15 1/2 | 10 1/2 | 1/8 | ..... | ..... |
| 1916-17-18-19 | ATCD 5T | Jk. Shft.E | 2 | 33 25/32 | 2 1/2 | 3/16 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18-19 | 15-30 3/4T | R.Whl.I | 2 | 41 5/16 | 2 1/2 | 3/16 | D | 2 | 15 1/2 | 10 1/2 | 1/8 | ..... | ..... |
| 1916-17-18-19 | 20-30 2T | R.Whl.I | 2 | 50 7/8 | 3 1/2 | 3/16 | D | 2 | 15 1/2 | 10 1/2 | 1/8 | ..... | ..... |
| 1916-17-18-19-20 | 20D 2T | R.Whl.I | 2 | 50 7/8 | 3 1/2 | 3/16 | D | 2 | 13 1/2 | 9 | 1/8 | ..... | ..... |
| 1916-17-18-19-20 | 20D 2T | R.WhlE | 2 | 54 9/16 | 3 1/2 | 5/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18 | ATK 5T | R.Whl.I | 4 | 28 | 6 | 3/16 | D | 2 | 15 | 10 1/2 | 1/8 | ..... | ..... |
| 1917-18 | ATK 5T | Jk. Shft.E | 2 | 33 25/32 | 2 1/2 | | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1917-18-19-20 | 45 5T | R.Whl. | 2 | 26 1/2 | 5 | 5/16 | D | 2 | 15 | 10 1/2 | 1/8 | ..... | ..... |
| 1917-18-19-20 | 45 5T | Dr.Shft | 4 | 11 3/4 | 5 | 5/16 | | | | | | | |
| 1918 | TEB-O | E | 2 | 54 9/16 | 2 1/2 | 3/16 | D | 2 | 15 1/2 | 10 1/2 | 1/8 | ..... | ..... |
| 1918-19-20 | 40 3T | R.Whl. | 2 | 26 1/2 | 5 | 5/16 | D | 2 | 15 | 10 1/2 | 1/8 | ..... | ..... |
| 1918-19-20 | 40 3T | Dr.Shft | 4 | 11 3/4 | 4 | 5/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Wichita Truck** | | | | | | | | | | | | | |
| 1919-20 | L 1 1/2T | ..... | 4 | 42 5/8 | 2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | M 2T | | | | | | | | | | | | |
| 1919-20 | R 2 1/2T | | | | | | | | | | | | |
| 1919-20 | RX2 1/2T Spec. | ..... | 4 | 49 5/8 | 2 1/4 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1919-20 | O 3 1/2T | ..... | 4 | 56 7/8 | 2 1/2 | 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | K 1T | ..... | 8 | 18 | 2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Willys Knight** | All | | | See | Over | land | | | | | | | |
| **Winton** | | | | | | | | | | | | | |
| 1916 | 22A | I | 1 | 44 3/4 | 2 1/2 | 3/16 | D | 14 | 8 1/16 | 6 3/16 | 1/8 | ..... | ..... |
| 1916 | 22A | E | 1 | 48 3/4 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18 | 22A | I | 1 | 44 3/4 | 2 1/2 | 3/16 | D | 10 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1916-17-18 | 22A | E | 1 | 48 3/4 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1916-17-18 | 22 | I | 1 | 44 3/4 | 2 1/2 | 3/16 | D | 16 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1919 | 24 | E | 1 | 48 3/4 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1920 | 25 | I | 1 | 50 3/4 | 2 1/2 | 3/16 | D | 12 | 8 7/16 | 6 1/4 | 5/32 | ..... | ..... |
| 1920 | 25 | E | 1 | 52 3/4 | 2 1/2 | 3/16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| **Wisconsin Truck** | | | | | | | | | | | | | |
| 1919-20 | Dairy | I | 1 | 56 1/2 | 2 1/4 | 3/16 | D | ..... | 9 | 4 1/2 | 3/32 | ..... | ..... |
| 1919-20 | Dairy | E | 1 | | 2 1/2 | 7/32 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

## THE CARE OF AUTOMOBILE BRAKES

Driving a car on which the brakes are improperly adjusted, or worn to a point where they do not operate properly, is simply inviting accidents and playing with death. Probably more than three-quarters of the automobile accidents are caused through brakes with faulty adjustment, or on account of some weakness in the brake mechanism.

To know how quickly a car will stop with various brake applications, a test can be made by driving the car at various speeds on approximately level roads, then declutching and applying brakes when passing a given point in the road and measuring the distance from the start to where the car stops. The distance in which a car can be stopped by the use of its brakes depends upon the weight of the car, grade, general type of roadway, physical condition of the road surface, the character of tread on the tires, condition of the brakes, how the brakes are applied and also upon other reasons too numerous to describe. It is not possible to set any arbitrary figure as to the distance in which a car should stop. The best way is to find out as previously described.

MAKE IT A POINT TO INSPECT THE BRAKES ON YOUR CUSTOMERS' CARS VERY FREQUENTLY.

This inspection should include the condition of the lining as well as the brake adjustment mechanism on both the service and the emergency brakes.

Oil and road grit frequently collect on the brake lining. This grinds away the lining material, and, if the oil and road grit becomes embedded in the surface of the lining it causes scoring of the brake drums.

If the surface of the brake lining becomes glazed or covered with hard scale due to oil and dust, it will make the brakes squeak; also cause chattering or uneven gripping of the brakes.

To overcome this condition remove the rear wheels and clean the lining with kerosene once in every two or three months. At that time glazed spots in the lining may be removed by roughening the surface of the lining with a round or half round file.

Brake lining SHOULD NEVER be oiled.

When inspecting the brake mechanism adjust the cam which operates the internal brakes, the various links and levers connected with same and then follow the mechanism from the wheel right through to the foot pedal and emergency lever. Make sure that the cotter pins and lock washers are in good condition and if not replace same. Have lock nuts tight especially those used to lock the adjusting turnbuckles on the brake rods.

As the lining wears adjust the bands by means of the wing nut or other device provided at the open ends of the bands so that there will

be about 1/64" clearance between the lining and the drum all the way around.

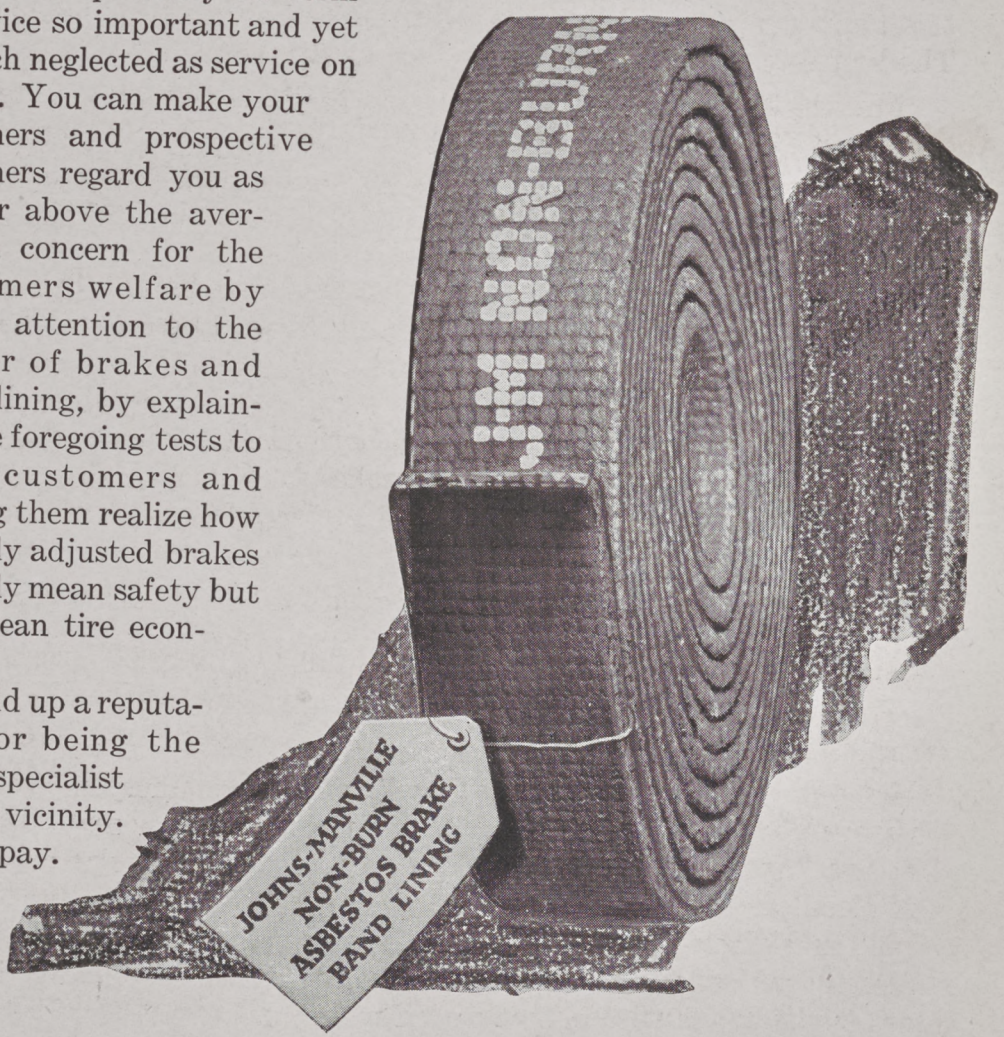
Both right and left wheel brakes should operate with equal pressure. To see whether they do or not jack up rear wheels, start engine and with car in high gear and with the engine running, apply the brakes. Both wheels should slow down uniformly and by getting the wheels spinning at a fair rate of speed, and disengaging the clutch and then applying the brakes, the wheels should come to a full stop at practically the same instant. Changes in the band adjustment should be made until this result is obtained.

The above test will demonstrate whether the brakes are dragging when not applied, and if they are make adjustment as above described.

## TO THE DEALER AND REPAIRER

There is probably no form of service so important and yet so much neglected as service on brakes. You can make your customers and prospective customers regard you as one far above the average in concern for the customers welfare by calling attention to the matter of brakes and brake lining, by explaining the foregoing tests to your customers and making them realize how properly adjusted brakes not only mean safety but also mean tire economy.

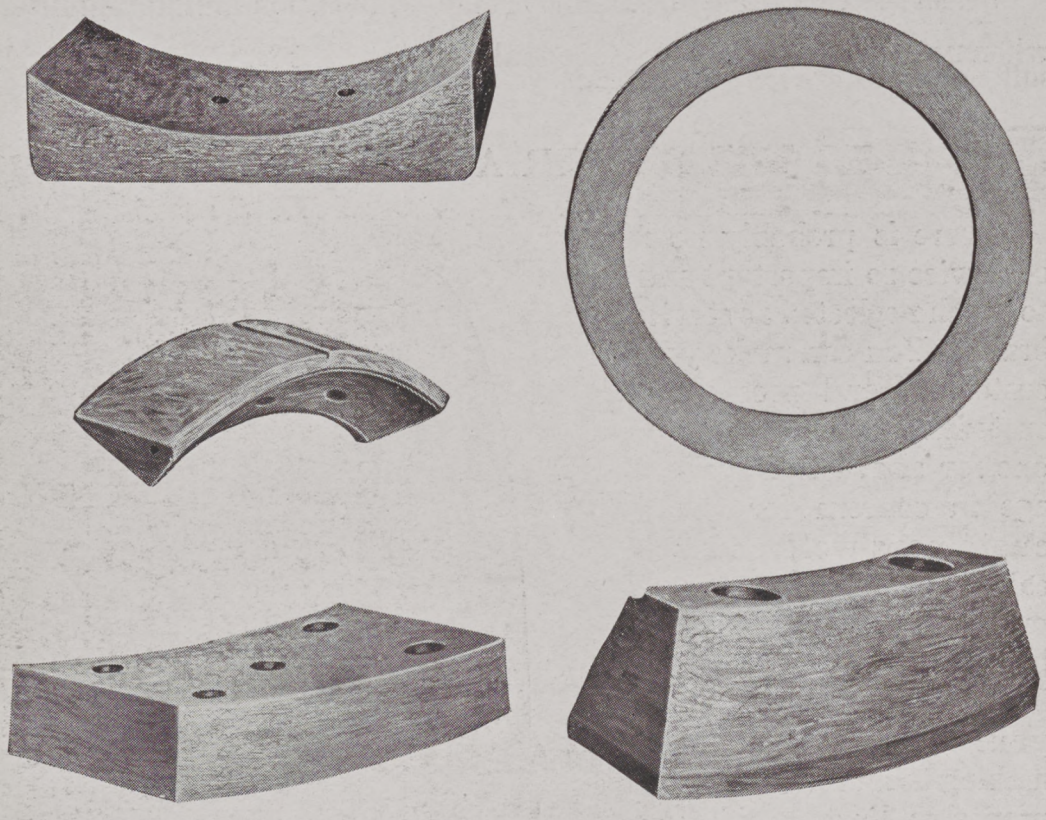
Build up a reputation for being the brake specialist of your vicinity. It will pay.



## JOHNS-MANVILLE ASBESTO-METALLIC FRICTION MATERIAL

For friction brakes and clutches as used on hoists, cranes, steam shovels, dredges and similar machinery, or for any braking or power transmitting duty where service conditions are severe.

Exceptionally severe conditions and the growing requirements of perfect control are responsible for the development of Johns-Manville Asbesto-Metallic Friction Material.



This material is made of selected asbestos fibre, brass or copper wire and special binding compound densely compacted together by vulcanizing under great pressure in metal moulds to the exact form and size required.

Economy is effected by their use not only on account of their durability, but also because of the ease with which machinery equipped with them may be controlled and because time and labor made necessary by frequently replacing other forms of braking material are greatly reduced.

The high and uniform co-efficient or gripping power of these blocks means that less effort is necessary to control the machine on which they are applied than with other friction material.

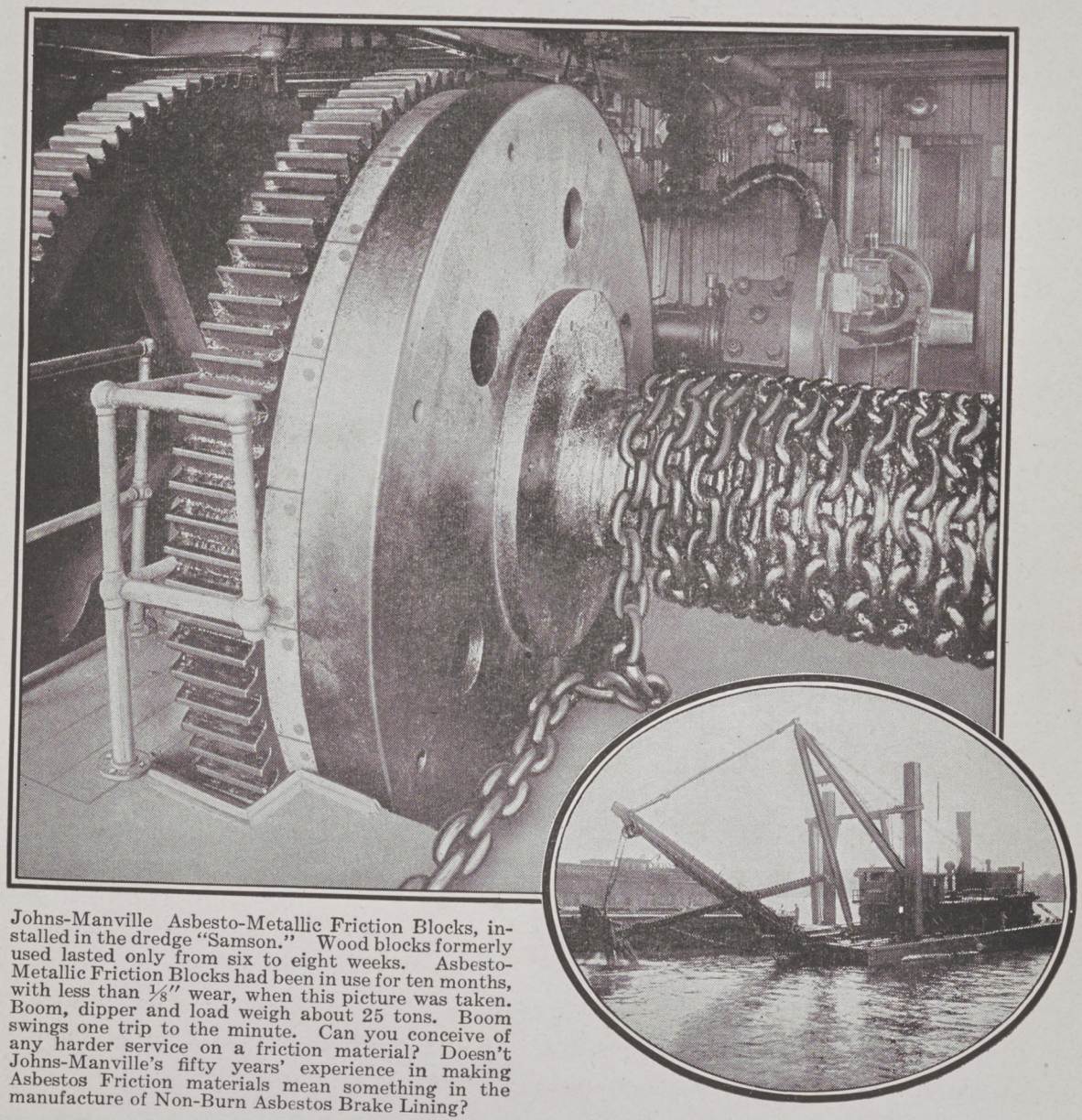
The fact that they will not burn or char greatly reduces fire hazard where they are used.

They are unaffected by climatic conditions and are ideal for rough out-door service.

The friction co-efficient of Johns-Manville Asbesto-Metallic Friction Material remains more nearly constant than that of other materials under adverse conditions, which results in uniform braking action without requiring frequent adjustments.

Asbesto-Metallic Friction Material is furnished in block, ring and special forms, some of which are illustrated.

Prices for this material are made upon application and all inquiries or orders must be accompanied by drawings or samples which give sufficient and accurate dimensions.



Johns-Manville Asbesto-Metallic Friction Blocks, installed in the dredge "Samson." Wood blocks formerly used lasted only from six to eight weeks. Asbesto-Metallic Friction Blocks had been in use for ten months, with less than 1/8" wear, when this picture was taken. Boom, dipper and load weigh about 25 tons. Boom swings one trip to the minute. Can you conceive of any harder service on a friction material? Doesn't Johns-Manville's fifty years' experience in making Asbestos Friction materials mean something in the manufacture of Non-Burn Asbestos Brake Lining?

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# THE SQUARE DEAL SELLING POLICY

In the realization that the success of Johns-Manville Non-Burn Brake Band Lining lies as much with the trade as with the consumer we have long since initiated and still rigidly maintain a Distributor-Dealer policy that is fair to all who handle Johns-Manville Non-Burn Brake Lining and all our other automotive equipment.

It has been our aim not only to make the best brake lining, but to market the best brake lining by the best method. Any one using Johns-Manville Non-Burn Asbestos Brake Lining will admit the success of the former and any one handling Johns-Manville Non-Burn will concede the latter.

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ASK YOUR DEALER
OR DISTRIBUTOR FOR
JOHNS-MANVILLE
NON-BURN ASBESTOS
BRAKE LINING

---

JOHNS-MANVILLE
Incorporated
NEW YORK CITY

*10 Factories*
*Branches in 64 Large Cities*

## CONCLUSIONS OF VICE-CHANCELLOR.

Filed December 11, 1922.

47/476

IN CHANCERY OF NEW JERSEY.

*Between*

MITFORD C. MASSIE, *et al.*,
*Complainants,*

*and*

ASBESTOS BRAKE COMPANY, *et. al.*,
*Defendants.*

*Conclusions.*
*(Not for print.)*

On Bill, &c.

On Final Hearing.

Mr. Francis C. Lowthorp (Mr. Robert H. McCarter with him), for complainants.

Messrs. Pitney, Hardin & Skinner (Messrs. Philip W. Russell and William G. McKnight, both of the New York bar, on the brief), for defendant H. W. Johns-Manville Co.

Mr. Edward L. Katzenbach, for defendant Thermoid Rubber Company.

BUCHANAN, *V.-C.*

By separate respective written agreements, each dated May 2d, 1911, the Asbestos Brake Company, assignee and owner of certain patents and patent-applications, granted licenses to the defendants H. W. Johns-Manville Company and Thermoid Rubber Company to manufacture and sell and use articles (asbestos brake linings) covered by the patents and patent applications, and the said defendants as such licensees, contracted, *inter alia,* to pay to the Asbestos Brake Company, monthly, certain royalties on all

New Jersey State Library

such articles so sold by it, and to send certain daily and monthly reports of all such sales.

Complainant, Massie, as a stockholder of Asbestos Brake Company, being unable to procure the latter company to bring this suit, filed this bill on behalf of himself and all other stockholders against the licensees (joining Asbestos Brake Company as a defendant), alleging the manufacture and sale of large quantities of the licensed articles by the licensee—defendants, and that no reports or accounts have been rendered, nor any payment of royalties made; and asks such accounting and payment and for a decree of specific performance of the license contracts for the future.

Conrad Hubert—the only other person in addition to complainant and the two licensee-defendants holding stock in Asbestos Brake Company—subsequently applied and was admitted as a party co-complainant; and a decree *pro confesso* was duly taken against Asbestos Brake Company.

The defendants H. W. Johns-Manville Company (hereinafter referred to as the "Manville Co."), and Thermoid Rubber Company (hereinafter referred to as the "Thermoid Co."), filed separate, but practically identical, answers. The defences thereby interposed are:

1. That the license agreements in question were executed and delivered only upon, and subject to, and as a part of, an express agreement by all parties that they were to become and be binding and effective only upon certain contingencies, and that those contingencies never eventuated.

2. That subsequent to the making of said license-agreements, an agreement was made by all parties rescinding the said license-agreements and suspending the force and operation of the requirement of the payment of royalties.

3. That complainants have acquiesced for eight years in the non-performance or breach by the defendants, and

are equitably estopped from suing thereon at the present time.

4. Laches.

5. That the license-agreements in question are a part of a combination in restraint of trade in contravention of the federal statute commonly known as the Sherman Anti-Trust Act, and are therefore illegal and void, and no suit can be maintained upon them.

In dealing with the issues thus raised—and particularly in relation to the last mentioned defense—it is necessary to consider the acts and dealings of the parties from the commencement of their relationships with each other, as well as the circumstances and conditions with respect to the manufacture, use and sale of brake linings. As to most of the following facts there is no real controversy.

With the advent of the motor vehicle and the development of the gasoline engine at the commencement of the present century, a new field was opened in the use of brake linings—and one in which the conditions and requisite factors differed from those theretofore controlling. A number of inventors began experimenting with asbestos and applied for patents on the results of their endeavors. One of these was Clyde J. Coleman, who assigned to Hubert (one of the present complainants) his application for patent; another was William T. Bonner, who assigned his application to the Thermoid Rubber Co.; and there were also Louis D. Hoff, and Cutting & Jewett, whose applications were assigned to the Manville Co. Interferences were declared in the Patent Office among these several applications.

Thereafter negotiations were begun among the three owners of the several applications looking toward an arrangement whereby each and all should be able to manufacture and sell brake linings embodying all of the several and various inventions and improvements comprised in each of the several applications for patent, and these nego-

tiations resulted about September 22d, 1910, in a *tripartite* agreement among them bearing that date.

This agreement recited the several applications for patent and their several ownerships among the three parties; the fact of the interferences; the desire of the parties to settle the interferences to their "mutual" advantage; and provided and agreed that the three (Hubert, Manville Co. and Thermoid Co.) should join in the incorporation of a company to be named Asbestos Brake Company, with specified charter and by-laws; that the pending interferences should be prosecuted to decision; that all of the inventions in the said applications for patent, and the pat ents to be issued thereon, should be assigned to the Asbestos Brake Company, subject to the condition however, that the Asbestos Brake Company should give to Auto Improvement Co. (a corporation controlled by Hubert), the Manville Co. and the Thermoid Co. licenses to manufacture and sell under said inventions and patents and under all other inventions and patents which might thereafter be owned or controlled by Asbestos Brake Company (which licenses were to be under a specified form of license agreement); that the three proposed licensees would accept and execute such license agreements; that the licensees should sell the manufactured articles at scheduled prices and make monthly report to the Asbestos Brake Company and pay a royalty of 10%.

By the time this agreement was made Bonner and Hoff had each filed application for patent for improvements in asbestos brake linings, which conflicted and were placed in interference by the Patent Office. This application of Hoff had been assigned by him to the Manville Co., while Bonner's had been assigned to Brake Liners Company, a company in which he (Bonner) was a large stockholder.

As a result of further negotiations another agreement—a *quadripartite* agreement—was made, dated March 6th, 1911, among the three parties to the agreement of September 22d, 1910, and the Brake Liners Company, whereby

the latter company became a party to the agreement of September 22d, 1910, and certain modifications were made therein to conform to the circumstance of there being four parties, instead of three, thereto. The Brake Liners Co. was to assign its inventions and patents to Asbestos Brake Company, and to receive for itself or its nominee, a license similar to the licenses to be issued to the other three.

The provisions of these agreements were for the most part duly carried out. The Asbestos Brake Company was incorporated in March, 1911, with the four parties as stockholders and organized formally May 2, 1911; all of the applications for patent were assigned to the new company; the new company issued license agreements to the Manville Co. and the Thermoid Co., but none to Hubert or his Auto Improvement Company, nor to Brake Liners Company or any nominee thereof. The interferences were proceeded with, and patents were issued and of course became the property of the new company. Subsequently other patents on asbestos brake linings were issued to the new company on later applications of Hoff, Bonner and Headson (another employee of the Manville Co.).

During all this time—that is, prior to the negotiations leading up to the agreement of September 22d, 1910, and continuing uninterruptedly, the Manville Co. and the Thermoid Co. had been manufacturing and selling asbestos brake linings in open competition with each other and a number of other manufacturers. It was of course the hope and desire of each of these two companies, prior to the interferences, that upon the patent applications owned by it, a patent would issue to it, which would give to it the patent monopoly in these articles—the sole right to manufacture and sell asbestos brake bands, thus eliminating the competition of the other manufacturers thereof, who would either have to quit the field, or pay royalties to the owner of the patent. Competition doubtless is the

life of trade from a broad, general standpoint, but it is the *bete noire* of the individual manufacturer or merchant. If he can eliminate competition, his prices and therefore his profits will increase; the consuming public suffers accordingly; hence the statutory provisions against combinations for that purpose. Monopolies based on the ownership of secret processes or inventions and upon the ownership of patents are however legal, and of course highly desirable to the manufacturer or merchant.

I think it is also unquestionable that at the time of the negotiations for the agreement—whatever may have been the fact later on—the Thermoid and Manville Companies —and of course the other parties to the agreement—were still actuated by this desire, in a modified form. The claims of the several patents were different; a patent might issue to one on asbestos brake linings in general, and a patent to another on an improved asbestos brake lining, and to still another on a further improvement—in which case the latter two could make no asbestos brake linings at all without the consent of the former, and the former could not make the improved lining (which might be the only practical, salable form of the articles) without the consent of the latter two. But if all the patents were combined in one ownership (which could legally—at least under certain circumstances—be done), all would reap and share in, the benefits and profits of the marketable improved articles covered by the several patents, and exclude the competition of all other manufacturers.

It must also be borne in mind, however, that patents in this country are not conclusively valid against all the world. It is an unfortunate but well-known fact that when a man has received his patent "his troubles have just begun," and the more valuable his patent is, if valid, the more trouble and expense he will have. Comparatively seldom does the original inventor of an article covered by a valuable patent reap his just reward. Competitors already in the field do not give up without a struggle and

other competitors arise. Some may be bold infringers, pure and simple, taking a chance on making as much as possible before they are stopped; some claiming, honestly or dishonestly that the patent is invalid, that the invention is not patentable, or that the patentee's invention was anticipated by others.

Of course the parties to this agreement, did not believe that upon the issuing of the patents the competing manufacturers would forthwith and without difficulty, acknowledge the validity of the patents and the right of the Asbestos Brake Company to monopoly in the asbestos brake lining field, and enter into license agreements whereby they would pay royalties to the Asbestos Brake Company. And it is of course evident that if competitors should be allowed to infringe these patents, unchecked, a licensee under the patents would be worse off than before, since he would be handicapped in his competition with the outsiders, by the additional costs arising from his payment of royalties. Hence the provisions in the license agreements, that the licensor should prosecute infringers—provision frequent and usual, though not invariable, in such license agreements; and the desire and the efforts to get other manufacturers to take licenses without the compulsion of infringement suits.

The Thermoid Company and the Manville Company did in fact, pursuant to the pre-corporate agreements, execute license agreements with the Asbestos Brake Company, receiving the right to manufacture and sell the patented articles, and binding themselves to pay royalties to the Asbestos Brake Company on all the patented articles made and sold by them. These two companies therefore occupied a dual position toward the Asbestos Brake Company, for they were also stockholders therein—each holding one-quarter of the preferred stock (of which Hubert and the Brake Liners Company also held each one quarter), and together holding 70% of the common stock (of which Hubert and the Brake Liners Company held each

15%). By the certificate of incorporation and the by-laws the election of directors and the power to change the certificate of incorporation or the by-laws was vested in the preferred stockholders, and there were four directors and four officers (the same persons as the directors), divided among the four respective interests, so that each interest was represented by its own director (and officer) and no two interests could exercise control. The Thermoid Company and the Manville Company were manufacturers; Hubert and Brake Liners Company were not.

After the formal organization of the company and issuing of the licenses in question, in May, 1911, the next directors' meeting was held in July, 1911. All four directors (one representing each of the four stockholding interests) were present and a beginning was made upon the matter of endeavoring to get the outside competitors to acknowledge the Asbestos Brake Company's patents and resultant control of the field and to get them to enter in license-royalty agreements with the Asbestos Brake Company. These endeavors were carried on by correspondence and by some personal interviews for some months, with practically no success. One or two directors' meetings were had during this time, and all four directors knew of the situation. One thing that became apparent was that the schedule of prices which the Asbestos Brake Company proposed to have adopted by its licensees was very generally considered too high, and a resolution was adopted August 29th, that a lower schedule should be adopted after further interviews with prospective or possible licensees.

No other licensees were obtained, either then or at any subsequent time. The last meeting of the company was a director's meeting January 17th, 1912. Since then, although the corporate existence has been kept alive, it has not functioned in any way. No stockholders' or directors' meetings have been held, or called, nor has there been any effort by any one to call such meetings. No additional

licensees have been procured; no prosecution of infringers has been had or begun. No moneys have been paid, and no reports rendered by the Thermoid Company or the Manville Company, although those two companies have at all times continued to manufacture and sell brake lining just as before, and such manufacture and sale is admittedly, except for the license, in infringement of the patents of the Asbestos Brake Company. No effort has been made by the Asbestos Brake Company to compel the Thermoid Company and the Manville Company to make the reports and the payments as provided by their license agreements—until the commencement of this suit in 1919; nor has any such effort, at least of any formal kind, been made by or on behalf of either of the other two stockholding interests in the Asbestos Brake Company.

The first defense interposed by the defendants in the present suit is that there was an agreement that the license agreement should be operative and valid only under certain conditions: "An agreement contemporaneous with the organization of the Company and the execution and delivery of the license agreements from The Asbestos Brake Company to the Johns-Manville Company that the license agreement was to become effective only when and if The Asbestos Brake Company should be successful in establishing its monopoly under the patents by forcing competing manufacturers to take out licenses under its patents."

I do not believe there ever was any such agreement, and I so find. There is no proof of any written agreement—nor indeed of any agreement by the Asbestos Brake Company as such. And even if we go behind the corporate entity to the actual parties in interest, the proof offered of any agreement between them is of a rather indefinite and decidedly unconvincing character. This proof consists of testimony of Mr. J. O. Stokes and Mr. W. J. B. Stokes (both officers of the Thermoid Com-

pany), and of Mr. T. F. Manville (of the Manville Company), to the effect that it was repeatedly discussed and agreed amongst all that the license agreements which were to be, and were, executed between the Asbestos Brake Company on the one hand and the Manville Company and Thermoid Company on the other hand, were not to be effective unless other manufacturers were forced to come in and take license agreements and pay royalties to the Asbestos Brake Company. Messrs Hubert, Bonner and Massie (the other individuals in interest), testify that no such conversations were ever had with them and that they never heard of any such agreement or proposed agreement. Mr. Williams, the attorney of Hubert, and Mr. Lowthorp, then the attorney for the Thermoid Company, likewise so testify. Mr. Parker-Smith, the attorney for the Manville Company, fails to testify as to such conversation or agreement.

Looking to the circumstances and the inherent probabilities of the situation, the argument is not without weight, that the Thermoid Company and Manville Company would have been unlikely to handicap themselves as manufacturers by these agreements to pay royalty, unless their competitors should be likewise burdened. The answer may be made however, that it is evident that they expected and intended that their competitors should be compelled to pay royalties, or else should be restrained from manufacturing or selling—and that these very agreements so provided. When it is remembered that all these four interests, although combining as against the outside field, were separate and individual as among themselves—and particularly so in the negotiations and detailed steps of putting the project through—that each was represented by skilled counsel, whose care and attention are evident all through the proceeding, it is impossible to believe that if there had been any such agreement it would not have been known by them—or indeed

that it would not have been reduced to writing and formal execution. There is another circumstance, adding further weight to the conclusion that there was never any such agreement. On October 5th, 1911, Mr. Massie wrote to Joseph O. Stokes and sent a copy of the letter to Mr. Manville. In this letter he called attention to the fact that the Thermoid Company and Manville Company were not paying royalties or making returns to the Asbestos Brake Company as provided by the license agreements. These two men—Stokes and Manville—are two of the three persons who testify in this suit that the alleged contemporaneous agreement was made—and these two testified as to conversations had by themselves with Massie recognizing and constituting such contemporaneous agreement—conversations said to have been had only six months before they received this letter. Can it be imagined that, under those circumstances, they or either of them could have received this letter from Mr. Massie without immediately replying to him and calling his attention to such agreement. But there is no such proof—and the reason there is no such proof is obviously because there never had been any such agreement. What Stokes and Manville did do, was to father the so-called "rescission resolution" of the Asbestos Brake Company, on November 14th, 1911 (later to be mentioned), colorably indicating a rescission by that company of the requirement that the Manville Company and Thermoid Company should pay royalties. Nothing is mentioned in that "resolution" about any such alleged contemporaneous agreement—and such omission is not without weight, for while it is not inconceivable that such a resolution might have been so framed even if there had been the alleged contemporaneous agreement, it would be far more probable that mention of it would have been made in the resolution or in a preamble, as explaining and giving the reason for such action by the company: an

action which needed such explanation, if it existed, for otherwise it was without consideration.

Finally there is what seems to me the very significant language of two of the defendants' own witnesses in testifying as to how and why the "rescinding resolution" was passed. Greenwood, Manville's secretary, on his direct examination, and also in his cross examination, testified that Manville in proposing the resolution gave as the reason for so doing, that the Asbestos Brake Company had not been successful in getting any other manufacturers to take licenses, and that the Manville Company could not afford to pay the royalties under the license agreement and therefore he moved that they be "waived" or rescinded. He says nothing about any statement by anybody that there had been any prior agreement or understanding to that effect. W. J. B. Stokes also, in his direct testimony says that Manville in proposing the resolution said that the Asbestos Brake Company had made unsuccessful efforts to get other manufacturers to take out licenses, and hence the Manville Company and the Thermoid Company were out in competition with the world, and therefore he wanted the resolution rescinding the royalties—that the two companies couldn't afford to pay the 10% royalty. It is clear to my mind, therefore, that the "rescinding resolution" was passed not in furtherance of any prior agreement, but solely at the instigation and desire of the Manville and Thermoid Companies, as an attempt to relieve themselves from the situation which then existed.

The second defense is that of rescission. It is quite evident that no rescission ever took place. It appears that notices were sent out for a directors' meeting of the Asbestos Brake Company, to be held at its New York office on November 14th, 1911, and that at that time and place there were present Mr. Manville, Mr. W. J. B. Stokes, and Mr. Bonner. Of these three,

Manville was the only one who was a director—the other three directors being (as it will be remembered) Mr. J. O. Stokes, Mr. Massie and Mr. Hubert. Hubert had not received the notice mailed to him; Massie was unable to come. Of course there was no quorum. Yet a pretended directors' meeting was held—Manville calling in his private secretary Greenwood, to act as secretary of the meeting, since Bonner, who had come there on other business entirely and was not a director, declined to act, although he did stay at the "meeting." Manville and Stokes presented and voted for the following "resolution":

> "Resolved in view of the conditions in connection with prices on Brake Band Lining and the fact that it has been impossible to maintain prices as proposed at the time of the organization, that the provision for the members of this company paying in ten per cent on the sale of Brake Band Lining, be rescinded, and until conditions warrant, no royalties are to be paid."

Manville immediately wrote to Massie as follows:

> "I have your telegram advising us that you could not attend the meeting. There was a quorum present and we passed a few resolutions which we will hold and have you enter in the minute book at the first opportunity."

After the adjournment of the next—and last—directors' meeting, on January 17th, 1912, Manville handed the transcript of minutes to Massie. All four directors were present, but neither Hubert nor Massie knew anything about the so-called resolution.

It is quite clear that in the first place, there was no action by the Asbestos Brake Company at all. The resolution was not passed by the directors of the Asbestos Brake Company nor presented at a meeting of that company, and there was no ratification—either active or passive—at any meeting of the company. In the second

place the resolution is not one of rescission. Rescission would mean the entire undoing of what had been done. It would mean, amongst other things, the assignment of the several patents back to their several prior owners. (Of course in the nature of things, complete rescission could never be had: the parties could not be placed back in the *statu quo ante.*) But nothing of this kind was included or suggested. The "resolution" simply purports to nullify, temporarily at least, the provisions of the license agreements requiring the Thermoid Company and Manville Company to pay royalty. It was a release entirely without consideration.

The incident and the conduct of the several parties in regard to it, are most peculiar—but as I have said, it is evident that there was no rescission. The defendants also set up acquiescence, laches and equitable estoppel.

As to acquiescence, I have pointed out that there was no corporate act done or taken in which the complaining stockholders can be said to have acquiesced. Inapplicable, therefore, are the numerous cases cited by defendants, involving the well recognized principle that where a corporation does an act which is *ultra vires* and, which would be set aside at the instance of dissenting stockholders if timely steps in behalf be taken by them, the act is deemed to be ratified and acquiesced in by them where they, with knowledge, remain silent and inactive for an unreasonably long period. There was not even any action by the Manville and Thermoid Companies amounting to a notice of repudiation of the contract or of an intention not to abide by its terms. The thing that was done was an attempt to make a colorable record of action by the Asbestos Brake Company—and an attempt so smirched with *mala fides* as to render it impossible for a court of equity to regard it as a foundation upon which any edifice of rights in favor of defendants could be rested. I have in mind Manville's letter to Massie

wherein he falsely stated that there had been a quorum present at the directors' meeting and that several resolutions had been passed—statements which he knew to be false; and the fact that the subject matter of the "resolution" was not brought before the next meeting of directors when there was not only a quorum, but a full attendance of all the directors, representing all the stockholding interests.

Neither do I find laches. True it is that the action which has now been taken by this suit could have been taken equally well at any time during a period of about eight years prior to the filing of the bill. But laches involves something more than mere delay, mere lapse of time. There must be delay for a length of time which—unexplained and unexcused—is unreasonable under the circumstances, and which has been prejudicial to the defendant. *Cf. Johnston* v. *McKenna,* 76 N. J. Eq. 217, at 229 (affirmed 77 *id.,* 555)—where there was delay of some seven or eight years. *Cf.* also *Soper* v. *Cisco,* 85 N. J. Eq. 165, at 174. In the present case no prejudice is shown, or can be inferred, to have resulted to complainants. There has been no loss of memory, no loss of witnesses, no loss of evidence. Defendants' course of conduct was not induced by complainants' delay or inaction. Defendants have simply continued to act as they acted in the beginning. It will be borne in mind that complainants are in this court suing on a legal right—their right to an accounting on an express covenant in a sealed contract. Equity has concurrent jurisdiction in the enforcement of such right—and in the present case was the necessary or appropriate forum since complainants must needs sue in the corporate right. In such a case—where complainants' bill is for the enforcement of a legal right—the equitable remedy is not ordinarily barred by mere acquiescence for a period less than the statute of limitation at law in a similar case, as is pointed out by Vice-

Chancellor Emery in *Paterson* v. *East Jersey Water Company,* 74 N. J. Eq. 49, at 97 (affirmed 77 *id.* 588). The right of action being based on the covenant in the sealed contract would not be barred at law by the six-year limitation respecting the ordinary action of account, and hence will not be barred in equity as laches by analogy. *Lilliendahl* v. *Stegmaier,* 74 N. J. Eq. 648, at 650.

I have already indicated that there are no special circumstances to raise equities in favor of defendants and turn delay into laches—and of course the defense of equitable estoppel, in so far as it raised separately from laches, falls in the same way. Defendants' conduct was not induced, nor were they misled, by any acts or conduct of complainants. Defendants continued to manufacture and sell these brake linings at all times just as they had always done—both before and after the execution of the license agreements. They never at any time paid any royalties or made any returns. Their course was taken with their eyes open and at their own risk, and as a matter of fact, in the face of the notice or warning given by Massie in his letters of October 5th, 1911 (Exhibits C. 7 and 8). Complainants' delay has been unusual, it is true, for parties in such circumstances, but its only resulting prejudice is to complainants rather than defendants. Not even is there evidence to prove, nor to indicate, that defendants would not have continued to manufacture and sell if this litigation had been commenced eight years ago. Wherein does their position differ from an obligor on a bond matured due who has failed to pay principal or interest for eight years without complaint or protest from the mortgagee? Would he be heard to come in to equity and say that the mortgagee's silence and inaction had caused him to spend the money on the education of his children for instance, and that the mortgagee must be held barred by an equitable estoppel?

Defendants, in the course of their argument, refer to the concurrent obligation on the Asbestos Brake Company, under the terms of the license agreement, to prosecute outside infringers, and to the fact that this obligation was not performed by the Asbestos Brake Company. I do not see that this can be of any avail to defendants. No effort whatever was made by defendants to have the Asbestos Brake Company undertake or prosecute such suits—at least after January, 1912, at which time defendants were and had been for six months guilty of default and breach of their own obligation. They were the first offenders; their default and breach deprived the Asbestos Brake Company of funds to carry on such litigation; and they could at any and all times have taken the requisite steps to have such suits brought. That the suits were not brought was, to say the least, as much the fault of defendants as of complainants, and cannot raise either a legal bar nor an equitable estoppel against complainants, who were, as appears from the evidence (and this defendants in nowise seek to controvert) at all times ready and willing to have infringement suits brought against the other manufacturers.

There remains to be considered the last defense interposed, namely that the whole arrangement among the parties embodied in the pre-corporate agreement was unlawful as an agreement in restraint of trade; that the license agreements here sued upon are a part, and in furtherance of that unlawful agreement, and hence are invalid and unforceable.

It is not claimed that the two license agreements sued on are in and of themselves alone unlawful. They are license agreements perfectly natural and proper to be made by an owner of patents—containing no unusual provisions. Each agreement cites the patents and patent applications owned by the Asbestos Brake Company and grants a non-exclusive license to manufacture, sell and

use asbestos brake linings or members embodying the inventions in the said patents and patent applications, as well as in such patents as might later be acquired by the licensor. There are provisions limiting assignment of the license to whose only who should succeed substantially to the licensees' business and good will; providing that sales of the articles embodying the inventions shall be at prices fixed by the licensor; requiring the licensee to render statements and pay royalties to the licensor; providing for damages or cancellation in case of breach; and for affixing the proper patent marks upon the articles sold. The licensor agrees to protect against infringers. All of these things are lawful and proper as between the owner of patents (at least where that owner is a natural person), and licensees.

The contention of defendants is that the whole scheme and agreement among the four parties who incorporated the Asbestos Brake Company was unlawful under Section 1 of the Act of Congress of July 2, 1890, known as the Sherman Law (U. S. Comp. Stat. Section 8820), which provides:

> "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is hereby declared to be illegal."

The object of patents and the patent laws is of course to secure to the patentee a monopoly for the term of the patent. In the exercise of that monopoly competition as to the patented article vanishes except to the extent that the patentee permits, and the result in a sense at least is a restraint of trade. It is not against this, however, either in terms or intent, that the Sherman Law is directed: it is *combination,* and combination *in restraint of trade,* which is forbidden.

As pointed out by the United States Supreme Court in *Standard Sanitary Mfg. Co.* v. *U. S.,* 226 U. S. 20, the

statute is a limitation upon the rights of all persons, patentees as well as others. And so a contract whereby the manufacturers of two *independent* patented inventions *agree not to compete* in the same commercial field creates a restraint of trade which results not from the patents but from agreement. *Blount Co.* v. *Yale & Towne Co.*, 166 Fed. 555 at 557. It naturally results that where such agreement of such manufacturers of independent patented inventions takes the form of incorporating their several interests into a company, and assigning their several patents to that company so that there shall be a single owner of all the patents, the resulting situation is not thereby saved from being unlawful. It is the substance, not the form, which is to be looked into, and the agreement being unlawful, the form which is the creature of the unlawful agreement affords no shield.

It is precisely that situation which defendants contend is disclosed in the case at bar. They contend that the object of the pre-corporate agreement and the purpose of the parties thereto, was to eliminate or restrain competition in articles covered by independent inventions, by fixing prices at which the same should be sold—and that the creation of the Asbestos Brake Company and the assignment of the several patents to it, and the execution of license agreements between it and manufacturers of brake linings, all constituted simply means to that end.

It is true that the license agreements provide for the fixing of prices at which the manufactured articles are to be sold by the licensees. This a *bona fide* patent owner may lawfully do. *Bement* v. *National Harrow Co.*, 186 U. S. 70. It would seem clear that he may also lawfully make as many of such agreements with separate licensees as he may desire or find profitable. *Rubber Tire Wheel Co.* v. *Milwaukee Rubber Co.*, 154 Fed. 358; *Indiana Mfg. Co.* v. *J. L. Case, &c., Co.*, 154 Fed. 365; *Goshen Rubber Co.* v. *Single Tube Co.*, 166 Fed. 431. This is indeed conceded by defendants, but they say that that is not the

case shown by the facts now before this Court. They say that here there is price fixing not by the owner and licensor of the patents, but by agreement amongst the licensees.

Of course it is perfectly clear and undisputed that the Asbestos Brake Company is simply the Manville Company, the Thermoid Company, the Brake Liners Company and Hubert in another—a corporate—form, so that in essence the price fixing by the Asbestos Brake Company is price fixing by the four companies. It is also true that these four companies by their pre-corporate contract agreed together in advance as to the fixing and maintaining of the prices at which the manufactured articles should be sold. In a sense therefore, it may be said to be true that there is here a price fixing agreement between licensees, because the Manville Company and the Thermoid Company are licensees from the Asbestos Brake Company. But it is perfectly obvious that the price fixing agreement was made by them, primarily at least, not as licensees but as owners. Suppose there were four persons who had collaborated in an invention and had had a patent therefor issued to themselves; two desired to manufacture and the other two did not. If they saw fit so to do, is there any reason why they should not form a quadripartite corporation, and assign their patent to it, under an agreement that the two who desired to manufacture should receive licenses so to do and should pay royalties to the corporation, that licenses might be issued by the corporation to other manufacturers, and that the prices at which the manufactured articles should be sold by the licensees should be fixed by the corporation—namely the four joint owners themselves. I cannot conceive that such an agreement would be unlawful; certainly I know of no adjudication so holding or indicating.

However, defendants deny that the parties to the pre-corporate agreement occupy any such position as the joint owners in the supposititious case. They contend that the

four parties were owners of patents or patent applications which were independent and not conflicting; that the agreement was not for the proper purposes of *bona fide* owners of a patent but had as its object the elimination of competition. I am unable to find from the evidence that such is the fact. It is true, perhaps, that some of the inventions were independent, that as to some of them the respective owners might have each manufactured something under his patent which would not have infringed the others. But it is clear that if this could have been done, there would have been little, if any, competition as among these articles. It is clear that the thing which would benefit the public was an article manufactured under a combination of these patents and which could not be manufactured under any one of them alone—the brake lining made of the woven wire and asbestos tape which is so universally used today. It is also clear that there had been interferences declared in the Patent Office among the five applications of the parties to the original tripartite pre-corporate agreement; that the ultimate ownership of the basic patent was a matter of uncertainty to be decided only after litigation; that the value of the basis patent alone without the improvements of the other inventions, and vice versa was much less than in combination, and this latter is also true as to the improvement inventions in the patents of the fourth party, the Brake Liners Company, who later joined the first three. I am satisfied that the purpose and object of the agreement and combination of the four parties was a *bona fide* desire to settle the disputes, get half or quarter of a loaf rather than no bread, and associate themselves as joint owners of a combination of patents not independent but interdependent as a practical matter; that the provisions as to price fixing were simply incidental provisions proper and lawful for them to make as the joint owners of such combination of patents and the agreement in that behalf not unlawful under the statute mentioned.

*Conclusions of Vice-Chancellor.*

I conclude therefore that complainants are entitled to relief—to a decree for accounting. The form of the decree may be settled on notice. During the course of these proceedings a receiver was appointed to take over the patents of the Asbestos Brake Company and bring suits against infringers. The payment of the amounts found due upon the accounting should be made to the receiver. I do not now recall whether or not the powers conferred upon him by the order appointing him, are sufficiently broad to comprehend this—but if not they can be made so.

It may be noted here that subsequent to the appointment of the receiver, notices were served by the Manville and Thermoid Companies purporting to rescind the license agreements. To this action or attempt I accord no efficacy. There existed no more ground for rescission at that time than there did in November, 1911. I have not the notice now before me but my recollection is that there was no accompanying tender or offer to restore the several patents to their original assignors. Certainly no such offer was at any time made prior to the appointment of the receiver.

Subsequent to the formulation of the foregoing conclusions the parties have come before the court for settlement of the form of decree, and in the course of that application questions substantive as well as formal have arisen. Complainants in the draft of decree presented by them, included certain provisions for the specific performance of the license agreements by the defendants in future. The bill prays for such specific performance as well as for the accounting, but the granting of this additional relief clearly is not a necessary consequence of the result reached in the prayer for accounting. The right to the accounting, is, as I have heretofore indicated, a legal right enforceable, and here being enforced, in a court of equity. A decree for an accounting, although in some sense, it amounts to a partial enforcement of the contract, is not from a legal standpoint a decree for specific per-

formance. *Sussex R. R. Co.* v. *Morris & Essex R. R. Co.*, 19 N. J. Eq. 13, at 28. And the right to the latter is not a legal but an equitable right.

Specific performance is extraordinary relief, and the award thereof rests in principle upon the inadequacy of other remedies to afford complainant that measure of relief to which he is equitably entitled under the circumstances. There may well be doubt whether in the case of a contract of this kind the future performance of the contract should be decreed or its violation enjoined—since the essence of the contract is for the payment of moneys —notwithstanding the undoubted fact that the trend of courts of equity in modern times is toward extending such relief. It seems to me that in the present case the practical result of a decree for future specific performance would at most be the elimination of the possible necessity for complainants to bring subsequent accounting suits if there should be future violations—substituting contempt proceedings in place of such suit. Such contempt proceedings might well partake largely of the nature of new suits, however, since a decree for specific performance must needs comprehend performance by complainants, or the Asbestos Brake Company of the things provided by the agreements concurrently to be performed by the latter. Furthermore the equitable principles governing this extraordinary relief of specific performance limit its award to those who seek it promptly. *Cf. Fry Spec. Perf.*, 6th Ed., Section 1102; *VanDoren* v. *Robinson*, 16 N. J. Eq. 256, at 263. I take this still to be a requirement or limitation in specific performance cases, notwithstanding it is frequently lost sight of because the great majority of such cases are between vendor and vendee on contracts of sale, and in those cases the doctrine of trust or equitable title rather strongly motivates the court in somewhat the opposite direction. The complainants have certainly in the present case been quite the reverse of prompt in bringing suit, and if they thereby lose the right to this addi-

tional relief which they might perhaps otherwise have had, it is their own fault.

It seems to me that the exercise of that sound discretion to which the prayer for decree for specific performance is always addressed leads in the present case to the denial thereof; but such denial may be without prejudice to a like prayer in a future bill, should any such occasion of future violation arise.

The question of interest upon the defaulted royalty payments was also raised. I think defendants are properly chargeable with such interest.

I earlier said that I thought payment of the amounts found due upon the accounting should be made to the receiver. On further consideration of the internal situation of the Asbestos Brake Company, and the fact that defendants as stockholders will be entitled to receive back as dividends a large part of the royalties, less taxes and corporation expenses, it seems to me and to counsel on both sides, that the decree as to payment may well await the result of the accounting.

*Decree.*

## DECREE.

Filed January 9, 1923.

IN CHANCERY OF NEW JERSEY.

*Between*

MITFORD C. MASSIE, individually and as trustee for The Brake Liners Company, a corporation of Delaware, THE BRAKE LINERS COMPANY and CONRAD HUBERT,
*Complainants,*

*and*

THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,
*Defendants.*

*On Bill, &c.*
*Decree.*

This matter coming on to be heard before the Court on bill, answers and proofs, in the presence of Francis C. Lowthorp, C. Bertram Plante of New York, and Robert H. McCarter, of counsel for complainants, and John R. Hardin, Esquire, counsel for the defendant H. W. Johns-Manville Company, and Edward L. Katzenbach, Esquire, counsel for the defendant Thermoid Rubber Company (a decree *pro confesso* having been had heretofore against the defendant The Asbestos Brake Company), and the Court having considered the evidence and the arguments of counsel and being of the opinion that the complainants are entitled to a part of the relief prayed for in their bill of complaint, and that the two said license agreements dated the 2nd of May, 1911, and attached as, respectively Exhibit "C" and "D" to

the bill of complaint, made respectively between The Asbestos Brake Company and H. W. Johns-Manville Company and The Asbestos Brake Company and Thermoid Rubber Company, are lawful and valid contracts, it is thereupon, on this sixth day of January, A. D. 1923, on motion of Francis C. Lowthorp and Robert H. McCarter, of counsel with complainants,

ORDERED, ADJUDGED and DECREDD, and the Chancellor, by virtue of the power and authority in him vested, doth hereby order, adjudge and decree that:

1. The Asbestos Brake Company was, at the time of making of said license agreements hereinbefore referred to and has been at all times since, the sole owner of the several United States letters patent and applications for letters patent of the United States for brake linings, brake band linings and brake blocks mentioned in the bill of complaint herein, to wit:

> United States Letters Patent No. 903,049, dated November 3, 1908, for friction Member; No. 931,988 dated August 24, 1909, for Friction Member, and No. 980,481, dated January 3, 1911, for Brakes and Brake Lining; and of certain inventions for which applications for Letters Patent of the United States have been filed, as follows: Serial No. 400,208, filed November 1st, 1907, for Brake Lining; Serial No. 411,599, filed January 20th, 1908, for Improvements in Brakes and Linings Therefor; Serial No. 441,207, filed June 30th, 1908, for Brake Blocks; Serial No. 445,716, filed July 28th, 1908, for Brake Bands; Serial No. 503,625, filed June 22nd, 1909, for Brakes and Brake Linings; Serial No. 509,880, filed July 27th, 1909, for Brakes and Brake Lining; Serial No. 517,705, filed September 14th, 1909, for Brake Band Linings; and Serial No. 526,432, filed November 5th, 1909, for Asbestos Brake Bands.

2. That the said license agreements hereinabove described are lawful and valid contracts.

*Decree.*

3. That continuously since the 23rd day of May, 1911, the defendants H. W. Johns-Manville Company and Thermoid Rubber Company have been, respectively, making and selling, under and pursuant to said license agreements, brake linings and brake band linings shown, described and claimed in and by the letters patent above mentioned and described or some of them.

4. That the defendant, H. W. Johns-Manville Company has also been making and selling, pursuant to such license agreements, brake blocks embodying compressed asbestos as shown, described and claimed in and by an application for United States Letters Patent of Cutting & Jewett, being Serial No. 441,207 mentioned in said license agreements.

5. That the defendants, H. W. Johns-Manville Company and Thermoid Rubber Company have respectively failed to perform and comply with the terms of said license agreements by selling said brake linings and brake band linings for the prices and discounts agreed upon by said defendants in said license agreements to be charged therefor, and have also altogether failed and refused to account for or to pay to the Asbestos Brake Company, monthly or otherwise, for the royalties for said sales of brake linings and brake band linings under said license agreements, and that they do account as hereinafter directed for the said sales so made by them or either of them of the said brake linings and brake band linings at the schedule of prices and discounts specified in said agreements.

6. That said defendant, H. W. Johns-Manville Company has also altogether failed to account for and pay to the Asbestos Brake Company the royalty of ten per centum (10%) upon the sales prices of said brake blocks so sold by it as aforesaid, as in said license agreement provided.

*Decree.*

7. That the defendants, H. W. Johns-Manville Company and Thermoid Rubber Company do forthwith account to The Asbestos Brake Company for all such sales of brake linings and brake band linings made by them or their agents, respectively, since the 23rd day of May, 1911, for royalties at the rate of ten per centum (10%) of such net prices as fixed by said license agreements and that in all cases where said license agreements may not fix such prices the said defendants do respectively account for royalties at the rate of ten per centum (10%) of the net prices charged on such sales; and that said defendants do further respectively account for lawful interest on all the aforesaid royalties to be computed from the respective dates of default in the payments thereof to the date of the Master's report on said accounting.

8. That the defendant H. W. Johns-Manville Company do also account to the said Asbestos Brake Company for all brake blocks sold by it since the 23rd day of May, 1911, embodying compressed asbestos as shown, described and claimed in said application for letters patent of Cutting & Jewett, Serial No. 441,207 and for royalties thereon at the rate of ten per centum (10%) of the net prices charged by it upon said sales together with lawful interest on all such royalties, to be computed from the dates of default of payment thereof to the date of the said Master's report upon said accounting.

9. The complainants' prayer for injunction or restraining order enjoining or restraining the defendants from further manufacturing and selling brake linings, brake band linings and brake blocks as shown, described and claimed in any of said patents or applications for patents hereinabove referred to and included in said license agreements unless they, the said defendants, do account for and pay, monthly, the royalties provided for and required to be paid by the said license agreements upon all of said brake linings, brake band linings and

*Decree.*

brake blocks hereafter sold by them or either of them respectively, be and the same is hereby denied, this, however, without prejudice to complainants' right to compel a future accounting therefor, and to apply for specific performance of said agreements, should future violations thereof arise.

10. That John A. Bernhard, Esquire, one of the Masters of this Court be and he is hereby appointed to take the aforesaid accounting with full power to call for and require the production by the defendants, respectively, of all accounts, memoranda, books, documents, papers and statements necessary for the taking of said accounting, and to require the attendance of witnesses before him to examine them under oath concerning all matters involved therein and to report with all convenient speed to this Court the results thereof.

11. That the said defendants, H. W. Johns-Manville Company and Thermoid Rubber Company do, respectively, pay to the complainants, or their solicitor, their taxable costs of this suit to be taxed, including any disbursements made by them for the transcript of the evidence furnished to the Court, and including also the sum of five thousand dollars hereby adjudged and allowed as a reasonable and proper allowance to complainants by way of counsel fee.

12. That all other equities are reserved until the coming in of said report or the further order of this Court in the premises and leave is hereby given to any party to this suit to come in at any time hereunder for such further relief as they may be advised they are entitled to.

E. R. WALKER,
*C.*

Respectfully advised,

MALCOLM G. BUCHANAN,
*V.-C.*

## NOTICE OF APPEAL.

**(The H. W. Johns-Manville Company.)**

Filed January 16, 1923.

IN CHANCERY OF NEW JERSEY.

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| *Between* MITFORD C. MASSIE, individually and as trustee for The Brake Liners Company, a corporation of Delaware, THE BRAKE LINERS COMPANY and CONRAD HUBERT, *Complainants,* *and* THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY, *Defendants.* | *On Bill, &c.* *Notice of Appeal.* |

The H. W. Johns-Manville Company, one of the defendants in the above-entitled cause, hereby appeals to the Court of Errors and Appeals, in the last resort in all causes, from the whole and every part of the final decree made by this Court in the above-entitled cause on the sixth day of January, 1923, except Paragraph 9 thereof.

Dated January 15, 1923.

PITNEY, HARDIN & SKINNER,
*Solicitors for and of Counsel with Defendant, The H. W. Johns-Manville Company.*

I conceive that there is good cause for appeal in the above-stated cause.

JOHN R. HARDIN,
*Of Counsel with Defendant, The H. W. Johns-Manville Company.*

*Notice of Appeal.*

## NOTICE OF APPEAL.

**(Thermoid Rubber Company.)**

Filed January 16, 1923.

IN CHANCERY OF NEW JERSEY.

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| *Between*<br>MITFORD C. MASSIE, individually and as trustee for The Brake Liners Company, a corporation of Delaware, THE BRAKE LINERS COMPANY and CONRAD HUBERT,<br>*Complainants,*<br>*and*<br>THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,<br>*Defendants.* | *On Bill, &c.*<br>*Notice of Appeal.* |

Thermoid Rubber Company, one of the defendants in the above-entitled cause, hereby appeals to the Court of Errors and Appeals, in the last resort in all causes, from the whole and every part of the final decree made by this Court in the above-entitled cause on the sixth day of January, 1923, except Paragraph 9 thereof.

Dated, January 16, 1923.

EDWARD L. KATZENBACH,
*Solicitor for and of Counsel with the Defendant, Thermoid Rubber Company.*

I conceive that there is good cause for appeal in the above-stated cause.

EDWARD L. KATZENBACH,
*Of Counsel with the Defendant, Thermoid Rubber Company.*

**PETITION OF APPEAL.**

**(The H. W. Johns-Manville Company.)**

Filed February 1, 1923.

# New Jersey Court of Errors and Appeals

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| *Between*<br>MITFORD C. MASSIE, individually and as trustee for The Brake Liners Company, a corporation of Delaware, THE BRAKE LINERS COMPANY and CONRAD HUBERT,<br>*Complainants-Respondents,*<br>*and*<br>THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,<br>*Defendants-Appellants.* | *On Bill, etc.*<br>*Petition of Appeal.* |

The petition of the H. W. Johns-Manville Company, one of the defendants in the above-stated cause, respectfully shows that:

Your petitioner finds itself aggrieved by a certain final decree made in the Court of Chancery by his Honor Edwin Robert Walker, Chancellor of New Jersey, bearing date the sixth day of January, 1923, in a cause wherein Mitford C. Massie, individually and as trustee for the Brake Liners Company, a corporation of Delaware, the Brake Liners Company and Conrad Hubert were complainants, and the Asbestos Brake Company, the H. W. Johns-Manville Company and Thermoid Rubber Company were defendants, in these respects, to wit: that the said final decree recites that in the opinion of the Court the complainants are entitled to a part of the relief prayed

for in their bill of complaint and that the two license agreements dated the second day of May, 1911, and attached as, respectively, Exhibits "C" and "D" to the bill of complaint, made respectively between The Asbestos Brake Company and H. W. Johns-Manville Company and the Asbestos Brake Company and Thermoid Rubber Company, are lawful and valid contracts; and that said final decree orders, adjudges and decrees: (1) that the Asbestos Brake Company was, at the time of making of the said license agreements in the said recital referred to and has been at all times since, the sole owner of the several United States letters patent and applications for letters patent of the United States for brake linings, brake band linings and brake blocks mentioned in the bill of complaint, to wit:

> United States Letters Patent No. 903,049, dated November 3, 1908, for Friction Member; No. 931,988, dated August 24, 1909, for Friction Member, and No. 980,481, dated January 3, 1911, for Brakes and Brake Lining; and of certain inventions for which applications for Letters Patent of the United States have been filed, as follows: Serial No. 400,208, filed November 1st, 1907, for Brake Lining; Serial No. 411,599, filed January 20th, 1908, for Improvements in Brakes and Linings therefor; Serial No. 441,207, filed June 30th, 1908, for Brake Blocks; Serial No. 445,716, filed July 28th, 1908, for Brake Bands; Serial No. 503,625, filed June 22nd, 1909, for Brakes and Brake Linings; Serial No. 509,880, filed July 27th, 1909, for Brakes and Brake Lining; Serial No. 517,705, filed September 14th, 1909, for Brake Band Linings; and Serial No. 526,432, filed November 5th, 1909, for Asbestos Brake Bands;

(2) that the said license agreements thereinabove described are lawful and valid contracts; (3) that continuously since the twenty-third day of May, 1911, the defendants H. W. Johns-Manville Company and Thermoid Rubber Company have been, respectively, making and selling, under and pursuant to said license agreements, brake linings and

brake band linings shown, described and claimed in and by the letters patent thereinabove mentioned and described, or some of them; (4) that the defendant, H. W. Johns-Manville Company, has also been making and selling, pursuant to such license agreements, brake blocks embodying compressed asbestos as shown, described and claimed in and by an application for United States Letters Patent of Cutting & Jewett, being Serial No. 441,207 mentioned in said license agreements; (5) that the defendants, H. W. Johns-Manville Company and Thermoid Rubber Company, have respectively failed to perform and comply with the terms of said license agreements by selling said brake linings and said brake band linings for the prices and discounts agreed upon by said defendants in said license agreements to be charged therefor, and have also altogether failed and refused to account for or to pay to the Asbestos Brake Company monthly, or otherwise, for the royalties or for the said sales of brake linings and brake band linings under said license agreements, and that they do account as thereinafter directed for the said sales so made by them, or either of them, of the said brake linings and brake band linings at the schedule of prices and discounts specified in said agreements; (6) that said defendant, H. W. Johns-Manville Company, has also altogether failed to account for and pay to the Asbestos Brake Company the royalty of ten per centum (10%) upon the sales prices of said brake blocks so sold by it as aforesaid, as in said license agreement provided; (7) that the defendants, H. W. Johns-Manville Company and Thermoid Rubber Company, do forthwith account to the Asbestos Brake Company for all such sales of brake linings and brake band linings made by them or their agents, respectively, since the twenty-third day of May, 1911, for royalties at the rate of ten per centum (10%) of such net prices as fixed by said license agreements and that in all cases where said license agreements may not fix such prices the said defendants do respectively account for

royalties at the rate of ten per centum (10%) of the net prices charged on such sales, and that said defendants do further respectively account for lawful interest on all the aforesaid royalties to be computed from the respective dates of default in the payments thereof to the date of the Master's report on said accounting; (8) that the defendant H. W. Johns-Manville Company do also account to the said Asbestos Brake Company for all brake blocks sold by it since the twenty-third day of May, 1911, embodying compressed asbestos as shown, described and claimed in said application for letters patent of Cutting & Jewett, Serial No. 441,207, and for royalties thereon at the rate of ten per centum (10%) of the net prices charged by it upon said sales together with lawful interest on all such royalties, to be computed from the dates of default of payment thereof to the date of the said Master's report upon said accounting; (10) that John A. Bernhard, Esquire, one of the Masters of the Court of Chancery, be and he was thereby appointed to take the aforesaid accounting with full power to call for and require the production by the defendants, respectively, of all accounts, memoranda, books, documents, papers and statements necessary for the taking of said accounting, and to require the attendance of witnesses before him to examine them under oath concerning all matters involved therein and to report with all convenient speed to the court the results thereof; (11) that the defendant, H. W. Johns-Manville Company and Thermoid Rubber Company do, respectively, pay to the complainants or their solicitor, their taxable costs of this suit to be taxed, including any disbursements made by them for the transcript of the evidence furnished to the court, and including also the sum of five thousand dollars thereby adjudged and allowed as a reasonable and proper allowance to complainants by way of counsel fee; and (12) that all other equities are reserved until the coming in of said report or the further order of the court in the premises, and that leave is thereby

given to any party to this suit to come in at any time thereunder for such further relief as they may be advised they are entitled to.

And your petitioner humbly appeals from all and every part of the said decree of the Chancellor which orders, adjudges and decrees as aforesaid, upon the ground that the same is erroneous, for that said decree should not have recited as therein recited, but should have recited that it appeared to the court that the complainants were not entitled to the relief prayed for in their bill of complaint, and should not have ordered, adjudged and decreed as hereinbefore set forth, but should have ordered, adjudged and decreed that the complainants' bill be dismissed with costs.

Your petitioner therefore prays that said decree of the Chancellor may be, in the particulars aforesaid, reversed, set aside and for nothing holden, and that your petitioner may have such relief in the premises as to this Honorable Court shall seem meet.

PITNEY, HARDIN & SKINNER,
*Solicitors for and of Counsel with Defendant-Appellant, The H. W. Johns-Manville Company.*

## PETITION OF APPEAL.

**(Thermoid Rubber Company.)**

Filed February 1, 1923.

NEW JERSEY COURT OF ERRORS AND APPEALS.

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| *Between*<br>MITFORD C. MASSIE, individually and as trustee for The Brake Liners Company, a corporation of Delaware, THE BRAKE LINERS COMPANY and CONRAD HUBERT,<br>*Complainants-Respondents,*<br>*and*<br>THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,<br>*Defendants-Appellants.* | *On Bill, etc.*<br>*Petition of Appeal.* |

The petition of Thermoid Rubber Company, one of the defendants in the above-stated cause, respectfully shows that:

Your petitioner finds itself aggrieved by a certain final decree made in the Court of Chancery by his Honor, Edwin Robert Walker, Chancellor of New Jersey, bearing date the sixth day of January, 1923, in a cause wherein Mitford C. Massie, individually and as trustee for the Brake Liners Company, a corporation of Delaware, the Brake Liners Company, and Conrad Hubert were complainants, and the Asbestos Brake Company, the H. W. Johns-Manville Company and Thermoid Rubber Company were defendants, in these respects, to wit: that the said final decree recites that in the opinion of the court the complainants are entitled to a part of the relief prayed for in their bill of complaint and that the two license agreements dated the second day of May, 1911, and at-

tached as, respectively, Exhibits "C" and "D" to the bill of complaint, made respectively between the Asbestos Brake Company and H. W. Johns-Manville Company and the Asbestos Brake Company and Thermoid Rubber Company, are lawful and valid contracts; and that the said final decree orders, adjudges and decrees: (1) that the Asbestos Brake Company was, at the time of making of the said license agreements in the said recital referred to and has been at all times since, the sole owner of the several United States letters patent and applications for letters patent of the United States for brake linings, brake band linings and brake blocks mentioned in the bill of complaint, to wit:

> United States Letters Patent No. 903,049, dated November 3, 1908, for Friction Member; No. 931,988, dated August 24, 1909, for Friction Member, and No. 980,481, dated January 3, 1911, for Brakes and Brake Lining; and of certain inventions for which applications for Letters Patent of the United States have been filed, as follows: Serial No. 400,208, filed November 1st, 1907, for Brake Lining; Serial No. 411,599, filed January 20th, 1908, for Improvements in Brakes and Linings therefor; Serial No. 441,207, filed June 30th, 1908, for Brake Blocks; Serial No. 445,716, filed July 28th, 1908, for Brake Bands; Serial No. 503,625, filed June 22nd, 1909, for Brakes and Brake Linings; Serial No. 509,880, filed July 27th, 1909, for Brakes and Brake Lining; Serial No. 517,705, filed September 14th, 1909, for Brake Band Linings; and Serial No. 526,432, filed November 5th, 1909, for Asbestos Brake Bands;

(2) that the said license agreements thereinabove described are lawful and valid contracts; (3) that continuously since the twenty-third day of May, 1911, the defendants H. W. Johns-Manville Company and Thermoid Rubber Company have been, respectively, making and selling, under and pursuant to said license agreements, brake linings and brake band linings shown, described and

claimed in and by the letters patent thereinabove mentioned and described, or some of them; (4) that the defendant, H. W. Johns-Manville Company, has also been making and selling, pursuant to such license agreements, brake blocks embodying compressed asbestos as shown, described and claimed in and by an application for United States Letters Patent of Cutting & Jewett, being Serial No. 441,207 mentioned in said license agreements; (5) that the defendants, H. W. Johns-Manville Company and Thermoid Rubber Company, have respectively failed to perform and comply with the terms of said license agreements by selling said brake linings and said brake band linings for the prices and discounts agreed upon by said defendants in said license agreements to be charged therefor, and have also altogether failed and refused to account for or to pay to the Asbestos Brake Company monthly or otherwise, for the royalties or for the said sales of brake linings and brake band linings under said license agreements, and that they do account as thereinafter directed for the said sales so made by them, or either of them, of the said brake linings and brake band linings at the schedule of prices and discounts specified in said agreements; (6) that said defendant, H. W. Johns-Manville Company, has also altogether failed to account for and pay to the Asbestos Brake Company the royalty of ten per centum (10%) upon the sales prices of said brake blocks so sold by it as aforesaid, as in said license agreement provided; (7) that the defendants, H. W. Johns-Manville Company and Thermoid Rubber Company, do forthwith account to the Asbestos Brake Company for all such sales of brake linings and brake band linings made by them or their agents, respectively, since the twenty-third day of May, 1911, for royalties at the rate of ten per centum (10%) of such net prices as fixed by said license agreements and that in all cases where said license agreements may not fix such prices the said defendants

do respectively account for royalties at the rate of ten per centum (10%) of the net prices charged on such sales, and that the said defendants do further respectively account for lawful interest on all the aforesaid royalties to be computed from the respective dates of default in the payments thereof to the date of the Master's report on said accounting; (8) that the defendant H. W. Johns-Manville Company do also account to the said Asbestos Brake Company for all brake blocks sold by it since the twenty-third day of May, 1911, embodying compressed asbestos as shown, described and claimed in said application for letters patent of Cutting & Jewett, Serial No. 441,207, and for royalties thereon at the rate of ten per centum (10%) of the net prices charged by it upon said sales together with lawful interest on all such royalties, to be computed from the dates of default of payment thereof to the date of the said Master's report upon said accounting; (10) that John A. Bernhard, Esquire, one of the Masters of the Court of Chancery, be and he was thereby appointed to take the aforesaid accounting with full power to call for and require the production by the defendants, respectively, of all accounts, memoranda, books, documents, papers and statements necessary for the taking of said accounting, and to require the attendance of witnesses before him to examine them under oath concerning all matters involved therein and to report with all convenient speed to the court the results thereof; (11) that the defendant, H. W. Johns-Manville Company and Thermoid Rubber Company do, respectively, pay to the complainants or their solicitor, their taxable costs of this suit to be taxed, including any disbursements made by them for the transcript of the evidence furnished to the court, and including also the sum of five thousand dollars thereby adjudged and allowed as a reasonable and proper allowance to complainants by way of counsel fee; and (12) that all other equities are

reserved until the coming in of said report or the further order of the court in the premises, and that leave is thereby given to any party to this suit to come in at any time thereunder for such further relief as they may be advised they are entitled to.

And your petitioner humbly appeals from all and every part of the said decree of the Chancellor which orders, adjudges and decrees as aforesaid, upon the ground that the same is erroneous, for that said decree should not have recited as therein recited, but should have recited that it appeared to the court that the complainants were not entitled to the relief prayed for in their bill of complaint, and should not have ordered, adjudged and decreed as hereinbefore set forth, but should have ordered, adjudged and decreed that the complainants' bill be dismissed with costs.

Your petitioner therefore prays that said decree of the Chancellor may be, in the particulars aforesaid, reversed, set aside and for nothing holden, and that your petitioner may have such relief in the premises as to this Honorable Court shall seem meet.

EDWARD L. KATZENBACH,
*Solicitor for and of Counsel with Defendant-Appellant, Thermoid Rubber Company.*

**NOTICE OF APPEAL.**

**(Mitford C. Massie, etc.)**

Filed February 3, 1923.

IN CHANCERY OF NEW JERSEY.

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| *Between*<br>MITFORD C. MASSIE, individually and as trustee, etc., *et als.*, *Complainants,*<br>*and*<br>THE ASBESTOS BRAKE COMPANY, *et als.*, *Defendants.* | *On Bill, &c.*<br>*Notice of Appeal.* |

Mitford C. Massie, individually and as trustee for the Brake Liners Company, Brake Liners Company, a corporation, and Conrad Hubert, the complainants in the above-entitled cause, hereby appeal to the Court of Errors and Appeals in the last resort in all causes, from so much of the final decree made by this court in the above-stated cause on the sixth day of January, 1923, as is contained in paragraph 9 of said final decree.

Dated January 29th, 1923.

FRANCIS C. LOWTHORP,
*Solicitor of Complainants.*

I conceive there is good cause of appeal in the above-stated cause.

CONOVER ENGLISH,
*Of Counsel with Complainants.*

## CROSS PETITION OF APPEAL.

**(Mitford C. Massie, etc.)**

Filed February 19, 1923.

NEW JERSEY COURT OF ERRORS AND APPEALS.

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| *Between* | |
| MITFORD C. MASSIE, individually and as trustee, etc., *et als.*, *Complainants-Appellants,* | *On Bill, etc.* |
| *and* | *Cross Petition of Appeal.* |
| THE ASBESTOS BRAKE COMPANY, *et als.*, *Defendants-Appellees.* | |

*To the Honorable the Court of Errors and Appeals in the last resort in all causes:* 20

The petition of Mitford C. Massie, individually and as trustee of the Brake Liners Company, The Brake Liners Company, and Conrad Hubert, the cross-appellants in the above-stated cause, respectfully shows that:

Your petitioners find themselves aggrieved by so much of the final decree as is contained in paragraph 9 thereof, made in the Court of Chancery by his Honor, Edwin Robert Walker, Chancellor of New Jersey, bearing date 30 the sixth day of January, 1923, wherein the said Mitford C. Massie, individually and as trustee for the Brake Liners Company, The Brake Liners Company and Conrad Hubert were complainants and the said The Asbestos Brake Company, The H. W. Johns-Manville Company and Thermoid Rubber Company were defendants, in this respect, to wit:

That the said decree adjudges that the complainants' prayer for injunction or restraining order enjoining or restraining the defendants from further manufacturing 40 and selling brake linings, brake band linings and brake

blocks as shown, described and claimed in any of said patents or applications for patents referred to in paragraph one of said decree and included in the two license agreements dated the twenty-fourth day of May, 1911, and attached as, respectively, Exhibits "C" and "D" to the bill, unless they, the said defendants do account for and pay, monthly, the royalties provided for and required to be paid by the said license agreements upon all of said brake linings, brake band linings and brake blocks thereafter sold by them or either of them respectively, be, and the same is hereby, denied;

And your petitioners humbly appeal from that part of the said decree of the Chancellor which decrees as aforesaid, upon the ground that the same is erroneous for that the said decree should have enjoined and restrained the defendants from further manufacturing and selling brake linings, brake band linings and brake blocks as shown, described and claimed in any of said patents or applications for patents referred to in paragraph one of said decree and included in the two license agreements dated the twenty-fourth day of May, 1911, and attached as, respectively, Exhibits "C" and "D" to the bill.

Your petitioners therefore pray that the said decree of the said Chancellor may be, in the particulars aforesaid, reversed, set aside and for nothing holden, to the end that said decree may be modified as herein prayed, and that your petitioners may have such other and further relief in the premises as to this honorable court shall seem meet.

FRANCIS C. LOWTHORP,
*Solicitor of Complainants-Appellants.*

CONOVER ENGLISH,
*Of Counsel.*

## ANSWER OF THE H. W. JOHNS-MANVILLE COMPANY TO CROSS PETITION OF APPEAL.

Filed March 12, 1923.

NEW JERSEY COURT OF ERRORS AND APPEALS.

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| *Between*<br>MITFORD C. MASSIE, individually and as trustee for The Brake Liners Company, a corporation of Delaware, THE BRAKE LINERS COMPANY and CONRAD HUBERT,<br>*Complainants-Appellants,*<br>*and*<br>THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,<br>*Defendants-Appellees.* | *On Bill, etc.*<br>*Answer of Defendant-Appellee, the H. W. Johns-Manville Company to Cross Petition of Appeal.* |

The answer of the above-named defendant-appellee, the H. W. Johns-Manville Company, to the cross petition of appeal of the above-named complainants-appellants:

This defendant-appellee, not acknowledging all or any of the matters which in the said cross petition of appeal are contained to be true, for answer thereto nevertheless says and admits, that a decree was, on the sixth day of January, 1923, made and entered in the Court of Chancery in the cause for that purpose mentioned in the said cross petition, as is therein stated; but as to the substance and form thereof this defendant-appellee prays to refer thereto when the same shall be produced. And this defendant-appellee is advised and believes that the said decree, in the respect complained of in the said cross peti-

tion, is agreeable to equity, and he prays that the same may be affirmed in the said respects, with costs to be adjudged to this defendant-appellee.

PITNEY, HARDIN & SKINNER,
*Solicitors for and of Counsel with Defendant-Appellee, The H. W. Johns-Manville Company.*

## ANSWER OF THERMOID RUBBER COMPANY TO CROSS PETITION OF APPEAL.

Filed March 12, 1923.

NEW JERSEY COURT OF ERRORS AND APPEALS.

*Between*

MITFORD C. MASSIE, individually and as trustee for The Brake Liners Company, a corporation of Delaware, THE BRAKE LINERS COMPANY and CONRAD HUBERT,
*Complainants-Appellants,*
*and*
THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,
*Defendants-Appellees.*

*On Bill, etc.*

*Answer of Defendant-Appellee, Thermoid Rubber Company to Cross Petition of Appeal.*

The answer of the above-named defendant-appellee, Thermoid Rubber Company, to the cross petition of appeal of the above-named complainants-appellants:

This defendant-appellee, not acknowledging all or any of the matters which in the said cross petition of appeal are contained to be true, for answer thereto nevertheless says and admits that a decree was, on the sixth day of January, 1923, made and entered in the Court of Chancery in the cause for that purpose mentioned in the said cross petition, as is therein stated; but as to the substance and form thereof this defendant-appellee prays to refer thereto when the same shall be produced. And this defendant-appellee is advised and believes that the said decree, in the respects complained of in the said cross petition, is

agreeable to equity, and it prays that the same may be affirmed in the said respects, with costs to be adjudged to this defendant-appellee.

EDWARD L. KATZENBACH,
*Solicitor for and of Counsel with Defendant-Appellee, Thermoid Rubber Company.*

## ANSWER OF MITFORD C. MASSIE, ET ALS., TO PETITION OF APPEAL.

Filed March 19, 1923.

NEW JERSEY COURT OF ERRORS AND APPEALS.

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| *Between*<br>MITFORD C. MASSIE, individually and as trustee for The Brake Liners Company, a corporation of Delaware, THE BRAKE LINERS COMPANY and CONRAD HUBERT,<br>*Complainants-Respondents,*<br>*and*<br>THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,<br>*Defendants-Appellants.* | *On Bill, etc.*<br>*Answer of Complainants-Respondents to Petition of Appeal of H. W. Johns-Manville Company.* |

The answer of the above-named complainants-respondents, Mitford C. Massie, individually and as trustee for The Brake Liners Company, a corporation of Delaware, The Brake Liners Company and Conrad Hubert to the petition of appeal of the above-named The H. W. Johns-Manville Company:

These complainants-respondents, not acknowledging all or any of the matters which in the said petition of appeal are contained to be true, for answer thereto nevertheless say and admit that a decree was, on the sixth day of January, 1923, made and entered in the Court of Chancery in a cause for that purpose mentioned in the said petition, as is therein stated; but as to the substance and form thereof these complainants-respondents pray to refer thereto when the same shall be produced. And these complainants-respondents are advised and believe that the said

decree, in the respects complained of in the said petition, is agreeable to equity, and they pray that the same may be affirmed in the said respects, with costs to be adjudged to these complainants-respondents.

FRANCIS C. LOWTHORP,
*Solicitor for Complainants-Respondents.*

## ANSWER OF MITFORD C. MASSIE, ET ALS., TO PETITION OF APPEAL.

Filed March 19, 1923.

NEW JERSEY COURT OF ERRORS AND APPEALS.

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| *Between*<br>MITFORD C. MASSIE, individually and as trustee for The Brake Liners Company, a corporation of Delaware, THE BRAKE LINERS COMPANY and CONRAD HUBERT,<br>*Complainants-Respondents,*<br>*and*<br>THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,<br>*Defendants-Appellants.* | *On Bill, etc.*<br>*Answer of Complainants-Respondents to Petition of Appeal of Thermoid Rubber Company.* |

The answer of the above-named complainants-respondents, Mitford C. Massie, individually and as trustee for The Brake Liners Company, a corporation of Delaware, The Brake Liners Company and Conrad Hubert to the petition of appeal of the above-named Thermoid Rubber Company:

These complainants-respondents, not acknowledging all or any of the matters which in the said petition of appeal are contained to be true, for answer thereto nevertheless say and admit that a decree was, on the sixth day of January, 1923, made and entered in the Court of Chancery in a cause for that purpose mentioned in the said petition, as is therein stated; but as to the substance and form thereof these complainants-respondents pray to refer thereto when the same shall be produced. And these complainants-respondents are advised and believe that the

said decree, in the respects complained of in the said petition, is agreeable to equity, and they pray that the same may be affirmed in the said respects, with costs to be adjudged to these complainants-respondents.

FRANCIS C. LOWTHORP,
*Solicitor for Complainants-Respondents.*

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| MASSIE,<br><br>*vs.*<br><br>ASBESTOS BRAKE CO. | *Additional Memorandum for Complainants-Respondents.* |

## ADDITIONAL MEMORANDUM FOR COMPLAINANTS-RESPONDENTS.

It is well established in most jurisdictions that parol evidence is admissible to show that a written paper which, in form, is a complete contract, of which there has been a manual tradition, was, nevertheless, not to become a binding contract until the performance of some condition precedent resting in parol.

*Naumberg* v. *Young,* 44 N. J. Law 331, 336;
*Reynolds* v. *Robinson,* 110 N. Y. 654;
*Wilson* v. *Powers,* 131 Mass. 539;
*Taylor on Evid.,* Section 1038;
*Stevens Digest on Evid.,* Section 927;
*Savage Realty Co.* v. *Lust,* 203 A. D. 55;
*Stiebel* v. *Grossberg,* 202 N. Y. 266;
*Smith* v. *Dotterweich,* 200 N. Y. 299;
*Grannis* v. *Stevens,* 216 N. Y. 583.

This is an exception to the general rule that a written contract cannot be varied by parol evidence.

### Id.

The appellant's contention is that the license agreements were to become effective only when and if the Asbestos Brake Co. should be successful in procuring other manufacturers to take licenses.

This in its final analysis means, if the appellant's position be correct, that no rights would accrue under the license agreements until the condition had been performed. In other words, while there is a rule of law that permits

a complete executed agreement to be delivered upon condition that it should not be effective for any purpose until after the condition should have happened, yet there is no rule of law which permits the delivery of the paper for the purpose of giving a right to manufacture thereunder, and yet preventing the operation of the contract, so far as the payment of royalties are concerned. Because if the license agreements were delivered for the purpose of giving the licensees the right to manufacture thereunder (which they did), they must have been delivered unconditionally for that purpose. And if delivered unconditionally to take effect for any purpose, the evidence offered would violate the rule against varying the terms of a written contract, because then it would amount but to a collateral agreement that while the contract was good, effective and binding so as to give the right to manufacture under the license agreements, yet that the provisions of the contract for the payment of royalties were to be inoperative it would thus contradict or vary the terms of the written contract actually delivered.

In *Smith* v. *Dotterweich, supra,* the Court calls attention to this very distinction, saying:

> "The case of Jamestown Business College Assn. *v.* Allen, 172 N. Y. 291, is a salient illustration of the converse of this rule. There the promissory note was rendered effective and complete by an unconditional delivery. The payee agreed to release the maker, and to cancel the note, upon a future contingency, which might or might not arise. That was clearly a condition subsequent which brought the case within the general rule that a contract reduced to writing and complete in its terms, cannot be varied and contradicted by oral testimony. (Eighmie *v.* Taylor, 98 N. Y. 288; Thomas *v.* Scutt, 127 N. Y. 133; Stowell *v.* Greenwich Ins. Co., 163 N. Y. 298; Mead *v.* Dunlevie, 174 N. Y. 108.) Thus to state the difference most concretely, the case at bar is one in which the oral testimony tends to show that the writing purporting to be a contract is in fact no contract at all, while in the case of the Jamestown Business College the oral testimony was

in direct contradiction of the written contract as to the existence and validity of which there was no controversy."

In *Grannis* v. *Stevens, supra,* the Court said:

"Act and intention are the essential constituents of delivery which makes the instrument operative according to its terms. The final question is, did the obligor do such act in reference to it as evidences an intention to give it, in the possession or control of the obligee, effect and operation according to its terms. Whenever there has been a delivery of the instrument for the purpose of giving it such effect, it becomes a present and completed contract, and parol evidence cannot be given to contradict, vary or modify its terms. (Jamestown Business College Assn. *v.* Allen, 172 N. Y. 291; Wooley *v.* Cobb, 165 Mass. 503; Currier *v.* Hale, 8 Allen, 47; Tower *v.* Richardson, 6 Allen, 351; Brown *v.* Wiley, 20 How. (U. S.) 442; Thomas *v.* Scutt, 127 N. Y. 133.)"

Apart from the foregoing there is one phase in this case which seems absolutely conclusive. If the license agreements were delivered upon a condition precedent whereby they were to never take effect until the happening of the condition described by the defendants' witnesses, what then was the need of holding the dummy meeting and passing the fake resolution *suspending* the payment of the royalties? If the agreements had in fact never been delivered and were not binding, no royalties had accrued and it was not necessary; and Manville, familiar with the facts and the condition to which he testified upon the trial, would never have gone to all the pains he took in placing the fake resolution upon the minutes of the corporation. Moreover, the resolution suspending the payment of royalties recognized that up to that point royalties had been due. Again it did not suspend the right to use the invention, but continued it, thus clearly demonstrating that the agreements had taken effect and been binding and thereby placing the case squarely within the cited cases.

FRANCIS C. LOWTHORP,
ROBERT H. McCARTER,
C. BERTRAM PLATTE,
*Counsel.*

20 JUN.T.1923
26 JUN.T.1923
by leave of Court

# New Jersey Court of Errors and Appeals

Between

MITFORD C. MASSIE, individually and as Trustee for The Brake Liners Company, a Corporation of Delaware, THE BRAKE LINERS COMPANY and CONRAD HUBERT,

Complainants-Respondents,

and

THE ASBESTOS BRAKE COMPANY, *et al.*,

Defendants,

THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,

Defendants-Appellants.

On Bill, &c.

On Appeals from Decree in Chancery.

Between

MITFORD C. MASSIE, individually and as Trustee for The Brake Liners Company, THE BRAKE LINERS COMPANY and CONRAD HUBERT,

Complainants-Appellants,

and

THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,

Defendants-Appellees.

On Bill, &c.

On Cross Appeal from Decree in Chancery.

## SUPPLEMENTAL MEMORANDUM FOR COMPLAINANTS-RESPONDENTS.

During the argument the suggestion was made by the Court that the failure of The Asbestos Brake Company to have sued infringers was, possibly, a good defense to this action to compel the payment of the royalties by the licensees.

No such specific defense was made either in the answers or asserted in the Court below and, therefore, this subject was not discussed in our brief. The answers simply set up the fact of the failure to have sued infringers as an indication of the truth of the defendants' contention that the whole scheme embraced by the two corporate agreements and consummated by the licenses was abandoned. The same thing is true of the brief filed by the appellants in this case (pages 87 and 89) and was discussed under Point III on the subject of abandonment and laches (page 66).

Under these circumstances we venture to submit this supplemental memorandum, of course serving our adversaries with it and conceding their right to reply thereto.

## Let Us Look at the Situation.

The company never had a cash capital in excess of $2,000, and at the time Mr. Massie wrote his letter of October 7th, this had been reduced to $1,750. It had but four directors, any two of whom in combination could block and prevent any action.

Mr. Stokes was President, and, by the by-laws made, as such, general manager of the company. Mr. Manville was Treasurer in charge of its finances. *They were the representatives of the two licensees,* bound to pay royalties. This was a positive obligation into which the licensees deliberately entered, with the distinct understanding, also contained in the by-laws, that no change should be made in the license agreements without the concurrence of all four directors. (See also the provision of the assignment, page 21.)

The bill of complaint, in paragraph 10 (page 12, line 30) alleges:

> "That, although the other directors and stockholders of the said The Asbestos Brake Company have been willing and desirous to suppress all infringements of the aforesaid letters patent, the said H. W. Johns-Manville Company and said Thermoid Rubber Company have, for reasons unknown to your orator, been unwilling to have proper suits and actions instituted and prosecuted in the courts to enjoin such infringements; * * *."

The answers of both defendants to these allegations are practically identical and are as follows (page 57):

> "The Asbestos Brake Company had no money with which to institute any infringement suits and its stockholders never came to an agreement to contribute money for this purpose."

It is conceded on page 91 of the appellants' brief that, had Mr. Massie and Mr. Hubert gone through the idle formality of demanding a meeting and putting Mr. Manville and Mr. Stokes on record as opposed to infringement suits, they could then have instituted an action in the corporate name to assert its rights. Obviously, this mere formality was unnecessary if, as found in the court below, that would have been the attitude of Messrs. Manville and Stokes.

We have, in our brief (page 38), quoted from Mr. Bonner's testimony to the effect that he was constantly after Mr. Manville from 1912 to 1920 to get action in this respect. We beg now to call

the Court's attention to the evidence of Mr. Manville in this regard. He said (page 199, line 15):

> "I said, 'You know, Mr. Massie, we are unable to do anything with the Asbestos Brake Band Company on account of our finances and on account of the legal complications in connection with the Sherman Act;' this he said he understood was true; that is all the conversation relating to that one point."

See also Mr. Manville's statement with reference to his conversation with Mr. Stokes on the same subject (page 200, lines 10 to 28):

> "Q. Can you recall the conversation with reference to the subject of suits for infringement of patents by other outside manufacturers, what he said and what you said? Give us the whole conversation relating to it? A. The conversation with Mr. Stokes was very similar to what we had at our various other meetings with the other gentlemen.
>
> Q. Tell us what it was. A. Mr. Stokes said he thought in view of the advice of counsel it would be a very serious matter for us to go into any litigation in regard to these licenses or patents, that the company didn't have sufficient funds to carry on any litigation to try to establish the validity of our patents.
>
> Q. What did you say? A. I agreed with him."

These citations demonstrate that both Mr. Manville and Mr. Stokes were opposed to any effort by the company to sue infringers, ostensibly for lack of funds, despite the opinion of the four attorneys, written by Manville's own patent attorney, Mr. Parker-Smith (pages 314 and 315), that such suits would probably be successful.

OBSERVE THEN THE SITUATION.

By the license agreements Thermoid and Johns-Manville have obtained the unquestioned right to manufacture under all of these patents, including the *basic* Coleman patent, which Manville had been unable to purchase from Hubert. As licensees they are, of course, estopped to deny the validity of the patents (30 Cyc., 914-965). But were the licensees not interested in endeavoring to avoid payment of royalties of which only one-fourth (less payment of income taxes) would come back to them by way of dividends from the Asbestos Brake Company?

The Johns-Manville Company (Exhibit C-21, page 20) is the owner of asbestos mines from which it annually takes thousands of tons of asbestos for its own use each year and can, therefore, afford to undersell competitors who must buy their raw material from Johns-Manville, at Johns-Manville's prices.

Having acquired the right to manufacture the fabric, were their interests not better served by supplying the asbestos material at their own prices to as many infringers as possible?

Again, perhaps, the defendants felt that by refusing to sue infringers they could, possibly, claim that The Asbestos Brake Company could not collect royalties from them although they continued to manufacture under the licenses. Of course no such excuse is given, the answers simply setting up the company's inpecuniosity and that too, only in connection with the claimed abandonment of the whole scheme and not as a separate defense.

It must not be overlooked that there is a complete identity between the managing officers of the Asbestos Company and the licensees, who were also stockholders. Defendants cannot well claim that Stokes and Manville were occupying the positions of President and Treasurer, respectively, except as

the representatives of their respective licensees. The dual position occupied by Manville and Stokes imposes upon them the burden of showing, as against their *cestui que trusts,* the other stockholders in the Asbestos Company, a complete and full performance of their duties to such stockholders in this behalf. They have not only failed so to do, but have placed themselves in the obvious position, by this attitude of inaction, of benefiting the licensees, their other selves. Having failed in the attempt to purchase the Coleman patent from Hubert, having obtained the right to make the fabric under the Coleman patent by means of the license agreements, they were then only interested in avoiding the payment of royalties and their bad faith in that particular is demonstrated by the fake meeting of November 4th, 1911, when they passed the resolution rescinding the payment of royalties without depriving themselves of the right to use the fabric.

It has been argued that the defendants were manufacturing the fabric prior to the pre-corporate agreement; the intimation being that therefore they should not now be stopped or compelled to pay as they have had to manufacture in competition with others. But after the award of the basic patent to Coleman, Hubert could have entirely stopped the defendants from manufacturing unless they paid him such royalties. By procuring Hubert to enter into the Asbestos Brake Co. the defendants deprived him of this right and procured the right to manufacture. They also put it out of his power personally to prevent others from infringing. Are they not, therefore, now estopped from asserting as a defense to the payment indirectly, of what they would have had to pay directly, by the claim that the patent monopoly has not been protected when they were the ones who, under the arrangments made, should have protected it.

By the express terms of the license agreements (pages 41 and 46) the licensees were under obligation to make monthly statements and payment of royalties due upon all goods manufactured under the patents. They were under no obligation to manufacture, but they certainly had no right to manufacture and fail to pay the royalties. Did they find their position irksome, surely their obvious duty was simply to cease manufacturing. But so long as they continued to manufacture, their obligation to pay royalties was paramount (30 Cyc., 965).

Had they paid these royalties no one denies the company would have had the "ability" to have sued infringers and this obligation to pay arose on the 10th of June, 1911, and recurred each month thereafter (Par. IV, Exhibits C-D, pages 42-47).

Can it be, with any degree of propriety, argued that these defendants, occupying this dog-in-the-manger attitude, are in a position, in a Court of Equity, to urge that the failure to sue infringers is a defense to the claim for royalties?

The pretended rescission resolution was not undertaken to be passed until the 14th of November, 1911. Five months had passed in which not a cent of royalties had been paid and it is extraordinary that some mention was not made in some document, or by word of mouth, either by Manville or Stokes, that their own failure to sue infringers was an excuse for their obligation to pay royalties.

BUT WHAT WAS THE OBLIGATION OF THE COMPANY WITH RESPECT TO INFRINGERS? (page 22):

> "The patentee shall enforce the monopoly conferred by its patents against all infringers thereof, *to the best of its ability.*"

*The very licensees,* by means of their representatives in the executive offices of the Asbestos Brake Company, *were in a position to either have performed or not performed the above covenant.* They cannot, therefore, in this suit, claim that these minority stockholders should have done anything when it was within their own power to have the contract performed—when it was the duty of their respective representatives to have performed it. We have seen that both Mr. Bonner and Mr. Massie were concededly doing their best to persuade the representatives of the licensees to have the suits commenced.

## APPELLANTS' CASE DISTINGUISHED.

The case of *Wilfley* vs. *New Standard Concentrator Co.,* 164 Fed., 421, is not cited by the appellant for the proposition that the covenant in these license agreements was a condition precedent to a recovery of royalties thereon and an examination of that case will disclose that it is not an authority for such proposition. The question there involved was simply one of practise under the California Code of Procedure. Certain specified sections of that Code provided that no action might be maintained in that State where there were concurrent conditions, or covenants which were mutually dependent and to be performed at the same time, unless it be alleged and proved that the concurrent conditions or covenants had been performed by the plaintiff. The question came up upon demurrer to the complaint. It appeared that the license granted was an exclusive one. In this case the license is not exclusive. There it appeared that the licensee had contracted for a complete exclusive monopoly which does not appear in this case, because the whole scheme of the Asbestos Brake Company contemplated the issuance of similar li-

censes to any and every manufacturer. Furthermore, under the terms of these license agreements the covenants were not mutually dependent nor to be performed at the same time. The license agreements provide for a statement of the goods sold, to be given the first day of each month and payment of the royalties, as shown by such statement, to be made on the 10th day of each month—specific days being provided for such acts. It then provided that the licensor would "to the best of its ability," protect the inventions against infringers. It specified no time when that is to be done, for, obviously, it contemplated law suits, the time for the bringing and successful termination of which, could not be designated by contract. It will be recalled that, some months after the execution and delivery of these license agreements, the four counsel were requested to and did report upon the validity of the patents and advised the infringement suits and that Mr. Massie, in a letter addressed to Mr. Manville, Exhibit C-7, urged the payment of royalties so as to provide the funds wherewith to sue infringers.

*In this State we have no provision such as exists in the California Civil Code of Procedure* and the rule is well settled by this Court that whether or not covenants in an agreement are dependent and the one a condition precedent to the other, depends upon the language of each agreement.

*Kinney* vs. *Federal Laundry Co.*, 75 N. J. Law, 497.

This Court has also twice held that when the time for the performance of one of the covenants antedates that of the other, it is sufficient to give to the agreement the construction that the covenants are utterly independent and not dependent.

*U. & G. Rubber Manufacturing Co.* vs. *Conard,* 80 N. J., Law, 286, 294;
*Kinney* vs. *Federal Laundry Co., supra.*

Under these circumstances it must be concluded that the clause with reference to protecting infringements "to the best of its ability" is in no sense a condition precedent to the obligation of the licensees to pay their royalties and that the case above referred to, cited by the appellants, has no application here.

In 30 Cyc., 965, it is said "He (a licensee) cannot allege invalidity or termination of contract so long as he acts under it." (Citing many cases.)

It is one thing for a licensor of an exclusive license who also covenants to protect the exclusive monopoly granted by the license deliberately and wholly to neglect and refuse to perform his covenant and at the same time expect to recover royalties; it is another thing for the licensee, under a non-exclusive license, to refuse to pay royalties, which will put the licensor in funds to sue infringers, and then undertake to claim that the covenant made by the licensee, whose executive officer occupies the position of manager of the licensor, to pay royalties, is released by the failure to sue infringers when such failure arises from the default of the licensee. This, too, when the covenant itself is only to protect against infringers "to the best of its ability" and it is not able to sue because of the improper conduct of the licensee.

The defendants continued and are continuing to enjoy the benefits of the agreements they have had and are enjoying the benefits of the Coleman basic patent (Hubert's property) and have not paid a cent therefor. It is no different than a tenant who, occupying the premises, refuses to pay rent. It does not lie in the mouths of these defendants to set

up any such *unconscionable* excuse for their failure to meet their positive obligations. They are estopped from so doing.

Respectfully submitted,

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# New Jersey Court of Errors and Appeals.

*Between—*

MITFORD C. MASSIE, individually and as Trustee for The Brake Liners Company, a corporation of Delaware; THE BRAKE LINERS COMPANY and CONRAD HUBERT,
Complainants-Respondents,

and

THE ASBESTOS BRAKE COMPANY, *et al.*,
Defendants.

THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,
Defendants-Appellants.

**On Bill, etc.**
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Defendants-Appellees.

**On Bill, etc.**
**On Cross Appeal from Decree in Chancery.**

## BRIEF FOR COMPLAINANTS-APPELLANTS.

This cause comes up to this court on appeals taken by both parties from portions of a decree in the Court of Chancery advised by Vice-Chancellor Buchanan. The bill in the cause was filed by stockholders of The Asbestos Brake Company against

New Jersey State Library

that corporation and the H. W. Johns-Manville Company and the Thermoid Rubber Company, and prays for the specific enforcement of two certain contracts made between The Asbestos Brake Company and the said H. W. Johns-Manville Company and Thermoid Rubber Company, respectively. The two contracts are similar in their terms and license the said H. W. Johns-Manville Company and Thermoid Rubber Company, to make, use, and sell certain specified brake-band-linings and brake blocks described and claimed in divers applications for United States letters patent assigned and belonging to the Asbestos Brake Company, in consideration of which privilege the licensee corporations agree on their parts to account for and pay to the licensor corporation specified royalties monthly and to mark such goods as patented, etc., while the licensor corporation agrees to suppress infringements of such patents as shall be granted to it on said patent applications. The bill prays that defendants, the licensees, account for and pay all royalties accrued in the past and that the defendants be decreed to specifically perform the contracts in the future. The Chancery decree rendered requires the licensee defendants to account for and pay all royalties accrued in the past with lawful interest thereon from dates of defaults, and appoints a Master to take such account, but denies the relief of specific performance in the future. From so much of said decree as awards the account the defendants have appealed, while from that part of the decree denying the future specific performance the complainants have appealed.

As a prayer for specific performance of a contract is addressed to the discretion of the court, and such discretion is applied according to general equity principles to the particular facts of each case; it is deemed advisable to set forth the specific

facts of this cause at the outset. It would be difficult to state the facts more succinctly or forcibly than is done by the Vice-Chancellor in his conclusions; but for the convenience of the Court we shall endeavor to recite them briefly yet with sufficient fullness.

## The Facts.

The introduction and rapid development of automotive road vehicles some twenty years since led to the provision of special devices in their braking equipment. The metal brake bands were provided with linings made of hair felt, or other animal or vegetable fibre. These substances burned or wore out rapidly under heavy brake pressure and were unsatisfactory. In the year 1908 there had been filed in the United States Patent Office three several applications for patents on brake linings made of the mineral asbestos reenforced by metal strands or wires. The first of these applications was filed by J. Clyde Coleman, who assigned his application and the patent to issue thereon to Conrad Hubert, one of the complainants in this suit; the second application was filed by William T. Bonner who assigned his application and patent to issue thereon to the defendant Thermoid Rubber Company; and the third of said applications was filed by Louis R. Hoff who assigned his application and patent to issue thereon to the defendant H. W. Johns-Manville Company. While these three patent applications disclosed and claimed three different brake-bands of somewhat different construction, each of them disclosed a brake-band made of fibres of asbestos wound upon wire strands which strands with their asbestos covering were woven into a cloth or type. As this feature common to all three applications formed a single invention independent of some of the other features claimed as inventions by

the applicants, it became necessary for the Patent Office to ascertain which of the three applicants was the first to make this specific invention, as but one patent could be issued therefor and that patent must be issued to the first inventor. Accordingly the Patent Office examiner in charge of the three applications declared an interference between the several applications by which proceeding it could be discovered who the first inventor was and the patent could be awarded to him or his assigns. At the time that this interference was declared the Johns-Manville Company was manufacturing and selling the particular brake-band lining invented by Louis R. Hoff and assigned to it by him, while the Thermoid Rubber Company was making and selling the specific brake-band lining invented by William T. Bonner and assigned to it by him. These two brake-band linings were found to be far better than any brake-band lining theretofore known and were rapidly taking the place on the market of those older forms; and it was soon seen that they would prove to be very valuable products. The declaration of interference between the three patent applications apprised their respective owners of the fact that there were three competitors for the basic invention disclosed in the applications and indicated who those competitors were. At the same time each of the parties was informed of the dates on which the several applications for patents were respectively filed in the Patent Office. It was discovered that the application of Coleman, owned by Hubert had been filed so far in advance of the filing of the other two applications that the basic patent would most probably be awarded upon Coleman's application, and that it would be impossible for the Johns Manville and Thermoid Rubber Companies to continue making and selling their valuable products without the allowance or consent of Hubert. This being the

situation T. Frank Manville, the president of the H. W. Johns-Manville Company, sought to purchase the Coleman application for patent from its owner, Hubert. Failing in this effort (R. pp. 207, 249, 350), Mr. Manville with Joseph O. Stokes, the president of the Thermoid Rubber Company, opened negotiations with Mr. Hubert with intent to agree upon some means by which all three owners of the patent applications might profit by issuance of the several patents. These negotiations eventuated in the making of the precorporate agreement of September 22, 1910, known as Exhibit C-5, R. pp. 17 *et seq.*

By that instrument, executed by Hubert, the Johns Manville Company and the Thermoid Rubber Company, it was covenanted that the parties would join in the incorporation of a company under the Laws of New Jersey, to be known as The Asbestos Brake Company; that they would severally assign said company the said three applications for patents then in interference and two other patent applications mentioned; that they would prosecute said interferences to a conclusion; would, for themselves or their nominees take licenses from the Asbestos Brake Company under such patents as should issue on said applications, to make and sell the patented goods at scheduled prices and discounts therefor; and agreed to report and pay monthly to said holding company royalties of ten per centum of the net prices of the goods so sold. Additionally they agreed upon a form of charter for the proposed corporation, by-laws therefor, and a form of license agreements to be executed by the parties. And finally all of the parties pledged themselves to the efficient carrying out of the plan thus agreed upon.

While the before mentioned negotiations were being carried on another interference proceeding was progressing in the Patent Office between two

other conflicting patent applications covering some other improvements in asbestos brake linings, one of which applications had been filed by the said Bonner and the other whereof had been filed by the said Hoff; and each of which covered an improvement of the Coleman invention aforesaid. Bonner's said application had been assigned by him to the Brake Liners Company, a corporation organized under the laws of Delaware by Bonner and a firm of patent attorneys who were interested in Bonner's invention in brake linings, for the purpose of exploiting said invention, while Hoff had assigned his invention to the Johns-Manville Company. The Brake Liners Company was without capital or facilities for manufacturing Bonner's invention, and was not engaged in making or selling any commodities whatsoever. By an agreement in writing dated March 6th, 1911, the Brake Liners Company came to an arrangement with the parties to the agreement Exhibit C-5 by which it became a party to said agreement Exhibit C-5, the provisions of which were somewhat modified to fit it to the operation of four parties instead of three parties. By this latter agreement, known in this cause as Exhibit C-6, the Brake Liners Company agreed to assign to the Asbestos Brake Company all its patents and applications for patents covering improvements in brake band linings, and in consideration thereof, to take a portion of the preferred and common stock of the Asbestos Brake Company.

The charter and by-laws of the Asbestos Brake Company were very carefully formulated with the intent to prevent any possibly constituted majority in stock interest and any possibly constituted majority of its directors from taking any undue advantage of any minority interest in that company. The means so adopted are so fully set forth in the bill and the Exhibits C-5 and C-6 as to make their repetition here unnecessary.

After a very careful consideration of the law, and particularly of the Shermon Anti-Trust Act by the legal counsel of the parties to the agreements The Asbestos Brake Company was incorporated, the several patent applications mentioned were assigned to it, and the Johns-Manville, Thermoid Rubber, and Brake Liners Companies, and Conrad Hubert, took over the capital stock of the company and placed their representatives in the directorate of the concern, the Johns-Manville and Thermoid Rubber Companies receiving their licenses to make and sell the goods disclosed and claimed in said several patent applications, while Hubert and the Brake Liners Company received no license thereunder.

In May, 1911, the basic patent covering Asbestos brake linings was issued on Coleman's application and became the property of the Asbestos Brake Company; and from time to time thereafter other patents were issued to the company on the aforesaid patent applications, by virtue of all which it became the exclusive owner of the right to control the making and selling of the improved and valuable brake linings claimed in said patents, which were rapidly dominating the market, and upon the infringing manufacture of which a number of unlicensed concerns had already unlawfully entered.

The permanent officers and directors of the Asbestos Brake Company, chosen in May, 1911, were as follows: Joseph O. Stokes, President of the Thermoid Rubber Company and representing it in the holding company, President and Director; T. Frank Manville, President of the Johns-Manville Company and its representative, Treasurer and Director; Mitford C. Massie, a Director of the Brake Liners Company, and holding all of the stock of the Asbestos Brake Company allotted to the Brake Liners Company as its trustee, Secretary and Director; and Conrad Hubert, representing his

own individual interest Vice-President and Director.

Some efforts were made, principally by Mr. Massie, to induce outside manufacturers to take licenses under the company's patents. Those efforts were unsuccessful, apparently largely because of the unsatisfactory schedule of prices and discounts provided by the license contract offered, prices and discounts which were made by the Johns-Manville Company for their own good (R. pp. 285, 294-295), but which were unsuited to the patented goods of cheaper makes largely made and sold by the infringing manufacturers. While there was considerable talk of offering to the outside manufacturers schedules of prices and discounts better suited to their goods, no honest effort ever was made to formulate such schedules. From the outset the two licensees of the company failed to perform their agreements to report and pay monthly to the company the royalties accruing on their manufacture and sale of the patented goods. Some talk of bringing suit of the patents against infringers was indulged, but no active move was made to that end.

On October 5, 1911, Mr. Massie wrote a letter to Mr. Stokes, President of the company, directing his attention to the fact that if the Thermoid Rubber Company and Johns Manville Company would pay over the royalties due from them monthly a fund would be collected sufficient to permit the company to institute infringement suits to enforce the company's monopoly, that those royalties were not being paid, and that the matter would soon have to be looked into. See Exhibit C-7. On the same day Mr. Massie wrote to Mr. Manville a letter (Exhibit C-8), enclosing a copy of said letter to Mr. Stokes, expressing his belief that if he were permitted to solicit outside manufacturers to become licensees of the company, and were "backed up with the nec-

essary funds to cover expenses," he "could settle this matter before the first of January, 1912, and this, in my opinion, is certainly as early as it will be settled by anybody, but particularly if we are going to be eternally discussing plans." As if inspired by these letters to commit the act, on November 14, 1911, in the absence of Messrs. J. O. Stokes, Hubert and Massie, Mr. Manville, being the only director and stockholder of the Asbestos Brake Company present, held a pretended meeting of the Board of Directors of the company at his office in New York City, at which were present Mr. William J. B. Stokes, an officer and director of the Thermoid Rubber Company, and Mr. Bonner, the President of the Brake Liners Company, at which meeting Mr. Manville and Mr. William J. B. Stokes voted a so-called resolution reading as follows:

> "Resolved, that in view of the conditions in connection with prices on Brake Band Lining and the fact that it has been impossible to maintain, prices as proposed at the time of organization, that the provision for the members of this company paying in ten per cent. on the sale of Brake Band Lining, be rescinded, and until conditions warrant no royalties are to be paid."

The minutes of this gathering, embodying this so-called resolution were written out by one Greenwood, the private secretary of Mr. Manville; and on the same day Mr. Manville wrote to Mr. Massie a letter (Exhibit C-10) in which he said:

> "I have your telegram advising us that you could not attend the meeting. There was a quorum present and we passed a few resolutions which we will hold and have you enter in the minute book at the first opportunity."

No further meeting of the Board of Directors was held until January 17, 1912, which meeting was attended by all of the directors. Mr. Man-

ville withheld the minutes of the gathering of November 14, 1911, until the adjournment of the meeting, when, as the parties were separating, he handed them to Mr. Massie, who did not note what they contained until the parties had dispersed. Pursuant to the directions of Mr. Manville, he enentered those minutes in the Company's Minute book, but did not sign them.

At that meeting of January 17, 1912, all of the directors save Manville and Joseph O. Stokes being in absolute ignorance of the so-called meeting of November 14, 1911, a resolution was adopted requiring the four patent attorneys of the four constituents of the Company to render to the Board their opinion as to the validity and scope of the Company's patents, and to advise concerning proper proceedings against the infringers thereof. Later a favorable opinion on those matters was sent by said attorneys to Mr. Manville, but it was pigeon-holed. No more board meetings were called or held, nor has any other meeting of stockholders been called or held to the present day. The minute book of the company containing the minutes of the So-called meeting of November 14, 1911, was obtained several years ago by the president, Mr. Stokes, from Mr. Massie the secretary, and was lodged by him in the office of the company's licensee, the Thermoid Rubber Company, to appear for the first time at the trial of this cause. The directorate of the company has remained absolutely inactive, but its president and treasurer have paid annually the company's franchise taxes, and so kept the corporation from dissolution, while under the protection of their license agreements, the Johns Manville Company and the Thermoid Rubber Company have continued to make and sell the patented goods in vast quantities to their great profit.

The very means adopted by the other stockhold-

ers of the Asbestos Brake Company to protect their rights and interests have been utilized by the licensee-defendants and their conspiring representatives on the board of the Asbestos Brake Company, to perpetrate a vast fraud upon their fellow stockholders, resulting in the loss of all dividends upon their stock to the present time.

This fraud, secretly contrived, perfidiously accomplished, treacherously continued, has been throughout this litigation brazenly defended. Admitting all of the averments of the bill, except fraud, and demand for performance of their contract, the defendants have admitted a case for the complainants which entitles complainants to the relief prayed by them. *Knoop* v. *Bohmrich,* 4 Dick. 82; 5 Dick. 485; *Appleton* v. *American Malting Co.,* 20 Hick. 375. The defendants have thus been driven to the averment of affirmative defenses, the burden of proving which rested upon them. In the very clearly expressed opinion of the Vice-Chancellor these affirmative defenses have not been proved, and he has awarded to the complainants the account which they have prayed.

THE DEFENSE of Laches was considered by the Vice Chancellor while awarding the account and it was found insufficient to bar the suit. Defendants-Appellants' Counsel in their brief (p. 51) say that "Conduct-evidence" is persuasive and given great weight, and they cite several New Jersey authorities in support of this well-known legal proposition. We do not question the correctness of this statement of the law and an examination of the Vice-Chancellor's conclusion shows that he placed considerable reliance upon *conduct evidence* in reaching his decision. He finds the defendants were not misled by the silence and inaction of the complainants. He said (R. p. 596):

> *"Defendants' conduct was not induced, nor were they misled, by any acts or conduct of*

*complainants. Defendants continued to manufacture and sell these brake linings at all times just as they had always done—both before and after the execution of the license. They never at any time paid any royalties or made any returns. Their course was taken with their eyes open and at their own risk, and as a matter of fact, in the face of the notice or warning given by Massie in his letters of October 5th, 1911 (Exhibits C-7 and 8). Complainants' delay has been unusual, it is true, for parties in such circumstances, but its only resulting prejudice is to complainants rather than defendants. Not even is there evidence to prove, nor to indicate, that defendants would not have continued to manufacture and sell if this litigation had been commenced eight years ago."*

Again on page 602 of the Record, the Vice-Chancellor says:

"It may be noted here that subsequent to the appointment of the receiver, notices were served by the Manville and Thermoid Companies purporting to rescind the license agreements. To this action or attempt I accord no efficacy. There existed no more ground for recision at that time than there did in November, 1911. I have not the notice now before me but *my recollection is that there was no accompanying tender or offer to restore the several patents to their original assignors. Certainly no such offer was at any time made prior to the appointment of the receiver."* (Italics are ours.)

Right under the eyes of this Court in the Record of this suit showing the conduct of the defendants *since the inception of this action* lies the damning proof of the iniquitous designs of the defendants. The Vice-Chancellor says that there is not evidence to prove, nor to indicate, that defendants would not have continued to manufacture and sell if this litigation had been commenced eight years ago. This

fact should be stated more strongly than in the negative. The conduct of the defendants since the commencement of this action, quite aside from their conduct prior thereto, which will be adverted to later on, shows in the most positive way that not only were they not misled by complainants in action, but that they were determined to use the property of The Asbestos Brake Company for their own benefit without regard to the consequences of their acts.

To begin with the defendants' answers, they admit all the essential averments of the bill and set up the several affirmative defenses which the Vice-Chancellor has found not proved, one of which defenses raises a federal question which can be used to delay the complainants' recovery by an appeal from the final decree of this Court to the Supreme Court of the United States. They have raised the defense of rescission of the contracts sued on and continuous acquiesence by the complainants in such rescision and equitable estoppel, claiming that they have been misled to their injury by complainants' inaction. It is to be observed, however, as noted by the Vice-Chancellor, that despite the hardihood of some of their witnesses, not one of them has ventured to testify that at any time defendants have been misled or lulled into a sense of security by the silence or inaction of the complainants. The answers will be searched in vain for any offer to restore to the complainants the patents and patent rights which they were induced by Manville and Stokes to assign to The Asbestos Brake Co. As the Vice-Chancellor remarks, he recalls no such offer made at any time by the defendants. There has been none; and to-day we are in this Court with the defendants harping upon the same old defenses while protected by the license agreements under which they have been acting all along, and without an offer to rescind the original

contracts in full so far as they may be rescinded to-day.

Here, then, are the bald facts in the case: When Manville first discovered that the basic patent probably would be granted to Hubert upon Coleman's application, he tried to purchase the application and patent from Hubert. Failing in this, Manville and Joseph O. Stokes, on behalf of their respective companies, applied to Hubert to make an arrangement by which they might mutually benefit by the manufacture and sale of brake liners covered by the claims of the patent applications in interference. Having succeeded in effecting the agreements of September 22, 1910, and March 6, 1911, the incorporation of The Asbestos Brake Company, and the obtaining of licenses to make and sell the patented goods at prices and discounts fixed only by themselves, and with which the complainants had nothing whatever to do, they resorted to a policy of procrastination and inactivity, and tied the hands of The Asbestos Brake Co. They blocked the efforts to secure license agreements with outside manufacturers; they fraudulently procured the adoption of the "resolution of rescission"; they pigeon-holed the opinions of the four attorneys advising the company to modify their schedules of prices and discounts at which licenses were to be permitted to sell the patented goods; they called no meetings of directors or stockholders to give an opportunity for the discussion of the company's affairs, or the effecting of any change in the company's organization, or causing the enforcement of the company's rights. For eight years they kept the company alive, and for that period before the commencement of this litigation and for three and one-half years since they have kept themselves under the protection of their license agreements, the terms of which they were constantly violating in their own supposed interests. When this suit

was commenced, they filed their answers setting up unproved and unprovable defenses calculated to sustain years of litigation by a series of appeals, but containing no expression of regret for their iniquitous conduct, no offer to dissolve the corporation and return to their former owners the patents which the defendants are enjoying, or to do equity in any way.

These acts are not the acts of honest men who have been misled to their prejudice by the complainants. They are the acts of men who early planned to obtain the control of valuable patent properties, tie the hands of the owners thereof, and make vast profits by operating under those patents without the payment of the covenanted consideration for the privileges granted to them. The proven and undisputed facts of the case clearly show that these defendants had thus planned; and that they were determined to carry that plan through, consent, or no consent, acquiescence, or non-acquiescence, until they should be *compelled* to observe their agreements; and they took the risks of that course with full knowledge that the complainants were at no time consenting to their actions. It is manifest from the conclusions of the Vice-Chancellor that he has found this statement of the facts to be substantially proved.

It is very essential to the doing of justice in this cause that this Court should have a clear perception of the substantial cause and basis of this action. This suit, expressed in its simplest terms, is a suit to overcome fraud. "Fraud cuts down everything." Suits to avoid frauds are of the most ancient and well-recognized equity jurisdiction. It so happens that in the present cause the proceeding best adapted to overcome the fraud shown and do equity to both complainants and defendants is a suit for specific performance of the contracts here

sued upon. This fact largely differentiates this suit from the ordinary run of suits for specific performance; and this fact is urged upon the attention of this Court before entering upon the argument of the cross-appeal.

## Argument of Cross-Appeal.

That part of the decree appealed from by complainants refuses the relief of future specific performance. Presumably the Vice-Chancellor has given his reasons for such denial of relief in his conclusions; and we shall examine those reasons as we understand them to be expressed.

The Vice-Chancellor finds the complainants to have sued upon a legal right in a Court of Equity under its concurrent jurisdiction, and to have coupled with their prayers for the judicial declaration of such legal right relief by way of specific performance which is a matter of equity jurisdiction solely and grantable only in the discretion of the Court as a relief not *ex debito justiciæ*. To the legal relief prayed he does not find that the laches pleaded by defendants affords a bar; but as to the relief by way of specific performance he refers to the equitable principles covering this extraordinary relief as limiting its award to those who seek it promptly (R. p. 603), and says:

> "I take this still to be a requirement or limitation in specific performance cases, notwithstanding it is frequently lost sight of because the great majority of such cases are between vendor and vendee on contracts of sale, and in those cases the doctrine of trust or equitable title rather strongly motivates the Court in somewhat the opposite direction. The complainants have certainly in the present case been quite the reverse of prompt in bringing suit, and if they thereby lose the right to this additional relief which they might perhaps otherwise have had, it is their own fault."

> "It seems to me that the exercise of that sound discretion to which the prayer for decree for specific performance is always addressed leads in the present case to the denial thereof; but such denial may be without prejudice to a like prayer in a future bill, should any such occasion of future violation arise."

It is true that it is a general principle of equity that those who seek its aid must not sleep upon their rights but must pursue them with reasonable promptitude, but the promptitude which must be exercised by the litigant depends much more for its definition upon the circumstances of the individual case than upon anything else. Without the aid of statutes of limitation it is impossible for a Court of Equity to fix in any *class* of cases any specific limit of time within which equitable relief may be asked after occurrence of the events from which the relief is prayed. The real object of the application of time limitations is the prevention of the doing of injustice which might be caused through the delay in seeking relief by reason of the loss of proofs, of changed relations, of the intervening of the interests of third parties, and the like. If these elements of equity be absent, there really is no jurisdical foundation for the rule. It seems to us, therefore, that inasmuch as the Vice-Chancellor has distinctly found and declared that the defendants have not been prejudiced by complaints' delay in bringing the present suit so far as concerns the liability of the defendants to account, it would be necessary, to excuse the defendants from specifically performing their contracts in the future, that it should at least appears that as to future specific performance they would be prejudiced thereby through the laches of the complainants in instituting their action.

We attach no importance to the fact that account is a concurrent remedy in equity while specific per-

formance is an exclusive remedy in equity. One of the great principles of equity jurisdiction is that when a Court of Equity once obtains jurisdiction of a cause of action, it will draw to itself all phases and out-branches of the cause and determine them along with that part of the cause first subjected to equity jurisdiction so far as the interests of the parties before the Court will permit, and this is generally done to prevent circuity of action or a multiplicity of suits. This principle is correlative to that great principle upon which all equity jurisdiction (with few exceptions, if any) is or at some time in the past has been founded,—that if a wrong remediable by municipal law shall occur, equity will extend the remedy therefor in the absence or inadequacy of any legal remedy.

While the bill before the Court is a bill for specific performance, that specific performance involves the accounting. To that extent the bill has been retained and sustained and the complainants have their feet firmly planted in the Equity Court. *Why, then, should the Court refuse the relief of future specific performance unless it be distinctly shown that it would be inequitable to afford such relief because of delay or for other sound reason?*

We are unaware that when a Court of Equity once properly obtains jurisdiction of a cause it will refuse any relief which may fall in its way to grant unless it appear to be *distinctly inequitable* to grant it.

What injury can the defendants possibly suffer if compelled to specifically perform their contracts in the future?

On examining these contracts it will be observed that they extend to the licensees the privilege of enjoying the patent monopoly of the licensor, by making, using, and selling the goods claimed in and by the patents. For the exercise of this privilege the licensees contract that they will sell the

goods at the scheduled prices and discounts fixed by the contracts, that they will properly mark the goods as patented, that they will keep separate accounts of their sales which shall be accessible to the licensor, that they will report their sales to the licensor monthly and pay to it ten per centum of the net selling prices of the goods disposed of. This is substantially what the licensees must do if they specifically perform; and so far as the royalties are concerned it must be remembered that those royalties were fixed by the Johns Manville and Thermoid Rubber Companies, and by nobody else (R. pp. 294, 295).

In the alternative, if they do not exercise their privileges under the license agreements, the licensees are placed under no burden whatsoever. They keep no accounts and they pay out no money to the licensor. They are under no obligation whatsoever to make, use, or sell the licensed goods. If they do not avail themselves of their privileges, they stand as if no agreements had ever been made. The licensee defendants have no right whatsoever to make, or use, or sell any of the patented goods without the license of The Asbestos Brake Company. They commit a tort if they do so. They have that license and can at their option exercise it, but if they do so they are bound to pay the stipulated royalties and do the stipulated things promised by them in consideration of the privileges they have received. If the contracts are onerous upon them, if they are unable to operate under them profitably, all they have to do is to abstain from exercising the granted privileges; and they cannot be interfered with by the licensor; nor do they require the consent of the licensor to adopt such a course.

Manifestly a decree compelling the licensees to specifically perform in the future would call for an injunction restraining them from exercising

their privileges under the contracts unless they complied with the terms of the agreements and render to the licensor the agreed compensation for the privileges they exercise. Yet this is the thing they have been fighting against for years and still are fighting against.

Under the federal constitution and patent statutes the federal courts have settled the law governing patent titles and rights in analogy to the common law governing titles and rights in real property. The owner of a patent is in the position of the owner of a close. He is the landlord. His licensee is in the position of a tenant or licensee of land. The infringer of a patent is a trespasser. While in the one case we deal with real property and in the other case with incorporeal property, the rules of law affecting them are much the same in both cases. If the tenant of my close agree to pay rent therefor and fail to do so, I may sue him in ejectment. If my licensee under my patent fail to pay his stipulated royalties, I cannot physically eject him from a physical entity, but I can procure an injunction against him in equity to compel him to abstain from the exercise of his privileges under his license until he specifically performs his part of the contract. *Eureka Co.* v. *Bailey Co.*, 11 Wallace, 488. In similar circumstances affecting personal property or real property the licensee or tenant or party enjoying stipulated privileges may be compelled to account for and pay the agreed compensation and enjoined in the exercise of the contracted privileges until he shall pay the agreed consideration. *Western Union Telegraph Co.* v. *Western & Atlantic Railroad Co.*, 91 U. S. 283.

We respectfully submit that it in no wise appears that the defendant licensees will suffer any unlawful injury or any mischief from which a Court of Equity should guard them if they be restrained from the exercise of the granted privileges

unless they render to The Asbestos Brake Company the consideration for said privileges required by said contracts.

In his conclusions (R. p. 603) the Vice-Chancellor says:

> "there may be doubt whether in the case of a contract of this kind the future performance of the contract should be decreed or its violation enjoined—since the essence of the contract is for the payment of moneys—notwithstanding the undoubted fact that the trend of Courts of Equity in modern times is toward extending such relief."

We submit that the learned Vice-Chancellor is in error in stating that "the essence of the contract is for the payment of moneys". We think this is by no means all of the essence of the contract and submit that a trust is impressed upon these contracts, or at least a fiduciary relation is created by them between the licensor and licensees respectively. Were the royalties payable under the contracts absolutely fixed, say at so many dollars per month, without regard to the extent of use of the licensed privilege, it might be said that the essence of the contracts is the payment of moneys. But the defendants are required to keep accounts showing the extent of their sales and to report the same to the licensor and to pay the moneys shown to be due monthly. It is submitted that this provision creates a fiduciary relation between the licensor and its licensees. "Fiduciary may be defined in trust, in confidence." Bouv. Law Dict. The licensees are the fiduciaries of the licensor because the licensor imposes confidence in them and trusts to their conscience to keep proper accounts and report them, and pay over what they shall show to be due. This is the very substance and foundation of a fiduciary relation. This very reasoning is clearly expressed in *Empire Circuit* v. *Sullivan,*

169 Fed. R. 1009, a case in which the defendants had agreed to account for and pay five per cent. of theatre receipts to be collected by them. The Court said:

> "If it is true that these parties entered into a contract, for a valid consideration, whereby the defendants agreed to account for and pay over to the orator five per cent. of the receipts for the theatre season of the year 1907-1908, and they failed to account or make payment therefor, and have refused or neglected upon request both to render an account and make payment, the court of equity should take jurisdiction and compel the defendants to account, and, if an amount sufficient to give the Federal Court jurisdiction is found to be due the orator, decree payment of that sum. Such a contract creates a trust relation. The party agreeing to pay five per cent. is trusted to render an account of the receipts, and pass over to the other party the amount, in dollars and cents, of said five per cent. The orator trusts in him to make that accounting, and if he fails to do it, the Court of Chancery should compel it."

It seems to us there is a trust impressed upon the contracts in suit and an equitable title in the moneys involved which should motivate this Court to grant the relief of future specific performance.

Again the Vice-Chancellor says (R. p. 603):

> "It seems to me that in the present case the practical result of a decree for a future specific performance would at most be the elimination of the possible necessity for complainants to bring subsequent accounting suits if there should be future violations—substituting contempt proceedings in place of such suit. Such contempt proceedings might well partake largely of the nature of new suits, however, since a decree for a specific performance must needs comprehend performance by complainants, or the Asbestos Brake Company of the things provided by the agreements concurrently to be performed by the latter."

The decree rendered in this suit is made without prejudice to the bringing of future accounting suits if the defendants, the licensees, shall continue to violate their contracts. The Vice-Chancellor himself has found that the licensees have continued to violate their contracts ever since the present suit was begun and there is every indication that they intend to continue violating such contracts so long as they shall not be prevented by injunction from doing so. It is submitted that the elimination of the necessity for a multiplicity of suits for accounting in the future is the very relief to which complainants are entitled in this cause. We fail to see that "Such contempt proceedings might well partake largely of the nature of new suits, * * *, since a decree for a specific performance must needs comprehend performance by complainants, or the Asbestos Brake Company of the things provided by the agreements concurrently to be performed by the latter." "One who comes into equity must do equity," or at least must offer to do equity. One praying a decree for specific performance of a contract must at least offer to perform his part of the contract. This being a stockholders' suit brought by stockholders who cannot control the corporation on whose behalf they sue, could not offer themselves, or on the part of that corporation, the performance of anything contracted to be performed by that corporation. Necessarily they made The Asbestos Brake Co. a defendant to the suit, and consistently in the fourth prayer of the bill pray as follows:

> "4. That said The Asbestos Brake Company and the H. W. Johns-Manville Company and Thermoid Rubber Company be decreed to specifically perform their respective parts of the aforesaid license agreements, made by and between them, during and throughout the remainder of the term of the said agreements:"

The Asbestos Brake Company neither appearing nor answering the bill, a decree *pro confesso* was duly entered against it (R. p. 75). The license contracts sued on are bilateral, the obligation of the licensor being to suppress infringements of the patents owned by it. Logically, and consistently with their entire line of conduct, complainants upon ascertaining that the defendant licensees proposed to fight this suit and avoid compliance with the requirements of their contracts, made application for the appointment of a receiver to take over the patents of the company and bring suits to suppress infringements thereof. This fact is mentioned by the Vice-Chancellor in his conclusions on page 602 of the record. It may be stated off the record that the receiver has raised funds from the complainants and is prosecuting, and from a time considerably anterior to the filing of the Vice-Chancellor's conclusions has been prosecuting a suit against one of the principal infringers of the patents of The Asbestos Brake Company, to test the validity of those patents, such suit being brought in the United States District Court for the District of Connecticut; and that he has warned all other infringers to desist from their infringements, and that it is his intention to bring suits against them for injunctions, etc. If it be improper to make these statements off the record, it would seem that this Court should indulge the presumption that said receiver, who is "the arm of the Court", is performing the functions required of him by the order of the Court.

We have, then, this rather singular and somewhat inconsistent state of judicial action. The Court has refused to compel the specific performance of the contracts by the licensee defendants while by the prior order of the Court the contracts are being specifically performed on behalf of the licensor by the action of the receiver.

In the meantime the licensee defendants are continuing to enjoy the exclusive property of The Asbestos Brake Co. without rendering the agreed, *or any,* compensation for such use. For years they have defiantly continued to do this, and there is every indication that they intend to continue so to do until enjoined from such action. If the licensee defendants did not *originally* obtain their license privileges by fraud, it is manifest that they have *retained* them by fraud for years past and are so doing today. Equitable estoppel is never judicially applied in aid of fraud. The Court of Chancery has refused to hold the complainants equitably estopped to dispute the effect of the attempted rescission of the license contracts by the so-called resolution of November 14, 1911, saying (R. p. 594):

> "The thing that was done was an attempt to make a colorable record of action by The Asbestos Brake Company—and an attempt so smirched with *mala fides* as to render it impossible for a Court of equity to regard it as a foundation upon which any edifice of rights in favor of defendants could be rested."

The defense that the license agreements were executed only upon, and as a part of, an express agreement by all parties that they were to become binding and effective only upon certain contingencies, which contingencies have not eventuated, has been found by the Court below not proven. If it had been found proven, the licensee defendants would, nevertheless, be without right to exercise the privileges granted them by said license agreements, because they would then be without license to exercise those privileges. Nor would the licensee defendants be entitled to the exercise of such privileges had the Court of Chancery found the license agreements invalid and void because they formed part of an arrangement which was obnoxious to the Sherman Anti-Trust Act. The Court of Chan-

cery has found that complainants are not barred from the relief in that Court by laches, but has retained the bill and awarded a decree for an account. That court has also appointed a receiver whom it has empowered to proceed with the specific performance of the license contracts on behalf of The Asbestos Brake Co., and the receiver is litigating the patents. Certainly in such a state of facts as this, we submit, a Court of Equity ought to grant the relief of future specific performance in full, and compel the other parties to perform on their part. All the parties in the interest are before the Court and full relief can be granted. By refusing such relief simply on the ground of laches a result occurs similar to the result which would occur upon the application of equitable estoppel to sustain fraud. While laches and equitable estoppel are not identical defenses, their effects in barring an action are similar.

In *Feigenspan* v. *Nizolek*, 71 N. J. Eq. 382, 394, Vice-Chancellor Pitney said:

> "The more serious defense set up in argument by the defendant is that this is in effect a bill for the specific performance of a contract, and that the court will not enforce it, but leave the complainant to his remedy at law.
>
> "The practice of enforcing negative covenants by this court is well established, and is a part of the growth of equity jurisprudence to meet and keep up with the growth and development of business methods.
>
> "The policy of the law is that business men should keep their contracts, and not turn the contractee over to the uncertain remedy of an action at law for damages, for non-performance. It is, in my judgment, one of the most important functions of courts of equity to prevent injuries which result in damages, in all instances where it is practicable to do so, and the tendency is toward extending the protecting power of the court to cases not formerly

> thought to be sufficient to invoke its action.
>
> "For myself, I think the tendency is wholesome."

See also *Manhattan Co.* v. *Stockyard Co.,* 23 N. J. Eq. 161, in which the court said:

> "* * * redress at law could only be obtained by a continued series of suits through twenty or forty years of the complainant's term. It is a case particularly proper for the preventive remedy of injunction."

These license contracts run for seventeen years, the term of the patents under which they were granted. They cannot be sooner determined except by mutual consent of the parties to them (*St. Paul Plow Works* v. *Starling,* 140 U. S. 184), or unless the licensees should be evicted under an older and superior patent (*Macon Knitting Co.* v. *Leicester Mills Co.,* 65 N. J. Eq. 138); or unless the licensees have lost their value of the licenses by reason of universal and unchecked infringement of the patents. Walker on Patents (5th Ed.), secs. 307-309. As to unchecked infringement the defendants have been found by the court below to have no standing because they are estopped to set it up as a reason or excuse for the abandonment of their licenses.

That the Court of Chancery has full power in this cause to enjoin the manufacture, use, or sale of the goods covered by the patents here involved is beyond controversy. See *New Marshall Engine Co.* v. *Marshall Engine Co.,* 223 U. S. 473; *Riggs* v. *United Shoe Machinery Co.,* 239 U. S., 48; *Standard* v. *National,* 95 Fed. 291; *Atherton* v. *Atwood,* 102 Fed. 955; *Leslie* v. *William Mann Co.,* 157 Fed. 236; *Pratt* v. *Paris, &c.,* 168 U. S. 255, 259, 260.

In *Pratt* v. *Paris, &c., supra,* the Supreme Court said:

> "Sec. 711 does not deprive the State courts of the power to determine *questions* arising

under the Patent Laws, but only of assuming jurisdiction of 'cases' arising under those laws. There is a clear distinction between a case and a question arising under the patent laws. The former arises when the plaintiff in his opening pleading—be it a bill, complaint, or declaration—sets up a right under the Patent laws as ground for a recovery. Of such the State courts have no jurisdiction. The latter may appear in the plea or answer or in the testimony. The determination of such question is not beyond the competency of the State tribunals. * * *"

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"While the question has never arisen in this Court in the exact form presented in this case, we have repeatedly held that the Federal courts have no right, irrespective of citizenship, to entertain suits for the amount of an agreed license or royalty, or for the specific execution of a contract for the use of a patent, or of other suits where a subsisting contract is shown governing the rights of the party in the use of an invention, and that such suits not only may, but must, be brought in the State courts. * * * Although in action for royalties, if the validity and infringement of the patent are controverted, the case is considered as one 'touching patent rights', for the purpose of an appeal to this court under U. S. Rev. Stats. Sec. 699. *St. Paul Plow Works* v. *Starling,* 127 U. S. 376."

We respectfully submit that the Court of Chancery has erred in refusing the relief of future specific performance prayed by complainants, and that such portion of the decree below should be reversed.

## I.

### Reply to Argument of Defendants-Appellants' Appeal.

The statement by the Vice-Chancellor in his conclusions of the law and the facts in this cause is so admirably clear and forceful that it seems like a work of supererrogation to offer any statement or argument in its support. It may, however, be advisable to make some references to the proofs in the cause which are not specifically referred to by the Vice-Chancellor in his conclusions, and to cite some authorities not mentioned by him.

In doing this we shall consider the defenses set up in the order in which they are pleaded.

### First Defense.

The first defense is that there was an agreement contemporaneous with the organization of the company and the execution and delivery of the license agreements that said license agreements were to become effective only when and if the Asbestos Brake Company should be successful in establishing its monopoly under the patents by forcing competing manufacturers to take out licenses under its patents.

Concerning this defense the Vice-Chancellor tersely remarks (R. p. 589):

> "I do not believe there ever was any such agreement, and I so find. There is no proof of any written agreement—nor indeed of any agreement by the Asbestos Brake Company as such. And even if we go behind the corporate entity to the actual parties in interest, the proof offered of any agreement between them is of a rather indefinite and decidedly unconvincing character."

In his conclusions the Vice-Chancellor states that the proof concerning the existence of this contemporaneous agreement consists of testimony of Mr. J. O. Stokes and Mr. W. J. B. Stokes, of the Thermoid Rubber Company, and of Mr. T. F. Manville of the Johns-Manville Company. We are unable to find anything in the testimony of Mr. W. J. B. Stokes concerning such a contemporaneous agreement. So far as the record discloses and so far as our recollection extends the only persons testifying to the existence of such contemporaneous agreement are Mr. J. O. Stokes and Mr. T. F. Manville. We shall not waste the time of the court with any extended argument concerning this defense. The unsupported statements of J. O. Stokes and Manville constitute the only "proofs" of this figmentary agreement. As the Vice-Chancellor remarks all the other witnesses in the case, with the exception of Mr. A. Parker-Smith, the attorney of Johns-Manville Company, deny having ever heard of such an agreement before it was set up in the answers in the present suit, while Mr. Parker-Smith makes no statement to indicate that he had ever known or heard of such an agreement. The denials of Messrs. Hubert and Massie, the men who are absolutely necessary parties to the making of the alleged condition, will be found on pages 415-417, 280, 284 of the record. The denials of Messrs. Williams and Lowthorp, the attorneys, respectively, of Mr. Hubert and the Thermoid Rubber Company, appear on pages 398 and 427 of the record, while the denial of William T. Bonner appears on page 392 thereof. We consider it quite unnecessary to say more concerning this defense than that there is every indication that it never existed even in the minds of Messrs. Manville and Stokes until the pendency of the present suit stimulated their inventive faculties into functional activity. As the Vice-Chancellor remarks in his conclusions (R. pp. 590-

592), it is impossible to believe that if there had been any such agreement it would not have been known to Messrs. Hubert, Massie, Bonner, Williams, and Lowthorp, "or indeed that it would not have been reduced to writing and formal execution", or that had such alleged agreement existed Massie would have written to J. O. Stokes and Manville his letters of October 5, 1911 (Exhibits C-7 and C-8), or that Stokes and Manville, or either of them, could have received such letters without immediately "replying to him and calling his attention to such agreement", or that it would have been mentioned in some way at the pretended meeting of The Asbestos Brake Co. of November 14, 1911, or embodied in the so-called rescinding resolution of that date—none of which things happened.

## Second Defense.

The second defense is based upon the alleged rescission of the license agreements by the so-called resolution of November 14, 1911.

We are quite unable to see how the reasons given by the Vice-Chancellor in his conclusions for finding this alleged rescission of the contracts in the suit totally ineffective can be successfully answered. As stated by him, the "resolution", had it been adopted by a competent body, would not effect a rescission of the license contracts, but was at most a release from the temporary payment of royalties, and a release unsupported by a consideration.

## Third Defense.

The third defense is the alleged acquiescence of the complainants in the fraudulent "resolution" of November 14, 1911.

We cannot make a stronger argument against the validity of this defense than that made by the Vice-

Chancellor himself in his conclusions of pages 594 and 595 of the record, where he says:

> "As to acquiescence, I have pointed out that there was no corporate act done or taken in which the complaining stockholders can be said to have acquiesced. Inapplicable, therefore, are the numerous cases cited by defendants, involving the well recognized principle that where a corporation does an act which is *ultra vires* and, which would be set aside at the instance of dissenting stockholders if timely steps in behalf be taken by them, the act is deemed to be ratified and acquiesced in by them where they, with knowledge, remain silent and inactive for an unreasonably long period. There was not even any action by the Manville and Thermoid Companies amounting to a notice of repudiation of the contract or of an intention not to abide by its terms. The thing that was done was an attempt to make a colorable record of action by the Asbestos Brake Company—and an attempt so smirched with *mala fides* as to render it impossible for a Court of Equity to regard it as a foundation upon which any edifice of rights in favor of defendants could be rested. I have in mind Manville's letter to Massie wherein he falsely stated that there had been a quorum present at the directors' meeting and that several resolutions had been passed—statements which he knew to be false; and the fact that the subject matter of the 'resolution' was not brought before the next meeting of directors when there was not only a quorum, but a full attendance of all the directors, representing all the stockholders' interests."

As the brief of counsel for the defendants-appellants treats at considerable length concerning the acquiescence charged against the complainants and cites numerous decisions which the Vice-Chancellor held, and which we believe, to be entirely inapplicable to the facts in the present cause,

we shall here refer to the "conduct evidence" concerning this manner of alleged acquiescence.

A fairly brief consideration of the law and the facts will entirely dispose of this defense.

> "An estoppel *in pais* is never allowed to be used as an instrument of fraud, but only to prevent injustice, and it is therefore essential that the parties claiming the benefit of the estoppel must have proceeded in good faith." 16 Cyc., p. 747.

As full and complete a definition or formulation of an equitable estoppel as can be found in the books is given by Mr. Justice Pitney, in *Central R. R. Co.* v. *McCartney,* 39 Vr. 165, 175:

> "The essential elements which must unite in order to create an equitable estoppel by conduct may be stated with approximate accuracy, as follows:
>
> "1. That the party against whom the estoppel is urged has, on a previous occasion, by words or conduct, made a representation or concealment of material facts inconsistent with the facts forming the basis of his present claim.
>
> "2. That such a party either knew the facts to be otherwise than represented, or except for gross negligence would have known; or that he pretended to know the facts when he knew that he did not know them.
>
> "3. That such representation or concealment was made with the intent to influence the conduct of another or else was made under such circumstances that a reasonably prudent man would suppose it was intended to be acted upon as true.
>
> "4. That the party to whom it was made was ignorant of the facts and had no convenient opportunity to ascertain them.
>
> "5. That the latter party, in good faith, relied upon the representations or conduct of the

> other party and thereby was led into such a course of conduct that he will be substantially prejudiced if the other party be permitted to repudiate his former action or representation.
>
> "In short, an equitable estoppel prevents one from rectifying his own grossly negligent mistake at the expense of another who has, without negligence, been misled thereby."

In *Hall* v. *Otterson,* 7 Dick. 522, 534, Vice-Chancellor Green said:

> "The defenses of laches and acquiescence are cognate but not correlative; they both spring from the cardinal rule that 'he who seeks equity must do equity'. Acquiescence, however, properly speaking relates to inaction during performance of an act. Laches relates to delay after the act is done."

The law as thus declared by our own courts is so well settled and universally accepted as to make further citations from judicial authority unnecessary.

The party to be estopped must have *misled* the party seeking to raise the estoppel in some way by language, or by silence when he should have spoken, or by contrariety or inconsistency of actions or positions assumed, or seemingly assumed. Now let us examine the facts upon which the alleged acquiescence in, or acceptance of, the so-called resolution of November 14, 1911, is based.

William T. Bonner, the then President of The Brake Liners Company, was present at that gathering. He went there, he testifies (R. pp. 390-392), to meet Mr. Massie, The Brake Liners Company's representative on the board, and report to him the refusal of the Empire Rubber Company to take out a license under the patents of The Asbestos Brake Company because the Johns-Manville Company and Thermoid Rubber Company were not adhering to their license agreements

in the matter of maintaining the scheduled prices and discounts of the patented goods which they were selling. The only other persons present were Mr. Manville, Mr. Wm. J. B. Stokes, and Mr. Greenwood, Mr. Manville's private secretary. Neither Mr. Greenwood, who made minutes of the proceedings of the gathering, nor Mr. Manville, testifies to any act or word of Bonner at that meeting. The minutes show that he was named as Secretary of the meeting, but that he did not act in that capacity. William J. B. Stokes testified (R. p. 160) that Bonner was present "representing The Asbestos Brake Liners Company"—meaning, of course, the Brake Liners Company. That, if he remembers, Bonner seconded the resolution of rescission (R. p. 161). That all, including Bonner, discussed the matter. That Bonner "agreed that if we could not get the licenses we may as well rescind the resolution (licenses?)" (see R. p. 163).

Mr. Bonner's testimony does not agree with this. He says (R. p. 390) that he attended the meeting to report the declination of the Empire Rubber Company to take a license to Mr. Massie, as before stated. That he did not act as Secretary, nor vote (R. p. 390). That he there stated that he was neither a stockholder or officer, and didn't see how he could act (R. p. 391). That he did not consider the resolution binding or legal in any way. That he has no recollection of making any motion (R. p. 392). That he knew he had no right to take any part in the meeting, and so stated (R. p. 392). He denies stating that if the company shouldn't get in licenses, the license agreements might as well be rescinded. He says that Mr. Stokes asked him if he controlled the Brake Liners Company, and that he stated that he had a majority of the stock, but didn't control, as he had given a power of attorney in fact to Mr. Massie and had no authority in the matter (R. p. 393). He further testified (R. p.

394) to the truth of the statement made in the opening paragraph of the bill in this cause, that Mr. Massie held all of the shares of The Asbestos Brake Company's stock allotted to the Brake Liners Company, as Trustee.

As some important statements of fact, made by Mr. Stokes concerning occurrences at this gathering have been shown to be absolutely without foundation; and as the record of the acts of the parties present itself show, that although Mr. Bonner was named as Secretary, he did not act as such, it is submitted that *acquiescence* on Mr. Bonner's part in the adoption of the so-called resolution of rescission is not shown. He denies the statements attributed to him by but one witness, and that witness highly interested in proving acquiescence, and to whose statements full credence cannot safely be given.

Furthermore, the alleged acquiescence of Bonner at that gathering in the adoption of the so-called resolution of rescission is entirely inconsistent with his subsequent conduct throughout all the years which have succeeded November 14, 1911.

Greenwood testifies (R. pp. 149-151-157) that Bonner visited Manville at his office on a number of occasions after the last meeting of The Asbestos Brake Company's directors held January 17, 1912; and in the presence of the witness inquired of Manville if nothing could be done to forward the affairs of the company. Mr. Manville (R. pp. 194-198) also testifies to those interviews with Bonner, and their object.

In the letters of Bonner to Manville written during the years following the cessation of The Asbestos Brake Company's activities, which letters, strangely enough, defendant's counsel has offered in evidence, we find the irrebuttable proof that Bonner never acquiesced in the "resolution of rescission".

The following letters were written by Bonner to Manville and to Massie on the following dates:

August 26, 1912 (Exhibit D-44), R. p. 565;
December 4, 1912 (Exhibit D-49), R. p. 569;
January 25, 1913 (Exhibit D-57), R. p. 570;
June 29, 1913 (Exhibit D-53), R. p. 571;
October 14, 1916 (Exhibit D-55), R. p. 572;
July 9, 1919 (Exhibit D-58), R. p. 575;
July 30, 1919 (Exhibit D-61), R. p. 576;
August 2, 1919 (Exhibit D-63), R. p. 578.

In none of these letters is there any expression of acquiescence in the attempted action of November 14, 1911.

In his letter of January 25, 1913, he writes: "It seems a pity with the number of patents we have that we are unable to find a way to collect royalties now amounting to many thousands of dollars;" and he asked that Mr. Stokes call a meeting, as he (Bonner) "would like to offer a suggestion which might be of some assistance". The only parties owing royalties to The Asbestos Brake Company were the two defendant licensees. Even if Bonner used the term "royalties" to include damages and profits recoverable from infringers, the letter exhibits no acquiescence in the non-payment of royalties by the then licensees.

In his letter of October 14, 1916, he speaks of a new enterprise in which he is interested, proposes to take over The Asbestos Brake Company's capital stock in return for new licenses to be granted to the Johns-Manville and Thermoid Companies for the nominal consideration of One Dollar, *"removing at once any complication"* as *"with unlimited license issued to both of your companies you would have nothing to fear from any source"*. He proposes to raise $25,000, and sue infringers on the patents, saying:—"The stakes are large. It is a big thing or nothing. I don't know how the other man (Hubert) feels about it, but unless some

one takes it upon the basis outlined I can't see where it will ever be of any value to any one." There is no expression of acquiescence in this letter. It conveys a distinct warning to Manville of the danger in which the licensee companies stand under their own agreements to pay royalties.

In his letter of July 9, 1919, Bonner makes another somewhat similar proposition to Manville. He proposes

> "That you and the Thermoid Company sell your entire holdings in The Asbestos Brake Co., that at the time of such sale there be issued to the two companies for a nominal consideration a license covering all patents now owned by The Asbestos Brake Co., for the full term of such patents, and a further participating interest by your company and the Thermoid Co., in the new organization.
>
> "This would leave the Manville and the Thermoid Companies in the same free and unrestricted position they now enjoy.
>
> "It would be the purpose of the new Asbestos Brake Co. organization to undertake, without obligation or cost to the Manville or the Thermoid Cos., the collection of royalties under their existing patents."

That Bonner, in his various letters, and particularly that of July 9, 1919, was considering the *status quo,* rather than expressing *acquiescence* in it, is clear from his testimony. Asked how many visits and requests for action he made to Manville, Bonner (R. p. 394) says:

> "A. I haven't any idea; it extended over a period from 1912 to 1920, both in visits and various letters I wrote.
>
> "Q. What satisfaction did you get?
>
> "A. He always wrote me he was going to see Mr. Stokes, and I never heard nothing afterwards unless I saw him again or wrote to him.
>
> "Q. Were you in a position, prior to the commencement of this suit, on your own initiative to employ counsel to compel action?

"A. No, sir.

"Q. What was the pecuniary situation of the Brake Liners Company in that respect?

"A. They had no money.

"Q. Were you able to, or was the Brake Liners Company able to, pay and employ counsel for that purpose prior to the commencement of this suit?

"A. They were not."

Bonner further testifies (R. p. 409) that from September 15, 1912, until the spring of 1918, he frequently saw Manville and inquired "what was to be done". That his object in writing his letter of October 14, 1916, was to get control of The Asbestos Brake Company to see what could be done to enforce its patents; and suggested the granting of new licenses to the Johns-Manville and Thermoid Rubber Company for a nominal consideration as compensation for the transfer of their stock in The Asbestos Brake Company. And finally, that that letter was written on his own independent initiative as an individual, and not on behalf of the Brake Liners Company; and that in the same way, and for the same reason, he wrote the letter of July 9, 1919.

As generally defined by the authorities, acquiescence must be shown by affirmative words or actions rather than by negative words or actions. We think it is manifest that Bonner never acquiesced in the suspension of the payment of royalties by the defendants. Had he done so, he was without power to bind the Brake Liners Company, or its trustee, Massie, to or by such acquiescence.

Let us now consider the attitude of Mr. Massie. Massie, as shown, has always been the holder, as Trustee, of all of the stock of The Asbestos Brake Company allotted to the Brake Liners Company, and was the sole person having authority to act for the Brake Liners Company in its relations with The Asbestos Brake Company.

Massie was not present at the gathering of November 14, 1911. He testifies (R. pp. 96, 103, 104) that he attended the next, and last, Board meeting of the company, held January 17, 1912. That the minutes of the gathering of November 14, 1911, were not read; and that they were not delivered to him until the directors present at that meeting had dispersed, or were dispersing; and that they were not read by him until afterwards. That while he recorded them in the minute book of the company, pursuant to Manville's direction, he did not sign them. That he considered the entire proceedings of November 14, 1911, as an absolute nullity. Aside from the testimony of Manville, that Massie met and talked with him several times afterwards, and admitted that the lack of money in the treasury, and the violation of the Sherman Act by the Company, and the inability of the licensees to compete with infringers of the company's patents, constituted a sufficient excuse for the inactivity of The Asbestos Brake Company and its licensees, and the failure to carry out the terms of the license agreement—all of which statement Massie (R. p. 417) declares are "false from beginning to end", there is not a particle of proof to show acquiescence on Massie's part. His testimony, and his exhibited letters to Manville show that he expected The Asbestos Brake Company to sue the infringers of its patents, and the Johns-Manville and Thermoid Rubber Companies to account for and pay their royalties; and that when it became evident that these things were not going to be done, he, being helpless to compel the carrying out of the violated contracts simply remained silent, and attended to the prosecution of his legal practice, by which he made his living (R. p. 421).

It is perfectly clear from the testimony of Mr. Hubert that that gentleman neither did nor said anything which would imply acquiescence on his

part. While a man of large resources, Mr. Hubert was engaged in a number of large business enterprises, which fully occupied his capital, his time, and his efforts. He says that he realized that The Asbestos Brake Company was inactive, and that the Johns-Manville and Thermoid Rubber Companies were not performing their license contracts, but that he was too busy to give the matter his attention (R. pp. 298-300). He swears that he knew nothing of the meeting of November 14, 1911, nor of anything done thereat, until after the present suit had been commenced (R. p. 278). And it is not pretended that he did. Mr. Hubert certainly has not acquiesced.

On pages 84-87 of their brief defendants-appellants' counsel complain that the complainants in this suit sat still and speculated on the resulting success or failure of the business of the licensee defendants in the manufacture and sale of the patented brake linings. As clearly shown by the testimony of Massie (R. p. 421) and Bonner (R. p. 394), the Brake Liners Co. was without means to begin and maintain the necessary expensive prosecution of litigation to compel the licensee defendants to perform their contract. The reason for Hubert's delay in taking action at an earlier date is stated by him to have been his absorption in other great business enterprises which in their extent and importance were beyond his physical capacity to sustain (R. p. 300).

But it is further insisted by counsel of defendants-appellants in their brief that Hubert continued to speculate upon the possible results in this suit for some time after its commencement before he applied to be admitted as a party-complainant therein. In view of this statement, we consider it proper to inform the court that Mr. Hubert, while not at first a party named in the proceedings, was nevertheless actively interested in this suit and was a contribu-

tor to the expense thereof from the beginning. That his name as a complainant was purposely omitted from the bill in the expectation of counsel that his apparent non-participation in the suit might lead Mr. Manville or Mr. Stokes to open negotiations with Mr. Hubert in and by which they would disclose conclusively their intent to retain such control of The Asbestos Brake Company as to frustrate the effort of Massie, as trustee, and the Brake Liners Company, his *cestui que trust,* to obtain relief in this suit. This plan was fully justified by its result, as soon after the commencement of the suit the attorney of Mr. Manville approached the attorney of Mr. Hubert and opened negotiations with him, and conducted with him an illuminating correspondence which was largely useful to the complainants on their successful motion for the appointment of a receiver to take over and litigate the patents of The Asbestos Brake Co. The object having been accomplished, Mr. Hubert later petitioned to be, and was admitted as a party to the action.

But the admitted conduct of the defendants themselves distinctly shows that there is lacking here an absolutely essential element of equitable estoppel. While the answers of the defendants allege that they were misled to their prejudice by the acquiescence of the complainants in the alleged rescission of their license contracts, it will be noted that nowhere in the evidence adduced in this cause is there any statement that the defendants were so misled. The proof of the facts in this cause makes such sworn statement absolutely essential to the success of the defendants in proving the existence of such an equitable estoppel.

Acquiescence implies active assent. *St. Louis Safe Deposit Bank* v. *Kenneth,* 101 Mo. App. 370, 398; *Kenyon* v. *Hartford, &c., Asso.,* 39 App. Div. 276, 294. There was no active assent in this case.

It is submitted that the defendants have themselves *disproved* their pleaded estoppel of acquiescence; and that their said defense is now utterly discredited.

## Fourth Defense.

The fourth defense is laches on the part of complainants. In disposing of this defense the Vice-Chancellor says (R. p. 595):

> "But laches involves something more than mere delay, mere lapse of time. There must be delay for a length of time which—unexplained and unexcused—is unreasonable under the circumstances, and which has been prejudicial to the defendant. Cf. *Johnston* v. *McKenna,* 76 N. J. Eq. 217, at 229 (affirmed 77 *id.,* 555)—where there was delay of some seven or eight years. Cf. also *Soper* v. *Cisco,* 85 N. J. Eq. 165, at 174. In the present case no prejudice is shown, or can be inferred, to have resulted to complainants. There has been no loss of memory, no loss of witnesses, no loss of evidence. Defendants' course of conduct was not induced by complainants' delay or inaction. Defendants have simply continued to act as they acted in the beginning."

In *Obert* v. *Obert,* 1 Beasley, 423, 429, this court said:

> "The material facts in the case are clearly established by documentary evidence, or by the testimony of living witnesses. No serious doubt rests upon any part of the case. The controversy is not seriously embarrassed by the claims of third parties or by conflicting interests. Under such circumstances, lapse of time constitutes no ground for refusing relief in equity."

See also

*Tynan* v. *Warren,* 8 Dick. 313, 321;
*Carlisle* v. *Cooper,* 18 N. J. Eq. 241;
*LeGendre* v. *Byrnes,* 44 N. J. Eq. 372, 377.

The only parties whose rights can be affected by the decision of the court in this case are the complainants and defendants. Everyone in interest is before the court. There is no intervention of right of any third party, while the whole case, practically, is proved by *documentary evidence.*

In view of the fact that the contracts in suit are sealed instruments the statute of limitations cannot affect the case, as stated by the Vice-Chancellor.

## Fifth Defense.

The basis of the fifth defense is that the contracts sued on form parts of a contract or combination violative of the Sherman Anti-Trust Act, that they are therefore void, and that no suit can be maintained upon them.

The first section of the Sherman act provides that "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is hereby declared to be illegal."

The character of the decisions of the federal courts in enforcement of the Sherman Act against unlawful monopolies and restraints of trade is well known; and as we are now interested in an agreement or combination involving the exercise of lawful monopolies granted by patents issued by the Federal Government, by virtue of its powers under the Federal Constitution and the Acts of Congress, our consideration of the law will be confined principally to an examination of the judicial decisions in similar cases.

It may be postulated *in limine,* as a sound and thoroughly established proposition of law, that if an agreement, be it in one or in several documents, by which restraint of interstate or foreign trade

or commerce is provided for by means of one or more patents for inventions, do not extend or tend to extend such restraint beyond that which might be lawfully effected by enforcement of the exclusive rights granted in and by the patent or patents involved, the agreement is not in itself violative of the Sherman act; nor is of itself evidence of an unlawful combination or conspiracy in restraint of trade or commerce. If, however, such an agreement provide for or tend to the restraint of trade or commerce between the states or with foreign countries in a manner in which lawful enforcement of the patent rights involved would not restrain it, the agreement *may be* unlawful and void, and, therefore, unenforceable; and each case must be decided upon its own facts, and "in the light of reason".

It will be profitable to ascertain at the outset the effect of a grant of a patent monopoly under the federal statutes.

## Nature of Patent Monopoly.

The patent statutes provide that, subject to certain conditions and limitations not material here, "any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor". *Walker on Patents,* Sec. 1. Every patent for an invention must contain a claim or claims, formally declaring what the patentee considers new, and of which he claims an exclusive right; and his monopoly is measured by his claims. *Walker on Patents,* Sec. 176.

An inventor has, at the common law, the right to make, use, and vend the subject of his invention; but he enjoys that right *only in common with the public.* For he cannot prevent the public from utilizing his invention until he receives from the

Government a patent containing a claim, or claims, covering his invention. The monopoly of his invention which he receives through a patent, consists entirely in *the exclusive right to make, use, and vend* his invention; and that exclusive right may be maintained only by injunction, to prevent future infringement of his right, supplemented by the recovery of damages and profits for past infringement thereof. *Motion Picture Patents Co.* v. *Universal Film Co.*, 243 U. S. 502.

A patentee may sell and assign his patent to others; he may sell and assign territorial rights thereunder; or he may license others to operate under his patent by making, by selling, by making and selling, by making and using, by using, or by making, selling and using the patented thing. And in selling his patent, or territorial rights thereunder, or in granting licenses to operate in any way under his patent, the patentee can dictate any terms he may choose, so long as they do not violate any positive law, or exceed the rights granted by his patent. *Walker on Patents*, Secs. 272, 274, 296; *Bement* v. *National Harrow Co.*, 186 U. S. 70. On the other hand, if he see fit to do so, he may altogether suppress the making, selling, and using of his invention during the life of his patent; for in doing so, he but suppresses his own. *Bement* v. *National Harrow Co., supra; Consolidated Paper Bag Co.* v. *Eastern Paper Bag Co.*, 210 U. S. 405.

When a patented chattel is *sold* by the patentee, or by his licensee, and the legal title to it passes to the vendee, the chattel sold is, by the passing of the title to it, freed from the monopoly of the patentee, who in no way can thereafter restrain or regulate its use or transfer in the hands of the vendee or his assigns, unless by the terms of some collateral contract, *Bauer* v. *O'Donnell*, 229 U. S. 1. For a considerable period it was judicially held

that even after a sale of a patented chattel, the patentee might restrain or regulate its use, or sale, by giving notice of such intended restriction or regulation to the vendee and his assigns. And this theory was maintained even by the Supreme Court. *Heaton-Peninsular Button Fastener Co.* v. *Eureka Specialty Co.*, 77 Fed. 228; *Henry* v. *A. B. Dick Co.*, 224 U. S. 1; but it was later overthrown in *Motion Pictures Patent Co.* v. *Universal Film Mfg. Co.*, 243 U. S. 502; which decision flatly overruled the decision in *Henry* v. *A. B. Dick Co.;* while the decision in *Bauer* v. *O'Donnell, supra,* declared the law to be that the patentee of a chattel could not, by a mere notice, to those taking title to it by a sale, control or fix its price in sales subsequent to that made of it by the patentee or his licensee.

As the legal rights of the vendor and his vendee are reciprocal, and a patentee may assign his patent, the assignee ordinarily acquires the rights of the grantee of the patent; and he may exercise them with the same freedom and effect as they could have been exercised by the original owner or grantee. It is undoubtedly true that a natural person, and in some cases an artificial person, or corporation, may purchase and take title to any number of patents for inventions entirely independent of each other and covering things which are being sold in competition on the market by their owners; and, if he so choose, may suppress all of those patented things, and thereby deprive the public of the use of those inventions during the respective lives of the several patents covering them; or he may make, use and sell some of them while suppressing others. And what he can do, he can license others to do. But this freedom of treatment of the patented things results from the lawfully granted monopolies of the patents and the simple assignments of the patents by their re-

spective owners. In such transactions there is no "agreement" or "combination", or "conspiracy" in restraint of trade. There is solely a transfer of a monopoly or monopolies by an assignment authorized by statute. But if the assignments of the patents arise out of, or are made in pursuance of some agreement, the terms of which, if carried out by the assignee of the patents, are intended to, or have a tendency to restrain trade otherwise than by the exercise of the lawful monopoly of the patents themselves, the restraint exercised or anticipated, if *unreasonable,* and so unlawful, is attributed to the working of the agreement or combination, the patent monopolies involved being regarded as mere instruments, which may not be used to effect the unreasonable and unlawful restraint intended, or made possible, by the terms of the agreement or combination.

This state of the law, in its strictest application, is illustrated in the opinion of the court in *Blount Mfg. Co.* v. *Yale & Towne Mfg. Co.,* 166 Fed. 555.

In that case each of the parties named, and as well the Russell & Irwin Company, was the owner of independent patents for liquid door checks. They had been competing in the market in the sale of such goods. They made agreements with each other to make and sell the goods under their respective patents, provided for a plan of mutual accounting of profits and division thereof, and that the prices to be charged for the patented goods should "be determined from time to time by agreement" between the parties. Suit was brought by the complainant to compel the defendant to account for profits under the agreement. The bill was demurred to; and the demurrer was sustained on the ground that the several contracts constituted one agreement or combination violative of the Sherman act. Judge Brown (p. 556) said:

> "Such relations are established between the complainant, the defendant, the Corbin Com-

pany, and the Russell & Irwin Company that the contracts before us must be regarded as related parts of a general plan to regulate and control the business of dealing in liquid door checks. The plan comprehends the maintaining of prices, the pooling of profits, the elimination of competition, and the restraint of improvements.

* * * * *

"The complainant contends that the demurrer should be overruled, because such contracts are legal and valid when the subject matter of the contract comprises solely articles the manufacture and sale of which are protected by patents.

* * * * *

Page 557:

"It seems self-evident that a contract which is only co-extensive with the monopoly conferred by letters patent, and which creates no additional restraint of trade or monopoly, does not conflict with the Sherman act. The monopoly granted by letters patent is of a particular invention. Devices thus protected by patents are as a matter of fact in commercial competition with both patented and unpatented devices. A contract whereby the manufacturers of two *independent* patented inventions agree *not to compete in the same commercial field* deprives the public of the benefits of competition, and creates a restraint of trade which results, *not from the granting of letters patent, but from agreement.* While the monopoly of the patented articles is not increased, the monopoly of the commercial field is increased by the 'unified tactics' as to prices.

* * * * *

Page 558:

"The bill does not aver that the articles made *by each company embody features covered by the patents of the other.* While the contracts provide that the parties are licensed to use patented inventions of the other, this does

not alter the fact that by the terms of the contracts each party *is restrained* in the exercise of its rights under its own patents, and in the sale of articles made *solely under its own patents.*

"The right of the owners of letters patent to assign rights to manufacture, use, and vend, upon condition that the assignee shall maintain certain prices, and agree not to compete with his assignee or to license others to compete, is recognized in *Bement* v. *National Harrow Company,* 186 U. S. 93.

"Whether a patentee may not lawfully make such a license agreement in consideration of the making of a like license agreement by another patentee is a somewhat interesting question. *If, as a result of mutual licenses, there is put upon the market an article embodying the inventions of both patentees, so that as the effect of exchange of licenses a new article of manufacture is developed, it is doubtful if the public is thereby unlawfully deprived of any of its rights or expectations of free competition.* Where, however, each patentee continues to make his own goods under his own patents, and seeks to enhance his profits by an agreement with competitors, who make either patented or unpatented articles, then it seems to follow that the agreement of each to restrain his own trade cannot be regarded merely as an incident to the assignment of patent rights. *The patentee then restrains his own trade, not for the purpose of enhancing the value of the license which he grants, but for the purpose of enhancing the value of his trade by removing competition.*"

Page 562:

"Combinations between owners of *independent* patents, whereby, as part of a plan to monopolize the commercial field, competition is eliminated, are within the Sherman Act, for the reason that the restraint of trade or monopoly arises from combination, and not from the exercise of rights granted by letters patent." (Italics are ours.)

In *Indiana Mfg. Co.* v. *J. L. Case Threshing Machine Co.*, 148 Fed. 21, there was before the court an agreement which had resulted in the assignment to the corporate complainant of a large number of independent (competitive) patents on "stackers" (attachments to threshing machines) which had belonged, respectively, to a large number of competing manufacturers of threshing machines. The complainant corporation had been formed for the purpose of taking title to all these patents because, apparently, it was the owner of "the alleged pioneer patents of Buchanan for pneumatic straw-stacker devices (No. 297,561, of 1884, soon to expire, and No. 467,476, of 1892) under which its predecessor corporation was operating"; and it was planned that the new corporation should license all the manufacturers under its patents at a royalty of $30 on each stacker made "embodying any of said inventions or improvements"; and that "the selling price to users of machines" thereunder must be $250 when sold on time, or $235 for cash sales, with agency commissions limited to $25. The purpose, and the actual accomplishment, of this combination was the uniting and subjection to the terms of this plan, of practically all of the manufacturers of threshing machinery in the United States and Canada. The suit was brought for the specific enforcement of one of the license contracts made under the foregoing arrangement. The lower Court in an elaborate opinion held that the combination was obnoxious to the Sherman Act inasmuch as its provision tended to restrain competition between the licensees to a greater extent than it could be restrained under the claims of the patents involved. This decision was, however, reviewed on appeal by the United States Circuit Court of Appeals for the Seventh Circuit and reversed. See 154 Fed. 365, 372.

In *United States* v. *New Departure Mfg. Co.*, 204

Fed. 107, the court had before it a demurrer to an indictment found against the parties to an agreement alleged to be violative of the Sherman Act. The demurrants claimed that the indictment showed on its face that a combination involving patents had been effected under a basic patent covering bicycle brakes and was, therefore, not violative of the statute.

Commenting upon this defense, the court (p. 112) quoted the following paragraph of the indictment:

> "The said pretended license agreements which were to be entered into simultaneously by the said New Departure Manufacturing Company as ostensible licensor with the remaining corporation defendants as ostensible separate licensees were to be in all respects uniform in character, were to contain schedules of uniform and non-competitive prices, restrictions upon all sales of the aforesaid merchandise and products to be made by any of said corporations defendants to jobbers and manufacturers etc."

and said:

> "This assertion, when considered with other averments, *would seem to clearly negative the inference that the licenses were for a basic patent,* or that conditions were imposed on competitors in good faith and without an intention to violate the statute under consideration. *None of the separate patent rights owned by the defendant corporations hinged or depended upon license rights transferred by the New Departure Manufacturing Company, and the right to manufacture was not derived from it."* (Italics are ours.)

In *Bement* v. *National Harrow Co.,* 186 U. S. 70, the court had before it a suit in equity to enforce the payment of royalties for the manufacture and sale of patented float spring tooth harrows by one

of a large number of licensees. The defense was the invalidity of the license agreement sued on as one of the factors of an agreement or combination violative of the Sherman Act. The court (p. 88) said:

> "The act provides for the prevention of violation thereof * * * but that does not prevent a private individual when sued upon a contract which is void as in violation of the act from setting it up as a defense to any claim made under a contract thus demurred to as illegal.
>
> "This brings us to a consideration of the terms of the license contracts, for the purpose of determining whether they violate the act of Congress. The first important and most material fact in considering this question is that the agreements cover articles protected by letters patent of the Government of the United States. The plaintiff, according to the finding of the referee, was at the time when these licenses were executed the absolute owner of the letters patent relating to the float spring tooth harrow business. It was therefore the owner of a monopoly recognized by the Constitution and by the statutes of Congress. An owner of a patent has the right to sell it or to keep it; to manufacture the article himself or to license others to manufacture it; to sell such article himself or to authorize others to sell it."

The court then quotes (p. 90) from the opinion of the court in *Heaton-Peninsular Button Fastener Co.* v. *Eureka Specialty Co.*, 77 Fed. 288, 295, the following concerning patentees:

> "If he sees fit, he may reserve to himself the exclusive right of his invention or discovery. If he will neither use his device nor permit others to use it, he has but suppressed his own. That the grant is made upon the reasonable expectation that he will either put his invention to practical use or permit others to avail themselves of it upon reasonable terms is doubtless true. This expectation is based alone

> upon the supposition that the patentee's interest will induce him to use, or let others use, his invention. The public has retained no other security to enforce such expectations. A suppression can but endure for the life of the patent, and the disclosure he has made will enable all to enjoy the fruit of his genius. His title is exclusive, and so clearly within the constitutional provisions in respect of private property that he is neither bound to use his discovery himself, nor permit others to use it."

The court then, after referring to certain exceptions to the freedom of contract concerning patented inventions (p. 91) says:

> "The very object of these laws is monopoly, and the rule is, with few exceptions, that any conditions which are not in their very nature illegal with regard to this kind of property, imposed by the patentee and agreed to by the licensee for the right to manufacture or use or sell the article, will be upheld by the courts. The fact that the conditions in the contract keep up the monopoly or fix prices does not render them illegal."

Again on page 93, the court says:

> "On looking through these licenses we have been unable to find any conditions contained therein rendering the agreement void because of a violation of the (Sherman) act. * * * The provision in regard to the price at which the licensee would sell the article manufactured under the license was also an appropriate and reasonable condition. It tended to keep up the price of the implements manufactured and sold, but that was only recognizing the nature of the property dealt in, and providing for its value as far as possible. This the parties were legally entitled to do. The owner of a patented article can, of course, charge such price as he may choose, and the owner of a patent may assign it, or sell the right to manufacture and sell the article patented, upon the condition that the assignee shall charge a certain amount for such article."

The court sustained the agreement before it as not in contravention of the Sherman Act. There were before the court indications that the particular license agreement before it was one of a large number of similar license agreements which were made under conditions violative of the Sherman Act, but the court disregarded that phase of the contracts because it was not evidenced in the appeal record. As a matter of fact the arrangement which the Court ignored in its opinion, for the reason just stated, had been held violative of the Sherman act in the earlier decisions of the lower courts in *National Harrow Co.* v. *Quick,* 67 Fed. 130; and *Same* v. *Hench,* 76 Fed. 667. The features of the plan which had been condemned as unlawful are clearly set forth in the opinion of Judge Acheson in *National Harrow Co.* v. *Hench,* 76 Fed. 667, 669, and show beyond controversy that the scheme went far beyond mere patent protection; and not only was, but was intended to be in unlawful restraint of trade.

Prior to the year 1910, the Supreme Court had used language in its decisions in *United States* v. *Trans-Missouri Freight Assoc.,* 166 U. S. 290, and *United States* v. *Joint Traffic Assoc.,* 171 U. S. 505 (cases cited and quoted from on pp. 107-109 of defendants-appellants' brief), which induced the judicial impression that the Sherman Act "prohibited *any* contract in restraint of inter-state commerce", *and "hence embraced all contracts of that character, whether they were reasonable or unreasonable".* See the dissenting opinion of Mr. Justice Harlan, in the *Standard Oil Case, Infra.* At the October Term, 1910, that Court handed down its decision in *Standard Oil Company* v. *United States* (221 U. S. 30), and therein denied that it had placed such construction upon the statute. And the Court therein declared that to violate the statute the effect of the combination or

agreement attacked must be to *"unduly restrain trade"*; and that what constitutes *undue* restraint of trade must be determined in the light of reason applied to the circumstances of each case. Whether or not the decision in the *Standard Oil Case* merely explained, or overruled earlier decisions of the Court, has been a matter of dispute, but in *United States* v. *American Tobacco Co.*, 221 U. S. 106, the Court stated its determination to adhere to this construction of the Act; and it has ever since done so. Indeed, in the very recent case of *United States* v. *United States Steel Corporation*, 251 U. S. 417, the Court declared that the statute "does not compel competition, nor require all that is possible". The following quotation from the syllabus of the case clearly and properly gives the judicial determination therein.

> "1. A court, when asked to dissolve a corporation as an alleged violator of the Sherman Anti-Trust Act, should consider, not what the corporation had power to do or did, but what it now has power to do and is doing.
>
> "11. The Sherman Anti-Trust Act is directed against monopoly; not against an expectation of it, but against its realization."

The effect of the construction placed upon the statute in the *Standard Oil Case* is noticeable in the decisions of the Supreme and subordinate Federal courts in such cases involving patent monopolies which have been decided subsequently.

In *Standard Sanitary Co.* v. *United States*, 226 U. S. 20, the Supreme Court passed upon a combination of manufacturers, alleged to make 85 per cent. of the enamelled sanitary ware made in the United States, all of whom had, before the formation of the combination, been competing in trade. They all became licensees under three patents, one of which dominated the other two, covering apparatus for distributing enamel material over the

ware surfaces to be enamelled. Each license agreement provided for the fixing of prices for the goods made and sold by the licensees by a commission of six persons, to which prices the licensees were compelled to adhere; and that *the "licensee further agrees to sell no 'seconds' or 'B's' covered by schedules 4, 4½, 5 and 6".* The agreements also contained conditions *controlling the prices at which jobbers should sell the goods, and that such jobbers should handle no goods of makers of sanitary enamelled ware who were not licensees under the combination,* a requirement quite beyond the power of a patentee under his patent.

The court (p. 47) said:

> "Before the agreement the manufacturers of enamelled ware were independent and competitive. By the agreement they were combined, subjected themselves to certain rules and regulations, among others, not to sell their product to the jobbers except at a price fixed, not by trade and competition, but by the decision of the committee of six of their number, and zones of sale were created, and the jobbers were brought into the combination and made its subjection complete and its purpose successful. *Unless they entered the combination they could obtain no enamelled ware from any manufacturer who was in the combination, and the condition of entry was not to resell to plumbers except at the prices determined by the manufacturers.* The trade was, therefore, practically controlled from producer to consumer, and the potency of the scheme was established by the co-operation of eighty-five per cent of the manufacturers, and their fidelity to it was assured not only by trade advantages, but by what was practically a pecuniary penalty, not inaptly called in the argument 'cash bail'. * * * It is testified that ninety per cent of the jobbers in number and more than ninety per cent in purchasing power joined the combination.
>
> "The agreement clearly, therefore, tran-

scended what was necessary to protect the use of the patent or the monopoly which the law conferred upon it. They passed to the purpose and accomplished a restraint of trade condemned by the Sherman Law. It had, therefore, a purpose and accomplished a result not shown in the *Bement* case. There was a contention in that case that the contract of the National Harrow Company with Bement & Sons was part of a contract and combination with many other companies and constituted a violation of the Sherman law, but the fact was not established, and the case was treated as one between the particular parties, the one granting and the other receiving a right to use a patented article with conditions suitable to protect such use and secure its benefits."

In *Virtue* v. *Creamery Package Mfg. Co.*, 227 U. S. 32, 33, the court said:

"The owner of a patent has the exclusive rights—rights of making, using and selling. He may keep them or transfer them to another,—keep some of them and transfer others. This is elementary, and, keeping in mind, there is no trouble in estimating the character of such rights or their transfer. Of course, patents and patent rights cannot be made a cover for a violation of law, as we said in *Sanitary Mfg. Co.* v. *United States*, 226 U. S. 20. But patents are not so used when the rights conferred upon them by law are only exercised. The agreement of the 19th of April, 1887, constituted, as we said, the Creamery Package Manufacturing Company a sales agent of the churns and butter workers made by the Owatonna Company and fixed their list prices. The patents under which the articles were manufactured were stated and it was provided that the Owatonna Company should protect the Creamery Package Manufacturing Company from all suits for infringement, defend the validity of the patents, and promptly attack infringers. This provision is especially urged by plaintiffs as showing a

> common and illegal purpose between the companies. It has not that quality. It is but an assurance of title to the rights conveyed."

In *United States* v. *Winslow,* 227 U. S. 202, the court had before it an indictment for a combination in restraint of trade and violative of the Sherman Act. The defendants were makers and sellers of three groups or classes of shoemaking machinery, respectively, to wit, lasting machines, welt-sewing machines and outsole stitching machines, and heeling machines and metallic fastening machines; and made and sold from sixty to eighty per cent. of all such machines made and sold in the country. In 1899 these parties incorporated the United Shoe Machinery Company and turned over to it the stocks and businesses of the several corporations which they respectively controlled. The new company then began and continued to make all those machines at a new factory in Beverly, Massachusetts, and sold them throughout the country. The new company afterwards ceased to sell the machines, and only leased them upon the condition that if the lessees should employ any such machine furnished by other makers, all the leased machines should be taken away, a condition which was relentlessly enforced.

The indictment was demurred to, and the District Court construed the indictment as confined to the original agreement, and not as including the change from sales to leases of machinery. In that shape the record reached the Supreme Court on writ of error.

The Court (p. 217) said:

> "Thus limited, the question does not require lengthy discussion. * * * On the face of it the combination was simply an effort after greater efficiency. The business of the several groups that combined, as it existed before the combination, is assumed to have been legal.

The machines are patented, making them is a monopoly in any case, the exclusion of competitors from the use of them is of the very essence of the right conferred by the patents. *Paper Bag Case* (*Continental Paper Bag Co.* v. *Eastern Paper Bag Co.*), 210 U. S. 405, 429; and it may be assumed that the success of the several groups was due to their patents having been the best. As by the interpretation of the indictment below (195 Fed. 591) and by the admission in argument before us, they did not compete with one another, it is hard to see why the collective businesses should be any worse than its component parts. It is said that from seventy to eighty per cent of all the shoe machinery was put into a single hand. This is inaccurate, since the machines in question are not alleged to be types of all the machines used in making shoes, and since the defendant's share in commerce among the states does not appear. But taking it as true, we can see no greater objection to one corporation manufacturing seventy per cent of three noncompeting groups of patented machines collectively used for making a single product than to three corporations making the same proportion of one group each. The disintegration aimed at by the statute does not extend to reducing all manufacture to isolated units of the lowest degree. It is as lawful for one corporation to make every part of a steam engine, and to put the machine together as it would be for one to make the boilers and another to make the wheels. Until the one intent is accomplishment. Until the one intent is accomplishment than it is by such a juxtaposition alone, no intent could raise the conduct to the dignity of an attempt. See *Virtue* v. *Creamery Package Mfg. Co.*, Jan. 20, 1913."

But the Courts had not yet finished with the United Shoe Machinery Company. The Federal Government made a determined effort to cause its dissolution by judicial decree as a combination obnoxious to the Sherman Act. Defeated in the Dis-

trict Court for Massachusetts, it appealed to the Supreme Court, whose decision on the appeal is found in 247 U. S. 32. By a divided court the decree of the lower court dismissing the bill was affirmed. Of the nine justices of the court Justices McReynolds and Brandeis took no part in the consideration or decision of the case, while Justice Day filed a dissenting decision, in which Justice Pitney concurred, and Justice Clarke filed another dissenting opinion in which Justices Day and Pitney also concurred. Thus four justices, a minority of the court, concurred in the prevailing opinion. The opinion is too long and covers too many features of a complex situation to make mere general reference to it sufficiently enlightening; and some quotations should be given here.

One feature of the case, as to which there was difference of opinion, was whether the patent rights cumulated by the corporate merger assailed covered competing inventions which had been adversely or diversely owned by the parties or corporations merged in the United Shoe Machinery Company. Both the prevailing opinion and the dissenting opinion of Mr. Justice Clarke, show that competitive patent rights were certainly absorbed by the corporation attacked. The prevailing opinion holds such absorption of competitive patent rights not to make the combination obnoxious to the Sherman Act. The dissenting opinion of Justice Clarke makes a strong attack upon the validity of the combination on this ground. Justice Day, in his dissenting opinion, confines his attack upon the combination to the "tying leases" of machinery made by the company.

The prevailing opinion, delivered by Justice McKenna (pp. 45-46), says:

> "In considering the competition of the machines and in estimating the defendants' acts in uniting the companies, it is to be observed

that the machines were all 'under letters patent of the United States and other countries', were owned by the companies, and covered improvements made by the companies from time to time and embodied in the machines, which were so far developed that they were in 1899 principally in use by shoe manufacturers in the kinds of work to which they were respectively adapted. The patents and the businesses passed to the new company, but necessarily were the same in its hand as before. In other words, the patents did not lose their distinction, nor the machines their difference; and to dwell upon the percentage of manufacture is misleading. Of a like situation we said in *United States* v. *Winslow*, 227 U. S. 202, 217, and said of it in answer to the charge against the combination here involved, that * * * 'The disintegration aimed at by the statute (Act of 1890) does not extend to reducing all manufacture to isolated units of the lowest degree'. Or, as expressed by one of the judges in the court below: 'The combination was not unlawful so far as it did no more than put the different groups of non-competing patented machines into one control. * * * *It is not unlawful unless, to an extent injurious to the public interest, it destroyed competition'.*

"And it was held that competition was not destroyed to the designated extent, * * *

"The lapse of time indeed, may not condone the offense, if offense there was. It, however, may call the offense in question and be an element in the refutation of accusations long deferred, or determine against particular remedies." (Italics are ours.)

One of the important features of the case involved a transaction resulting in the purchase by the company, for a very large sum of money, of some patents owned by one Plant, who had invented a line of shoe-buttoning machines which, in his hands, might become competing machines on the market. Some of the remarks of the court on

this particular transaction are quite instructive.

On page 47 the Court said:

> "There are, however, certain instances of acquisition which may be said to give confirmation to the charges of the Government and justify the demand for redress, at whatever cost or disaster to the offenders; in other words demonstrate the purpose of the original union of the companies, the persistence of that purpose, and the extension of the dominion having the evil consequences depicted by the government. Upon these instances it would seem unnecessary to dwell, the companies not being competitive at the time of their union in the United Company. However, they are made so much of by the government and are so strongly urged that attention must be given to them. The most important of them and the one that was given most prominence in the testimony was that of the plant and machinery of the Thomas G. Plant Company, a New Jersey corporation, a manufacturer of shoes, not of machinery, and of the shoe machinery interest of Thomas G. Plant. * * *

Page 48:

> "It appeared that some of the machines infringed the United Company's and in some details the latter infringed the Plant machines, and the complexity of rights thus resulting, to which we shall presently refer, had led to and threatened litigation, to compose which, it was testified, and the trial court found, was a contributary inducement of the United Company's purchase from Plant.

Page 50:

> "He (the witness Winslow) further testified that 'Plant had used the Goodyear machines (the United Company's machines) as a basis for his machines and made important improvements and developments.' He indicated one of the improvements in particular, which he regarded as of the very greatest prac-

tical importance, especially when combined with a device that the United Company had just developed and placed in its factories. In a 'broad way' he said the value was almost incalculable.

"But there was interdependency of values. While the Plant device had value over that of the United Company's, it was controlled by the latter, as the witness expressed the situation, 'in a broad way it was a perfect deadlock'. In other words, the United Company had the underlying invention and Plant a patent for a particular form of operation which was necessarily subordinate to the other,—a situation familiar in patent law and contests.

"It will be seen, therefore, that there was no other way out of the deadlock, if the inventions were to be used together—that is, embodied in one machine, without infringement—than by ownership in one hand of all the patents. * * *

"This, in outline was the situation that confronted the parties and induced their transaction, the incentives of each being as indicated. And they were justifiable incentives, and we accept them as an alternative to the contention made by the Government that a violation of law was the impelling motive of the parties. And we may say that after the United Company had made the Plant acquisition it proceeded to make improvements on the Plant patents and developed many of them, giving them an efficiency they did not have before.

"There are other acquisitions that are emphasized, among them, that of the stock of the Goddu Sons Metal Company. It was acquired March 1899, a month after the United Company was formed and eleven years before this suit was brought; and the inducement to the acquisition was to settle the patent troubles that came to the United Company through one of its constituent companies. The value obtained was in patents. These were for the metallic variety of machines, and, according to a witness for defendants, 'at that time the United Company was putting out commercial machines for doing the work for which the

Goddu machines were intended. And, according to another witness, though not in a condition to be placed in the hands of manufacturers, 'they were in a state of development where some of them could have been, without extensive changes, made operative'."

Page 52:

"To this the government replies in condemnation that the cost of the settlements of the disputes was excessive, being $150,000, and the purpose of getting the patents was to forestall the competition they threatened and could have accomplished by their development.

"The value of a settlement of a dispute about rights which has reached litigation or threatens it cannot be easily or accurately estimated. It depends upon too many considerations which are not reflected in the price paid. The other ground of condemnation has strength. As the government says, quoting Circuit Judge Putnam in another case, neither the letter of the law nor its purpose 'distinguishes between strangling of commerce which has been born and preventing the birth of a commerce which does not exist'. But there is another view. No one can tell the strength of the competition that may be in a patent. It may be more than competition; it may be destruction, and the Anti-trust act surely does not require the acceptance of that or forbid effort to prevent it. But even if such extreme does not impend, certainly improvement of business and its efficiency can be striven for without offense to the law, *United States* v. *Winslow*, 227 U. S. 202, 217."

The dissenting opinion of Justice Clarke states other circumstances connected with the purchases of the Plant and Goddu patents which, taken in connection with the many other incidents in the history of the United Company, recited in the dissenting opinion, make a strong case for the gov-

ernment and against the validity of the combination attacked; but the remarks of the prevailing opinion above quoted are not, in themselves, attacked or dissented from. The different opinions in the case show, certainly, not only a combination made up of patents owned by different companies which might be expected to become competitors in trade under those patents, but a number of companies which actually were active competitors, while the effect of the combination and its activities was claimed to give the United Company a practical monopoly of businesses which had been competitive, and of substantially all of the valuable patents on shoe machinery in force.

Every case must stand or fall upon its own particular facts. This is clearly stated by Judge Dickinson in his opinion in *U. S.* v. *Motion Picture Patents Co.,* 225 Fed. 800, 810, in the following language:

> "The owner of a patented device, process or product may undoubtedly acquire from another any issued patents for improvements, and we see no reason to deny the right of the owners of the original patent, and of the patented improvements, to pool their ownerships for their joint or common protection. This we understand to have been expressly ruled. *United States* v. *United Shoe Co.* (D. C.), 222 Fed. 349. Indeed this case may well be claimed as authority for the proposition (within its facts) that there might be a combination of the owners of different patented machines all entering into a manufacturing trade. However this may be, the distinction sought to be pointed out is that while the owner of a patent on a plow, covering the handles or beam, might acquire or join with the owners of patents covering the moldboard, or share, or other parts of the plow, for the protection of the patent rights of all, and thereby incidentally secure an enlarged part of the trade in plows, the judgment would refuse to sanction a combination between the

owners of patented plows, patented harrows, patented reapers and binders, and other implements of husbandry, and large dealers in those implements, who were not owners of patents, for the purpose of monopolizing the whole trade in the products of agriculture, if the direct and first proposed was to unduly and reasonably restrain trade, as a means to the final purpose of monopolizing. The ownership of the patents in such a case, surely could not be accepted as a defense to the charge of unlawful combination.

"If a reason to support the distinction between these supposititious cases is asked for, it may be found in the fact that, in the first case, it would not be contended that the scheme of the combination had no normal and real relation to the protection of the patent rights; in the second case, no such relation could be even plausibly said to exist, and its assertion would be characterized as a pretense."

Other cases involving combinations or agreements in which patent monopolies were involved will be found in *U. S. Consolidated, &c., Co.* v. *Griffin & Skelly Co.,* 126 Fed. 364; *Rubber Tire Wheel Co.* v. *Milwaukee, &c., Co.,* 154 Fed. 358; *Goshen* v. *Single Tube,* 166 Fed. 431; and *United States* v. *Keystone Co.,* 218 Fed. 502. In some of them the agreements or combinations attacked were sustained as lawful, while in others they were denounced as unlawful. It seems unnecessary to refer to them specifically, as they only illustrate the law as it may well be deduced from the judicial declarations hereinbefore referred to or quoted from.

## The Inventions Involved.

Let us now consider the facts of the present case to which the law is to be applied.

Going back to the summer of 1910, we find Conrad Hubert, the Johns-Manville Company, and the Thermoid Rubber Company, respectively, the owners of five applications for patents on brake liners having asbestos as a component, three of which applications were involved in interference proceedings in the Patent Office. Hubert owned the application upon which the parties expected would be issued the one patent covering the basic invention of cloth or tape composed of woven wires covered with asbestos. The Johns-Manville and Thermoid Companies owned applications on which it was expected patents would issue for distinct improvements on the Coleman invention owned by Hubert, the principal improvement thereon consisting of a binder adapted to prevent the rapid wear and dissipation of the asbestos filaments wound about the wires. If patents were granted as expected by the parties, Hubert would be able to prevent the manufacture by any one but himself of the basic structure covered by the Coleman application, while the Johns-Manville Company and Thermoid Rubber Company could prevent Hubert and everyone else from making or selling their more specifically claimed brake linings. While the Coleman invention was a very great improvement upon the earlier forms of brake linings, it was greatly improved by the addition to it of the binder covered by the claims of the applications for patents owned by the Johns-Manville and Thermoid Companies respectively; and the brake linings which were capturing the market embodied the inventions of both Coleman, Hoff, and Bonner (see the testimony of Henry D. Williams, R. p. 351). In the hope of overcoming those em-

barrassments, they entered into negotiations, during which the consideration of the possible effect of the Sherman act upon their plans led to their modifications and eventually the agreement of September 22, 1910 (Exhibit C-5), was executed by the parties. That agreement recites that the parties "are involved in interferences in the United States Patent Office" and "are desirous of settling the said interferences so far as the parties hereto are concerned to their mutual advantage"; and then it identifies five applications for patents to be covered by the agreement. Later, on March 6, 1911, the supplemental agreement (Exhibit C-6) which brought in the Brake Liners Company, was executed. This agreement contained a stipulation for the assignment to the Asbestos Brake Company of "all patents and applications owned or to be owned by" the Brake Liners Company.

There is nothing expressed nor implied by either of these agreements which indicates any intent of the parties to them to violate the Sherman Act. There is nothing in The Asbestos Brake Company's charter or by-laws which indicates such an intent. The license agreements made with the defendant licensees, indicate no such intent. They are drafted in strict conformity with the law of the judicial decisions. They licensed the licensees under the patents at a fixed royalty, based upon schedules of prices and discounts at which the licensees are required to sell the patented goods to four classes of purchasers, brake manufacturers, car builders, jobbers, and dealers. The effect of these schedules does not extend beyond the first sales of the patented goods, by which it is recognized that the licensor's monopoly in the goods sold is lost; and no attempt is made to retain that monopoly. And it will be noted that neither the agreements of combination (Exhibits C-5 and C-6), nor the license agreements, provide for the payment of any mini-

mum royalty, or in any way require the licensees to make or sell the patented goods, or even to refrain from making or selling competitive goods, whether unpatented, or patented to others—a condition which might lawfully have been insisted upon by the licensors. Thus it is seen that the Asbestos Brake Company, and its direct licensees only, are in any way controlled or affected by any or all of the agreements exhibited in the cause. The first purchasers of the licensed goods from the licensed manufacturers thereof, and all subsequent purchasers thereof are left entirely free to compete with each other and with the public, in the sale of those patented goods and all other goods made for the same uses, whether patented or unpatented.

Mr. Parker Smith was questioned as to the intent of the parties to the combination; but he gave no answer from which an unlawful intent can possibly be inferred. In the report of The Asbestos Brake Company's four attorneys (Exhibit D-19) those gentlemen advised the company of their opinion that the company, under its patents, held "a commercial monopoly" of asbestos brake linings. But neither unlawful intent nor unlawful act is implied by that statement. It simply meant that, as Mr. Justice Holmes said in *United States* v. *Winslow,* 227 U. S. 202, 217, the fact was "due to their patents having been the best". It was well understood by the parties and their four counsel that the company's patented asbestos brake linings were, and for some time to come, would remain in competition on the market with the earlier inferior form of brake linings. If any unlawful combination has been intended, or has existed, or exists here, it must be discovered by an examination of the patent applications and patents involved, for it cannot be found elsewhere.

An examination of the several patents which have been issued or assigned to The Asbestos

Brake Company discloses the fact testified to by Mr. Williams (R. pp. 360-363) and by Mr. Parker Smith (R. pp. 441-443) that the following patents should be classified with the Coleman patent, Exhibit D-10, because dominated by it; to wit, Bonner patent Exhibit D-9, Bonner patent Exhibit D-13, Hoff patent Exhibit D-12, Hedson patent Exhibit D-15, and Hoff patent Exhibit D-16. All of these patents disclose brake linings which are shown to embody the Coleman patented brake lining and to contain improvements upon it, or as is testified by Mr. Williams and admitted by Mr. Parker Smith, the brake linings disclosed and claimed by them would be greatly strengthened and improved by the embodiment of the distinctive feature of wire re-enforcement disclosed and claimed in the Coleman patent. There is no disagreement upon this point; and the combination in one ownership of all of these patents meets the severest test of combination of patent properties which has ever been judicially applied. They form such a combination as was referred to by Judge Brown, in *Blount Mfg. Co.* v. *Yale & Towne Mfg. Co.,* 166 Fed. 555, 557, where he says:

> "If, as a result of mutual licenses, there is put upon the market an article embodying the inventions of both patentees, so that as the effect of exchange of licenses a new article of commerce is developed, it is doubtful if the public is thereby unlawfully deprived of any of its rights or expectations of free competition."

The three Bonner patents, Exhibits D-7, D-8, and D-14, disclose and claim brake liners which might be competitive with those of the group allied to the Coleman patented brake lining, if they were capable of attaining commercial success. Concerning these Bonner wire brake liners, Mr. Williams testifies (R. pp. 383, 384), that they might

be competitive "if they could be sold, but I don't think they are practicable". Bonner himself (R. pp. 387-389) testifies that two of them were tried out by the Ajax Rubber Company, and found useless; while the other, he says, has never gone into use; and he considers it of no commercial value.

The proof is positive that none of these three patented wire brake liners has ever gone into practical use during the twelve years or more which have succeeded the issuance of the patents; and the proof that they are impractical is quite sufficient to induce the conviction that none of them ever will go into practical use—a conviction which is unshaken by any countervailing evidence. The judicial decisions indicate very clearly that if competition in trade or commerce existing at the time of the forming of a combination or making of a contract attacked as violative of the Sherman act, has not been restrained thereby, some reasonable expectation of such restraint in the future must be proved if the combination or contract is to be condemned as unlawful.

The brake blocks described and claimed in the Cutting and Jewett application, Mr. Parker Smith says (R. p. 442), "have been used and are being used as linings for automobile brakes". Mr. Williams, on the other hand (R. p. 377), refers the use of these brake blocks to stationary machinery, such as hoisting engines, and the like; an opinion corroborated by the printed statement of the Johns-Manville Company on page 38 of its catalogue, Exhibit C-21, and of the patent application itself (see R. p. 506). Bonner (R. p. 413) states that he has not seen the Cutting and Jewett brake blocks "upon the average type of automobiles; it might in isolated cases on heavy trucks, but I have never seen one in operation".

This, we believe, is all of the evidence concerning competition, past or future, of the Cutting and

Jewett brake blocks with the brake bands of asbestos covered by the Company's patents. It is submitted that it is apparent that these brake blocks have never been competitive, and that there is no proof to show that they ever will be competitive with the brake bands covered by or dominated by the Coleman and other patents of the Company, in the sense of the statute as interpreted by the Courts.

Even had a patent issued for the Cutting and Jewett invention, and had its brake block been competitive with the other inventions assigned to The Asbestos Brake Company, the application for the patent was in interference with other applications assigned to the company; and under the decisions of the Supreme Court in *United States* v. *Winslow,* and *United States* v. *United Shoe Machinery Company, supra,* it is submitted that such fact would not have warranted the judicial finding that the combination attacked here is unlawful.

But this feature of the defense is utterly exploded and destroyed by the fact that no patent ever issued upon the Cutting and Jewett application by reason of the abandonment of that application, and the leaving open to the public forever the free use of the invention beyond the control of any combination of patents or capital.

It appears to be the contention of defendants-appellants' counsel in their long argument against the validity of the combination involved here, contained in their brief, that the combination is obnoxious to the Sherman Act because it involves the fixing by *licensees* of the prices to be charged for the patented articles intended to be made and sold by them. It seems to us that the Vice-Chancellor, in his conclusions, has quite clearly shown that the price-fixing was effected not by licensees under a patent or patents but by independent owners of in-

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ventions. It may be advisable, however, to state briefly the situation of the parties who fixed the prices as it clearly appears by the proofs in the cause.

In the year 1910 Hubert was the owner of the Coleman application which covered by its claims the basic invention in brake liners, for a patent on which the Johns-Manville Company and the Thermoid Rubber Company were also contending. The application for patent owned by Hubert had been filed in the Patent Office so long before either of the other applications, owned respectively by the Johns-Manville and Thermoid Rubber Companies, had been filed that the probabilities favored the eventual grant to Hubert of the basic patent founded on Coleman's application. It was well understood then by the three parties that if Hubert should obtain the basic patent, he would control the situation; and that without his license to do so the Johns-Manville Company and the Thermoid Rubber Company would be unable to continue the manufacture and sale of their respective brake linings. On the other hand, the patent applications owned by the Johns-Manville and Thermoid Rubber Companies, respectively, disclosed and claimed the Coleman brake lining made of wires covered with asbestos and woven into a cloth or tape *plus* a *"binder"*, a feature which added largely to the value of the product. While Hubert was expected to obtain a patent for the basic invention owned by him, it was known by all the parties that a patent would probably issue to either the Johns-Manville Company or the Thermoid Rubber Company with a claim or claims for the basic invention plus a binder. If such patent should issue to either of said companies, Hubert would be unable, without the license of such owner, to make and sell a brake liner provided with a binder. If, therefore, the parties should respect-

ively receive such patents, Hubert would be able to make and sell the Coleman invention, while the Johns-Manville Company and the Thermoid Rubber Company would be unable to make and sell any brake lining embodying the Coleman invention. The result would be that the public would be deprived of the valuable brake linings made by the Johns-Manville and Thermoid Rubber Companies, and would have to use the less valuable brake lining of Coleman, unless the parties owning the patents should in some way arrange for mutual licenses under their patents; while, at the same time, the parties themselves would lose the value of their combined inventions. At this time, that is in 1910, the parties to the agreement made in September and modified in the following month of March, were the owners of *inventions* but not of *monopolies* and they, like the public, could make, use, and vend these inventions without any licenses whatsoever; and they were in fact without any licenses whatsoever for such purposes until the month of May, 1911, and did not need any licenses to continue their work until the month of July, 1911, when the first patent, that issued on the Coleman application, came into being. The first agreement being made September 22, 1910, and the second agreement modifying it being made on March 6, 1911, the said agreements were, therefore, made between independent owners of dominating and dominated inventions, and in no sense between licensees under a patent or patents. All the inventions included in the first agreement, with the single exception of the application of Cutting and Jewett for brake blocks, were dominating or dominated inventions. The several inventions intended, but not mentioned, by the second agreement, that of March 6, 1911, comprised some inventions dominated by the Coleman invention and some inventions in brake linings which were not dominated

thereby. Some of the inventions intended by the agreement of March 6, 1911, were protected by patents, while others were not, but were simply disclosed in ungranted patent applications.

Except so far as the agreements of September, 1910, and March, 1911, covered inventions which *might in the future* become competitive in the market, there is and can be no claim that the arrangement entered into by the several parties was or is obnoxious to the Sherman Act. The evidence showed very clearly, we submit, that the patented inventions and the inventions disclosed by patent applications which were turned over to The Asbestos Brake Company under the provisions of the agreement of March, 1911, were not on the market or being made by anyone at the time the agreement of March, 1911, was made or at any time thereafter. Two of them had been tested by the Ajax Rubber Company and abandoned as unsatisfactory, while the others are testified by both Bonner and Williams to be impractical, and probably unsaleable. The invention of Cutting and Jewett, the brake blocks, appears both by the statement of the patent application itself and by the advertisement of the product put out by the Johns-Manville Company, to be non-competitive with the Coleman invention and the inventions dominated by the patent issued on Coleman's application, because those brake blocks are adapted for use in the braking of stationary, hoisting and other machines, and not adapted for use in automotive vehicles. The only witness who testifies that they are used on such vehicles is Mr. Parker Smith, who has not attempted to show that such state of use extends beyond its use upon a single vehicle, while Messrs. Bonner and Williams, both men of experience and knowledge in the use of brake liners for motor vehicles, testify that they have never known of any use of these brake blocks on automotive

vehicles. But it also appears that although the application of Cutting and Jewett for their brake blocks was allowed by the Patent Office, such application was abandoned through the carelessness or positive intent of Mr. T. F. Manville; and that no patent has ever issued, or ever can issue thereon. See R. pp. 328, 329. So the brake block invention, whether possibly competitive with the other inventions covered by the agreements, or any of them, is, always has been, and always will be open to the public use for such competition.

So far as the evidence in this case discloses, the facts as to competition, the only competition in brake liners that has existed at any time since the combination of the parties to this suit was formed has been competition between the defendants, the Johns-Manville Company and the Thermoid Rubber Company, and the infringers of The Asbestos Brake Company's inter-related patents, granted on the applications of Coleman, Hoff, and Bonner. It is quite unnecessary to remark that the trade of the infringers of The Asbestos Brake Company's patents in the patented goods was absolutely unlawful; and that had such trade been restrained its restraint would have been accomplished through the judicial enforcement of the lawful monopolies of those patents, whether they were held by The Asbestos Brake Company or by the original owners of the applications on which the patents were granted.

The proofs in the cause make it as plain as a pike-staff not only that the public *has not* suffered and *could not* suffer the loss of any right inherent in it by the formation of the combination in question, but that, on the contrary, it has been enormously benefitted thereby.

> "The means of effecting and the form of the combination are immaterial; the result is the criterion. The true test of violation of the

> Sherman Law is whether the people are injured; whether they are deprived of something to which they have a right." U. S. Circuit Court of Appeals for the Seventh Circuit in *Rubber Tire Co.* v. *Milwaukee Rubber Works Co.*, 154 Fed. 358, 362.
>
> "The Sherman Anti-trust Act is directed against monopoly; not against an expectation of it, but against its realization." *United States* v. *United States Steel Corp.*, 251 U. S. 417.

See also

*Blount Mfg. Co.* v. *Yale & Towne Mfg. Co.*, 166 Fed. 555;

*United States* v. *United Shoe Machinery Co.*, 247 U. S. 32, 50.

As said by the courts, it is not the intent, but the result which is the criterion of illegality in these combinations. The proofs show very clearly that the intent of the parties to the combination under discussion was to abide by the law, to obey it, and to form a combination which did not violate it.

It seems quite unnecessary to discuss this particular defense further; and we respectfully submit that the Vice-Chancellor was thoroughly right in his finding that the defense was not proved; and that the decree of the court below for an account should be sustained by this court.

Respectfully submitted,

FRANCIS C. LOWTHORP,
ROBERT H. MCCARTER,
C. BERTRAM PLANT
(of New York),
Counsel for Complainants-Appellants.

# New Jersey Court of Errors and Appeals

Between

MITFORD C. MASSIE, individually and as Trustee for The Brake Liners Company, a corporation of Delaware; THE BRAKE LINERS COMPANY and CONRAD HUBERT,
*Complainants-Respondents,*

*and*

THE ASBESTOS BRAKE COMPANY, *et al.*,
*Defendants.*

THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,
*Defendants-Appellants.*

**On Bill, etc.**

**On Appeal from Decree in Chancery.**

Between

MITFORD C. MASSIE, individually and as Trustee for The Brake Liners Company, a corporation of Delaware; THE BRAKE LINERS COMPANY and CONRAD HUBERT,
*Complainants-Appellants,*

*and*

THE ASBESTOS BRAKE COMPANY, THE H. W. JOHNS-MANVILLE COMPANY and THERMOID RUBBER COMPANY,
*Defendants-Appellees.*

**On Bill, etc.**

**On Cross Appeal from Decree in Chancery.**

## *BRIEF FOR DEFENDANTS-APPELLANTS.*

This case comes to this court on appeals by H. W. Johns-Manville Company, a corporation of the State of New York, and Thermoid Rubber Company, a corporation of the State of New Jersey, defendants below, and by Mitford C. Massie, individually and as Trustee for The Brake Liners

Company, a corporation of the State of Delaware, said The Brake Liners Company and Conrad Hubert, complainants below, from a decree advised by Vice Chancellor Buchanan on January 6, 1923 (Record, pp. 605 to 609), following an opinion of the Vice Chancellor after final hearing before him, filed December 11, 1922 (Record, pp. 581 to 604).

The bill of complaint was filed on the 27th day of December, 1919, by Mitford C. Massie, holding one share of the preferred capital stock of The Asbestos Brake Company, a New Jersey corporation, and holding in trust for the Brake Liners Company, a corporation of the State of Delaware, legal title to 4 shares of said preferred stock and 15 shares of the common capital stock of said The Asbestos Brake Company, and said The Brake Liners Company, the beneficial owner of said 4 shares of preferred and 15 shares of common stock of said The Asbestos Brake Company, for the benefit of themselves and such other stockholders of said The Asbestos Brake Company as may come in and contribute to the prosecution of the suit.

The defendants are said The Asbestos Brake Company, H. W. Johns-Manville Company, a corporation of the State of New York, holding 5 shares of preferred stock and 35 shares of common stock, and Thermoid Rubber Company, a corporation of the State of New Jersey, holding 5 shares of preferred stock and 35 shares of common stock of said The Asbestos Brake Company.

Long after the suit was brought and the answers filed, and indeed after the case had been partially heard, and on September 15, 1920, Conrad Hubert, holding 5 shares of preferred stock and 15 shares of common stock of said The Asbestos Brake Company, was admitted as a party complainant (Record, p. 78).

The Asbestos Brake Company was incorporated under the laws of the State of New Jersey in 1911, with an authorized capital stock of $12,000, divided into 120 shares of the par value of $100 each, of which stock 20 shares were preferred stock and 100 shares common stock. (See charter, Ex. 1, Record, p. 445).

The common stock has no voting powers.

The holders of the preferred stock are entitled to receive out of the surplus or net earnings a non-cumulative dividend at the rate of but not exceeding 6 per cent. per annum, payable yearly, half yearly, or quarterly, before any dividends shall be set apart or paid on the common stock.

The bill of complaint is based on alleged corporate right, and complainants and defendants include all the stockholders of the corporation.

The Company was incorporated pursuant to an agreement, originally three party, dated September 22, 1910, between Conrad Hubert, Thermoid Rubber Company and H. W. Johns-Manville Company, but modified by a subsequent agreement dated March 6, 1911, under which it became a four party agreement between the original three parties and The Brake Liners Company. These agreements are Exhibits A and B attached to the bill of complaint (Record, pp. 17 to 40).

These agreements will be better understood if the circumstances under which they came into existence are first narrated. Their origin is part of the history of the development of a new and now extended use of asbestos in the manufacture of brake linings. "With the advent of the motor vehicle," to quote from the Vice Chancellor's opinion (Record p. 583, l. 19), "and the development of the gasoline engine at the commencement of the present century, a new field was opened in the

use of brake linings—and one in which the conditions and requisite factors differed from those theretofore controlling."

Manufacturers of asbestos products, believing that this material was specially suitable as a brake facing under the severe frictional conditions incident to the operation of motor vehicles, were prompt to seize the new opportunity, and as the result their experimental work soon appeared upon the market. The activity of inventors was also excited and numerous patents were sought.

The defendants Johns-Manville Company and the Thermoid Rubber Company, defendants herein, were, prior to the negotiations which resulted in the three party agreement, engaged in the manufacture and sale of asbestos brake linings, and complainant Hubert, through the Auto Improvement Company, was engaged in the sale of asbestos brake linings. Many other manufacturers, notably Keasby & Mattison, The Raybestos, United States Asbestos, the Empire, Royal Equipment, and others, were also engaged in like manufacture and sale, and there was keen competion in the trade, enhanced by the growth of the automobile industry (Record, Hoff, pp. 87 to 91; W. J. B. Stokes, pp. 164, l. 32, to 165; Hubert, p. 287, l. 14, to 289, l. 23).

All three of the original parties to the three party agreement had patent applications pending, and they were fighting each other in the Patent Office as to priority of invention on their respective claims. No patents for asbestos brake lining had yet been granted by the Patent Office and the field was apparently covered by their inventions. F. C. Lowthorp, solicitor of record of complainants in this cause, was then the Patent Attorney of the Thermoid Company. A. Parker-Smith and Henry D. Williams were the Patent

Attorneys respectively of Johns-Manville and Hubert. The principals and their attorneys have testified, and, as remarked by the Vice Chancellor, there is no controverted question of fact as to the conditions out of which resulted the formation of the Asbestos Brake Company.

Mr. J. O. Stokes, president of the Thermoid Company, says that that Company began the manufacture of asbestos brake lining about 1908, and was prosecuting a patent application on an invention assigned to the Company by Bonner; that the discussion of the formation of The Asbestos Brake Company started about 1909; that patent applications of the Johns-Manville Company and of Hubert (on the Coleman invention) were also pending; that Lowthorp and Wilson, representing the Thermoid Company, negotiated with Johns-Manville and Hubert relative to the various applications, with the result of an agreement in 1910 as to the organization of the Asbestos Brake Company (Record, Stokes, pp. 107 to 109).

Mr. T. F. Manville, president of the Johns-Manville Company, states that that Company began the manufacture of asbestos brake linings about 1906; that negotiations leading to the formation of The Asbestos Brake Company were started about 1909, and that at that time there were at least a dozen concerns engaged in the manufacture of brake linings; that the Johns-Manville had patent application pending on the Hoff invention, the Thermoid a patent application on the main Bonner invention, and Hubert (for the Auto Improvement Company) had a patent application pending on the improved Coleman inventions; that these patents were involved in interferences; that he started the negotiations with Stokes and Hubert which led up to the three party agree-

ment; that after the making of the three party agreement he had talks with Bonner and Massie, representing the Brake Liners Company, which also had applications pending, and that Company was let in to the agreement (Record, Manville, pp. 183-187, 197, l. 20).

Parker-Smith, attorney of the Johns-Manville Company, says there were two Hoff applications filed, one in 1908 and one in 1909; that an interference was declared between them and certain applications of Coleman, owned by Hubert, and certain applications of Bonner, one of which he had assigned to Thermoid and others of which he later assigned to Brake Liners; that he represented the Johns-Manville in the negotiations for the three and four party agreement, Williams representing Hubert and Lowthorp representing the Thermoid, and Massie representing Bonner and the Brake Liners; that after the agreement was made the applications were so pending; that, at the time of the three party agreement, so far as the parties knew, there were no other patent applications affecting asbestos brake linings excepting those controlled by the four parties; that there had been no patents for asbestos brake lining granted at that time (Record, Parker-Smith, pp. 232-235).

Hubert says that the Johns-Manville and Thermoid Companies had been engaged in business for some time and that he, through the Ever Ready Company, had bought from the Thermoid Rubber Company, and knew that there were dozens of other companies engaged in the same business; that the Auto Improvement Company was selling brake bands at the time of the agreements; that the Coleman patent application was pending which he believed would dominate the whole trade if granted; that he entered the agreement because

he thought it would take some time for the interferences to be settled and he did not want the trouble; that Williams, his attorney, represented him during the negotiations leading up to the three party contract (Record, Hubert, pp. 287-289, 290-1, 293).

Williams, Hubert's attorney, testified that he was the one who had filed the Coleman application in 1907 which later became involved in interferences, and that the first suggestion as to getting together came in Parker-Smith's letter of October 21, 1909; that he was in communication with Parker-Smith and Manville relative to Johns-Manville buying the Coleman application, but nothing came of it; that he advised Hubert to enter into the three party agreement because, although he thought Coleman's patent a basic one, it did not contain the binder element which the Hoff and Bonner applications did (Record, Williams, pp. 348-352).

The original three party agreement of September 22, 1910 (part of Ex. A, Record, pp. 17 to 21), recites the ownership by the parties of certain patents and patent applications on asbestos brake bands or linings specifically mentioned, then involved in interferences in the United States Patent Office, and the desire of the parties to settle said interferences to their mutual advantage. After such recital the parties agreed that they would cause a corporation to be organized under the laws of the State of New Jersey, to be known as The Asbestos Brake Company, with a certificate of incorporation (part of Ex. A, Record, pp. 25 to 28) and by-laws (part of Ex. A, Record, pp. 28 to 39) in the form annexed to the contract; that the pending patent interferences should be prosecuted in good faith by the respective parties to decisions by the Examiner of Interferences, but

without further appeal unless the attorneys for all of the parties to the agreement agreed that there was error in the decision, which should be corrected by appeal, in which event appeals should not be prosecuted further than should be agreed by the attorneys for all the parties; that as promptly as possible after the organization of The Asbestos Brake Company assignments should be executed by the parties to the agreement to said Brake Company of the whole right, title and interest in and to each of the said inventions and the letters patent to be obtained therefor, such assignments to be in the form annexed to the agreement and to have annexed thereto a form of license agreement also annexed to the agreement, the consideration for such assignments to be the capital stock of The Asbestos Brake Company, of which 17½% of the common capital stock was to be received by Hubert and 82½% by Thermoid Rubber Company and H. W. Johns-Manville Company, and 7 shares of the preferred capital stock were to be received by each of the parties, except that 20 shares of the common capital stock should be paid for in cash by the parties in the proportion of their ultimate holdings of said common capital stock, such payments to be made as called for by The Asbestos Brake Company; that the parties to the agreement, personally or by their representatives or officers as directors of The Asbestos Brake Company, would vote for and direct the carrying out of the provisions of the agreement in all particulars and the granting of licenses pursuant to the conditions of the assignments immediately after their delivery, Hubert undertaking that Auto Improvement Company would accept such a license and the other parties agreeing to accept such licenses; that the parties would vote and direct the expenditure of a por-

tion of the royalties received by The Asbestos Brake Company in advertising asbestos brake bands or linings, the publicity to be equal among and for the licensees of the Brake Company, and would vote and direct a schedule of prices to be observed by the licensees of The Asbestos Brake Company according to a trade classification set forth; that the Auto Improvement Company (a selling company of Hubert), or its successor in interest as licensee, was to have the privilege of buying such goods as were manufactured by the Thermoid Rubber Company and H. W. Johns-Manville Company under license from The Asbestos Brake Company, at a discount of 15% below the lowest net price to any others, and of selling the same under the trade mark of the manufacturer, no royalties to be paid by the manufacturer on such goods so sold, with the proviso that the discount of 15% should be computed upon *present* prices and should be increased in the same ratio as the increase in price.

The form of license agreement made part of the contract (part of Ex. A, Record, pp. 21 to 24), after the usual recitals, granted to the licensee a non-exclusive license to manufacture, sell and use asbestos brake bands or linings embodying or containing the inventions shown, described and claimed in the said letters patent, or other letters patent which might thereafter be acquired or controlled by the licensor (in said license agreement styled the "patentee") or the inventions of the said applications for letters patent, or other applications for letters patent which might thereafter be acquired or controlled by the licensor, and to sell and use any such asbestos brake bands or linings made by or purchased from any other licensee licensed under said letters patent, within or without the United States, to the full

end of the term of the said letters patent, including re-issues and extensions. The license was to be personal, non-assignable and non-transferable except to successors to substantially the entire good will and business of the licensee. *The licensor undertook to enforce the monopoly conferred by its patents against all infringers thereof to the best of its ability.* All asbestos brake bands or linings embodying or containing the said inventions were to be sold at prices set forth in the "Schedule of Prices" attached to and made a part of the license agreement, or as might be set forth in other amended schedules of prices issued by the licensor and delivered to the licensee. The licensee was required on or about the 20th day of July, October, January and April in each year to render unto the licensor a sworn statement in writing showing the number of asbestos brake bands or linings embodying or containing said inventions, or any of them, sold or invoiced during the past quarter, and the persons to whom such asbestos brake bands or linings had been sold or invoiced, and the selling prices and discounts at which the said asbestos brake bands or linings had been sold or invoiced; and within ten days to pay to the licensor royalties of 10% of the selling price, less discounts, on each and all of the said asbestos brake bands or linings so sold or invoiced except such as may have been sold or invoiced to other licensees of the licensor. The licensee must keep separate accounts of said asbestos brake bands or linings, which accounts were to be open to the inspection of the licensor, or its accredited representative, at all times during business hours. The licensee was to send daily to the licensor copies of all bills or invoices rendered to customers or to branch stores, a consignment to a branch store to be considered a sale and to be

billed at jobbers prices, less such commission as is paid to said branch stores, not to exceed ten per cent., the royalties payable on such consignments to be computed at such jobbers prices less such commissions. No rebates, drawbacks or other concessions of any kind could be granted or made by the licensee without the consent in writing of the licensor first had and obtained. On failure of any of the covenants of the license agreement as to price, discounts, rebates, drawbacks or other concessions to customers, the licensee was to pay to the licensor, not as a penalty but as liquidated damages, a sum equal to three times the price of reduction, commission, rebate or drawback or other concession proved to be have been made by the licensee, and also, in addition thereto, the legal expenses, costs and counsel fees incurred by the licensor in enforcing that provision of the agreement, if litigation was necessary to so enforce it. It was provided that no such payment of damages should become due until the licensee had first been served with written notice of the alleged violation of the license and a written statement of the facts on which the charge of such violation was based, and had had thirty days in which to make answer and submit affidavits or arguments in defense or denial of such charge. For repeated violations or for repeated failures of the licensees to keep, observe and perform any or all of the covenants of the agreement, the agreement might be cancelled by the licensor by written notice sent by registered mail to the last known address of the licensee, such cancellation, however, not to relieve the licensee from the payment of any or all unpaid royalties due at the time of the cancellation. The licensee was required to affix to or mark upon each of such asbestos brake bands or linings the patent mark

in compliance with the statutes, including the letters patent included in the said agreement, the inventions of which were embodied or contained in each of said asbestos brake bands or linings.

After the making of the three party agreement, Massie (one of the complainants) and Bonner, representing the Brake Liners Company (one of the complainants), which Company also had some applications pending which were not regarded seriously by the other three, brought to the attention of Parker-Smith a British patent, preceding a letter written relating thereto by Bonner to Manville. Bonner controlled the Brake Liners Company.

That letter was dated November 12, 1910 (Exhibit D-20, Record, p. 523), and directs Manville's attention to the fact that Bonner had written under date of October 17th to Parker-Smith asking him to submit a proposition "re the Brake Liners situation." Bonner said that the Brake Liners Company, through the Empire Tire and Rubber Company, was in the business to stay, "but, in common with others, would prefer not to see ruinous competition, *hence my proposition.*" The letter continues as follows:

> "Owing to the existence of Eng. patent No. 7900, granted March 27th, 1897, to Chas. Robt. Hutchings, no basic or prohibitive patent or patents can be issued to anyone. It appears to me to be at least worth while to attempt to get together. The K. & M. Asbestos Co. are not only in the game to stay but to fight if need be. It appears to me that five concerns could get together on the lines I indicated at little cost *and no disturbance of their business condition.*"

Bonner testified that Massie brought the British patent to Parker-Smith's attention in his pres-

ence; that he expected Parker-Smith to bring it to the attention of Manville and that he himself wrote Manville a letter (Ex. D-20, dated November 12, 1910, Record, p. 525), mentioning it and suggesting that they get together (Record, Bonner, pp. 396, l. 30, to 397, l. 24).

Massie testified that he became the representative of Bonner about the time the three party agreement was made; that he represented the patent interests of the Brake Liners Company both before and after the formation of The Asbestos Company; that the Brake Liners Company was never actively engaged in manufacturing (Record, Massie, pp. 101-2).

Manville says that after the making of the three party agreement he had talks with Bonner and Massie, representing the Brake Liners Company, relative to modifying the agreement to let them in, and that the matter of the British patent first came up at that time (Record, Manville, pp. 186, 197, l. 20).

Parker-Smith says that the suggestion that the four parties get together came from Massie; that at the time the Johns-Manville owned the Hoff, Cutting and Jewett applications, the Thermoid owned the main Bonner applications, Hubert owned the Coleman, and Bonner, or the Brake Liners, owned the other applications; that he didn't think the other Bonner applications worth while, and that he took the matter up with Williams, representing Hubert, and Lowthorp, representing Thermoid, suggesting that the three parties make an arrangement by which all of the applications would come into combination; that out of these suggestions came the three party agreement, and later, after talking to Massie about the Bonner applications, the four party agreement; that in the fall of 1910, and after the

making of the three party agreement, Massie called his attention to the British patent and that he called the attention of Williams and Lowthorp to it; that Massie suggested a modification of the three party agreement; that he received a letter from Manville in 1910 enclosing copy of Bonner's letter of November, 1910, calling attention to the British patent, and at that time three or four interferences were pending; that he had first heard of the British patent on October 14th or 15th, 1910; that the Primary Examiner in the United States Patent Office did not mention it; that if he had known of it all of their claims would have been rejected and that he, Parker-Smith, so informed the Johns-Manville people and the gentlemen who were representing Hubert and Thermoid; that on November 4th he sent Williams and Lowthorp a copy of the British patent (See Ex. D-21, p. 524, and admission by Lowthorp, p. 307, l. 10); that when Massie brought the British patent to Parker-Smith's attention on October 14th he, Massie, said that it took the heart out of the inventions and suggested that the Primary Examiner would throw out all the applications if he knew of it; that he, Parker-Smith, also brought the British patent and its effect to the attention of Lowthorp, who recognized that it left very little novelty in the claims; that Williams thought it would not affect the asbestos and wire claims but that it would affect the woven asbestos claims, both of which were included in the Coleman, Hubert and Bonner main applications; that the four party agreement was made thereafter and the inferences proceeded with as contemplated (Record, Parker-Smith, pp. 237-240, l. 2; 306, ll. 20-31, to 319-20).

Williams testified that he first learned of the British patent when Parker-Smith sent him a copy

of it; that his opinion was that it only anticipated two of the twenty-two claims of the Coleman application (Record, Williams, p. 352).

Lowthorp testified that he represented the Thermoid in the interferences; that the reason for admitting the Bonner-Massie interests when they heard of the British patent was that it would cause delay if the Examiner learned of the British patent, and also because they thought the Bonner patents which they controlled might be important; that they took the Bonner-Massie interests in so that they would keep still about the British patent and not cause further delay; that they were influenced by the fact that Mr. McElroy, Mr. Bonner's attorney (and a partner of Massie) was a former examiner in the Patent Office, of excellent reputation, and great influence, and that his opinion would be influential with Mr. Wright, the Examiner, to throw "our" applications out and turn "us" down as not showing a patentable novelty (Record, Lowthorp, pp. 429-436, 435).

By the supplemental agreement, known as the four party agreement, of March 6, 1911 (Ex. B, Record, pp. 39 and 40), between the three parties to the original agreement of September 22, 1910, and The Brake Liners Company, it was agreed that the number of preferred shares of the stock of the corporation should be changed from 21 to 20, and that 5 shares of said preferred stock should be allotted to each of the three original parties and that the remaining 5 shares should be allotted to the Brake Liners Company, the new party, or its nominee; that the common stock should be allotted 15% to Hubert, 15% to The Brake Liners Company, and the balance, 70%, to Thermoid Rubber Company and H. W. Johns-Manville Company, to be disposed of between them; that the number of directors should be four

instead of three; that the certificate of the proposed corporation and by-laws should be modified to conform to this agreement; that all this was subject to the assignment to the said corporation by the said The Brake Liners Company of all patents or applications owned by it; that it was further understood that a license was to be issued by the corporation to The Brake Liners Company, or its nominee, similar in terms to any license issued to the other parties to the agreement, or their nominees.

During the negotiations which culminated in the three and four party agreements there was much consideration given by the Attorneys to the possible effect on the arrangement proposed of the provisions of the Sherman Law, extended reference to which will appear in a later part of this brief.

Following the modification of the agreement in March, 1911, the organization of the proposed corporation was proceeded with and the certificate of incorporation of The Asbestos Brake Company was filed in the office of the Secretary of State on the 22nd day of March, 1911 (Ex. C-1, Record, p. 445), Mr. Lowthorp attending to the details. The original incorporators were dummies, and the formal organization took place on the 7th day of April, 1911, at which by-laws were adopted in accordance with the arrangement, and appropriate resolutions passed for the issue of stock against assignments of patents to The Asbestos Brake Company (Minutes, Record, pp. 450 to 472). On May 2, 1911, license agreements were authorized to be delivered by The Asbestos Brake Company to H. W. Johns-Manville Company, the Thermoid Rubber Company, the Empire Rubber Company (nominee of The Brake Liners Company), and American Ever Ready Company

(nominee of Conrad Hubert), (Minutes, Record, pp. 473 to 476). Copies of the licenses to Johns-Manville and Thermoid Companies are Exhibits C and D attached to bill of complaint, and are printed in the record pp. 41 to 45 and pp. 46 to 50 respectively. The other two licenses authorized were never delivered, and, as a matter of fact, the Company at no time had other than the two licensees, H. W. Johns-Manville Company and Thermoid Rubber Company (Massie, Record, p. 98, l. 22, to 99, l. 27).

The stock, pursuant to the request of the parties, was issued 4 shares of preferred and 35 shares of common stock to Thermoid Rubber Company and 1 share of the preferred stock to Joseph O. Stokes, nominee of said Thermoid Rubber Company; to H. W. Johns-Manville Company 4 shares of preferred stock and 35 shares of common stock, and to T. F. Manville, nominee of the H. W. Johns-Manville Company, 1 share of the preferred stock; to Mitford C. Massie, nominee of The Brake Liners Company, 5 shares of preferred stock and 15 shares of common stock; and to Conrad Hubert 5 shares of preferred stock and 15 shares of common stock. By reason of the equal distribution of the preferred stock, which alone had voting power, among the four interests, the provisions contained in the charter for cumulative voting assured each party a director.

In actual organization the common capital stock was made $10,000, instead of $40,000 (see Charter, Exhibit C-1), but the percentages of the parties called for in the four party agreement were observed. The par value of all the stock, preferred and common, authorized and issued was $12,000. The patent applications assigned paid for all the stock except 20 shares ($2,000) of common stock which was paid for in cash, $700 by

Thermoid, $700 by Johns-Manville, $300 by Hubert and $300 by Brake Liners Company as agreed. Brake Liners Company gave a note for its share (Massie, Record foot of p. 418).

Also in actual organization the license agreements prescribed monthly statements and accountings, instead of quarterly (see Exhibits C and D attached to the bill of complaint, in comparison with draft of license agreement attached to three party agreement, also attached to the bill of complaint).

These preliminary matters were accomplished at the meetings held on April 7, 1911, and on May 2, 1911, at Mr. Lowthorp's office in Trenton. At the last mentioned meeting, after the transaction of the business had been completed, steps looking to the permanent organization of the Company were taken by the transfer of the subscriptions from the dummy subscribers and the election of Mr. Hubert and Mr. Stokes as directors. The meeting then adjourned to meet at the office of the American Ever Ready Company, No. 320 Hudson Street, New York, on May 3rd, at 11 o'clock.

A meeting of the board of directors was held at the office of the American Ever Ready Company, New York City, on May 3rd, pursuant to adjournment, with Messrs. Hubert and Stokes, permanent directors, present, and Francis C. Lowthorp, one of the dummy directors who had not yet retired (Minutes, Record, pp. 479 to 482). Mr. T. F. Manville was elected a director to fill a vacancy occasioned by the resignation of Mr. Wilson, one of the dummy directors. Mr. Lowthorp then presented his resignation and Mr. Massie was elected as a director in his place. The permanent board as thus constituted consisted of Joseph O. Stokes, representing the Thermoid Rub-

ber Company, T. F. Manville, representing the Johns-Manville Company, Mitford C. Massie, representing The Brake Liners Company, and Conrad Hubert, representing himself.

Permanent officers were then elected as follows:

President, - - - - Joseph O. Stokes;
Vice President, - - - Conrad Hubert;
Secretary, - - - Mitford C. Massie;
Treasurer, - - - - T. F. Manville.

This corporate organization, both as to directors and officers, continues to the present time. There has never been a meeting of the stockholders since the original meeting on April 7, 1911, and the last directors' meeting was held in January, 1912.

After the organization was effected and the patents assigned and the licenses issued to the Thermoid and Johns-Manville Companies, proceedings continued in the Patent Office under the assigned applications (none of which had ripened into an issued patent prior to the organization of the Company), and patents subsequently issued to The Asbestos Brake Company, as appears by the letters patent offered in evidence and marked as exhibits.

These patents will be given considerable attention in the discussion of the Sherman Law, but a specific description of them is not here necessary.

The Johns-Manville Company, which, as we have seen, began the manufacture and sale of Asbestos brake lining several years prior to the organization of the Asbestos Brake Company, has so continued to the present time. No change was made in the method of conducting the business or in prices after the organization of The Asbestos Brake Company and no attention has ever been

paid to the schedule of prices affixed to the license agreement from the Asbestos Brake Company to the Johns-Manville Company (Record, Hoff, pp. 91, 260 to 267; Manville, pp. 292, l. 30; 200, l. 35).

The Thermoid Company, as we have also seen, was engaged in the manufacture and sale of Asbestos brake lining prior to the organization of The Asbestos Brake Company and has so continued ever since. It has not changed its method or prices and has never observed the schedule of prices attached to the license agreement executed by The Asbestos Brake Company to Thermoid Company (Record, W. J. B. Stokes, p. 164; R. J. Stokes, p. 334). It has even continued to sell to Hubert's Auto Ready Company as before.

No reports of sales, monthly or otherwise, have ever been made, and no royalties have ever been paid, by either the Johns-Manville Company or the Thermoid Company to The Asbestos Brake Company. The licenses to nominees of Hubert and The Brake Liners Company have never been delivered. No licenses have been issued to any other concerns. No efforts to enforce the patents against infringement were made until long after the filing of the bill of complaint in this cause.

The next meeting of the board of directors of the Asbestos Brake Company, after May 3, 1911, was held on July 25, 1911, with all directors present (Minutes, Record, pp. 482-3). At this meeting the secretary was instructed to obtain some printed stationery for the Company; to write letters to manufacturers of brake liners inviting them to take licenses under the Company's patents, and, in case of necessity, to call personally upon such manufacturers as might be interested. He was further directed to call the next meeting of the board of directors as soon as he was ready to report the result of his correspondence with the manufacturers of brake liners.

The secretary endeavored to carry out his instructions, and, at a meeting of the directors held on August 29, 1911, with all the directors present (Minutes, Record, pp. 483-4), reported the results of his correspondence with the various manufacturers of brake liners, and also an oral interview with the representatives of the United States Asbestos Company and the Woven Steel Hose and Rubber Company, at Philadelphia, Pa. At this meeting Mr. Stokes, the president, was authorized to interview Mr. Frederick Hammerstrom, of the Welsbach Light Company, and to arrange with him for a permanent position at a compensation to be based on a percentage of the net profits, provided he succeeded in inducing the Keasby & Mattison Company to take a license. It was further resolved at this meeting that licenses be granted to manufacturers of brake linings to be uniform with those held by the present licensees of the Company, *"and that in view of the complaints that the present schedule of prices was too high a lower schedule would be adopted after further consideration of the views of prospective licensees."*

Nothing further appears in the minute book by way of record of meeting until November 14, 1911 (Minutes, Record, pp. 484-5), at which time there was a meeting attended by Messrs. W. J. B. Stokes, Bonner and Manville, neither W. J. B. Stokes nor Bonner being members of the board. Mr. Hubert was not present at the meeting, although a notice was sent him (Exhibit D-36, Record, p. 559), which he testified never reached him.

At this meeting the following resolution was entered upon the minutes:

> "Resolved, in view of the conditions in connection with prices on brake band lining and the fact that it has been impossible to maintain prices as proposed at the time of organ-

> ization, that the provision for the members of this Company paying in ten per cent. on the sale of brake band lining, be rescinded, and until conditions warrant, no royalties are to be paid."

The next and final entry in the minute book is of a meeting held on January 17, 1912, at which all the directors were present, (Minutes, Record, pp. 485-6). At this meeting it was resolved that the four attorneys of the Company be authorized to consider the question of whether or not suit should be brought on the patents of the Company against such parties as were said to be infringing, or whether an attempt should be made to grant licenses to such parties, and said attorneys were authorized to commence suit if in their joint judgment it was advisable at that time. It was further resolved that in case a suit or suits were brought and the cost of the same should be greater than the funds of the Company at that time on hand, the common stock of the Company should be assessed as might be necessary to pay the actual expenses of such litigation beyond the amount of funds on hand, and it was agreed that the Brake Liners Company should be allowed to deposit its stock in the Company as collateral security for the payment of its assessment, the amount of which should be advanced by other members of the Company, such advanced moneys to be repaid from any dividends accredited to the stock of said Brake Liners Company.

The attorneys made report recommending further effort to get outside manufacturers to take licenses before prosecution of infringers positively refusing, copies of which report, signed by all four, dated January 29, 1912, were sent to Thermoid, Manville and Brake Liners Companies and Hubert (Exhibit D-19, Record pp. 520-3; Parker-

Smith, Record pp. 314-5; Hubert, Record p. 298, l. 20; Bonner, Record pp. 401, l. 30, to 403, l. 20; Exhibit D-43, Record p. 563).

After the submission of this report nothing specific in reference to it appears in the record except the letters Exhibits C-23 and C-24 (Record, pp. 496-7) in the first of which, dated March 27, 1912, Manville writes Massie expressing a desire to hear from him on the subject of the delay, and in the second of which, dated March 28, 1912, Massie replied indicating that a board meeting was necessary before action. On May 14, 1912, Manville wrote Massie (Exhibit D-46, Record p. 567) that he had conferred with Stokes and that they thought an early meeting advisable and requested Massie to advise as to a convenient date.

No meetings of the directors have been held since January 17, 1912 (Record, Massie p. 22). The secretary, Massie (director and complainant), has not sent notices of any meeting of The Asbestos Brake Company directors since the January 17, 1912, meeting, or of any meeting of the stockholders. The secretary never had any request from anybody from January 17, 1912, to the present time to issue any notices for either directors' or stockholders' meetings. The secretary performed no act of secretary after January, 1912 (Record, Massie, pp. 99, l. 27, to 101, l. 9).

Hubert (director and complainant) testifies that he never has had notice of any meeting or heard of any since January, 1912, that he had never requested that a meeting be called, and that he had done nothing with reference to the matters of the Company since January, 1912 (Record, Hubert, p. 297, ll. 10 to 26; 326, l. 28, to 300, l. 26).

The by-laws, Article I, Section 1, paragraph (2) make it a duty of the secretary to call the annual meeting of the stockholders (Record, p. 454).

Under the by-laws, Article I, Section 2, 20% of the stock may call a special meeting of the stockholders. The Brake Liners and Hubert together controlled more than 20% and could have demanded a special meeting of the stockholders at any time (Record, p. 455).

Hubert and Massie could have called a special meeting of the directors at any time under the by-laws, Article II, Section 4, paragraph (2). The secretary, upon the written request of two directors, is obligated to call a special meeting of the board within ten days after the receipt of such request (Record, p. 458).

It appears (Exhibit D-46, Record, p. 567), that Mr. Manville, under date of May 14, 1912, wrote a letter to Mr. Massie, already referred to, informing him that he had had a conference with Mr. Stokes in reference to The Asbestos Brake Company, and they thought it advisable to have a meeting as early as possible. Mr. Massie was asked to advise what date would be convenient for him to meet in New York. Massie replied, under date of May 17th, referring to an appointment and promising to telegraph as soon as he could fix a definite day.

There will be found in the record no further reference to an attempt to have a meeting until January, 1913. Mr. Bonner wrote to Mr. Manville, under date of January 25, 1913 (Exhibit D-51, Record p. 570), requesting Mr. Manville to ask Mr. Stokes to call a meeting. Mr. Manville replied, under date of January 27th (Exhibit D-52, Record, p. 571), acknowledging the letter and inquiring whether Mr. Massie had returned, and expressing the view that it would be desirable for Mr. Bonner to communicate with Mr. Massie and find out when it would be agreeable to have him issue a call for a meeting.

There was no further correspondence looking to a meeting of the directors.

Under date of October 14, 1916, Mr. Bonner (who was not a director) wrote to Mr. Manville (Exhibit D-55, Record, p. 572) a letter suggesting that Messrs. Manville, Stokes and Bonner get together and have The Asbestos Brake Company issue for a dollar consideration a license to the Johns-Manville and to the Thermoid, removing at once any complication. "Then let me know what you all will take for your holdings in the Brake Co."

In this letter Bonner said that he thought he could organize a company to take over the Brake Company as it stood, and that he knew it was a case of buying a law suit but that was the only way of testing it for a valuation basis; that to be able to accomplish anything at all it would take about $25,000 to carry it to a court of last resort, and that that was what he proposed to do. *"As the matter now stands it is worth nothing to anyone, except that it protects you and the Thermoid from any outside interference, but with an unlimited license issued to both of your companies you would have nothing to fear from any source. As the value of the patents are entirely problematical, and the whole thing a gamble, I should organize it with that understanding. The stakes are large. It is a big thing or nothing. I don't know how the other man (Hubert) feels about it, but unless some one takes it upon the basis I have outlined I can't see where it will ever be of value to anyone. Let me know what you think about it. I am going to Chicago tomorrow but will return Wednesday."*

To this letter Mr. Manville replied under date of October 25th, stating that he was communicat-

ing with Mr. Stokes upon the subject (Exhibit D-57, Record, p. 574).

Nothing more appears until a communication from Bonner under date of July 19, 1919, to Mr. Manville (Record, p. 575, Exhibit D-58), in which Mr. Bonner suggests that the Johns-Manville and Thermoid Companies sell their entire holdings in The Asbestos Company, and at the time of such sale there be issued to the two companies, for a nominal consideration, a license covering all patents now owned by the Asbestos Brake Company for the full term of such patents, and a further participating interest by both companies in the new organization. *"This would leave the Manville and Thermoid Companies in the same free and unrestricted position they now enjoy. It would be the purpose of the new Asbestos Brake Co. organization to undertake, without obligation or cost to the Manville or the Thermoid Cos. the collection of royalties under their existing patents."* Mr. Bonner requested Mr. Manville to take this matter up with Mr. Oliver Stokes and arrange for a meeting.

Mr. Manville replied, under date of July 10th (Exhibit D-59, Record, p. 576), acknowledging the letter and stating that he did not think it would be possible to bring about a deal such as Mr. Bonner suggested, but asking Mr. Bonner to call upon him.

Mr. Bonner replied, under date of July 16th (Exhibit D-60, Record, p. 576), that it was his present intention to be in New York some time within the following week and that he would get in touch with Mr. Manville by telephone.

An effort was made for a meeting at the end of July, which failed (Exhibits D-61 and D-62, Record, p. 577).

Mr. Bonner then wrote to Mr. Manville, under date of August 6, 1919 (Exhibit D-63, Record, p. 578), as follows:

> "I have yours of the 31st. I am afraid that I will not be able to get away to come to New York for some time as I expect to be quite busy.
>
> You of course can appreciate my side of the case. In ten years my inventions should have placed me beyond want or need. I consider I have been very patient and have taken my medicine with a smile.
>
> I also consider that in the interest of those whom I now represent in the matter that I have made you and Mr. Stokes a very fair offer. In the event of failing to come to any agreement my principals have decided to begin action to have the Asbestos Brake Com- of New Jersey dissolved and the patents revert to their original owners."

At the end of December, 1919, the present bill was filed, *not for the purpose of the dissolution of the Asbestos Company, as stated in Mr. Bonner's letter, but to enforce the license agreements against the Johns-Manville and Thermoid Companies; alleging a conspiracy between the directors Manville and Stokes to prevent enforcement thereof and demanding accounting.* The prayers of the bill are (Record, pp. 15 and 16):

(1) That the Johns-Manville Company and the Thermoid Rubber Company be decreed to account to the Asbestos Brake Company for all sales made by them of brake bands and liners, and all other goods described and claimed in all and any applications for patents and patents mentioned in or referred to or intended by said license agreements and now or at any time owned by The Asbestos Brake Company in legal or equitable title.

(2) That the said Johns-Manville Company and Thermoid Rubber Company be decreed to pay to The Asbestos Brake Company all such moneys as shall on such accounting be found to be due to the said Asbestos Brake Company, together with lawful interest thereon.

(3) That said Asbestos Brake Company be decreed, upon the receipt of such moneys, to pay thereout without delay one 6% dividend upon the preferred shares of stock of said Company issued and outstanding, and to pay the residue in a dividend to the holders of the common stock in proportion to their respective holdings.

(4) That the said Asbestos Brake Company, the H. W. Johns-Manville Company and Thermoid Rubber Company be decreed to specifically perform their respective parts of the license agreements made by and between them during and throughout the remainder of the term of the agreements.

(5) For general relief.

(6) For subpoena and answer.

The answer of the Johns-Manville Company sets up defenses, as follows:

(1) An agreement contemporaneous with the organization of the Company and the execution and delivery of the license agreements from The Asbestos Brake Company to the Johns-Manville Company that the license agreement was to become effective only when and if The Asbestos Brake Company should be successful in establishing its monoply under the patents by forcing competing manufacturers to take out licenses under its patents.

(2) The provisions of the license agreements relating to royalties have been rescinded by agreement of the parties until the conditions contemplated by the parties should be realized, no royalties to be paid in the meantime.

(3) Abandonment, acquiescence, equitable estoppel and laches.

(4) The entire arrangement between the parties, which included the organization of The Asbestos Brake Company and assignment of the patents to it, the license agreements to the constituent companies and others for the suppression of competition among the licensees and the maintenance of uniform prices as prescribed in the licenses and the establishment of a monoply in the manufacture and sale of asbestos brake linings, was violative of the statute of the United States of America, known as the Sherman Anti-Trust Act, and therefore illegal and void.

The Thermoid Rubber Company filed an answer setting up like defences. This answer was filed by Mr. Justice KATZENBACH before his appointment to the Supreme Court, Mr. Edward L. Katzenbach having been since substituted as Solicitor for the Thermoid Company.

It is not believed necessary to present to this court extended analysis of the pleadings, as no questions have been raised by either side in the court below based on the insufficiency of the pleadings to develop the issues tried before and decided by the Vice Chancellor.

It has been purposely intended to include in the foregoing chronological statement only matters which present no substantial controversies of fact, reserving for inclusion in the argument following the discussion of controverted questions of fact,

which are almost entirely involved in the first defence, as well as some which, although uncontroverted, have particular relation to specific defences. The presentation of the defences will necessarily require the re-statement in course of the argument of some of the foregoing undisputed history.

We will discuss the defences in the order stated, that being also the order in which they are treated in the Vice Chancellor's opinion.

## I.

**There was an agreement, contemporaneous with the organization of The Asbestos Brake Company and the execution and delivery of the license agreements from that company to its constituent companies, that the license agreements were to become effective when and if The Asbestos Brake Company should be successful in forcing competing manufacturers to take out licenses under its patents at prescribed prices, as contemplated by the parties. This condition was never met.**

There is no doubt that the parties, concerned in the organization of The Asbestos Brake Company, entered into the written agreements preceding the organization of that Company already described and referred to, and the evidence offered to show a contemporaneous oral agreement as to the conditions upon which the licenses were to be effective was not offered to add to or alter the terms of the written contract.

The evidence was offered to show that the written agreement was made to take effect under cer-

tain conditions which were not realized. Oral testimony as to such agreement is competent.

*Naumberg* v. *Young,* 44 N. J. L., 331, 336.

The Vice Chancellor received the evidence, but (Opinion, Record, p. 589) found as a fact that the agreement set up by the defendants Johns-Manville Company and Thermoid Rubber Company contemporaneous with the organization of the Asbestos Brake Company that the licenses to these two constituent companies were to become effective when and if the Asbestos Brake Company should be successful in forcing competing manufacturers to take out licenses under its patents, at the prescribed prices was not made.

He discusses the evidence and justifies his finding in the treatment of the "first defence" (Opinion, Record p. 589, l. 19, to p. 592, l. 33).

The controlling reason for the Vice Chancellor's finding against such an agreement seems to be the impossibility, in the Vice Chancellor's view, of such an agreement having been made under the circumstances of this case without reduction to writing and formal execution by the affected parties. Other circumstances of importance in the Vice Chancellor's view were the absence of protest by the defendants Johns-Manville and Thermoid against a paragraph in a letter written by Massie to J. O. Stokes, a copy of which was also sent to T. F. Manville, *dated October 5, 1911* (Ex. C-7, Record, p. 487; 489, l. 30), referring to the non-payment of royalties by the Thermoid and Johns-Manville Companies, a silence which the Vice Chancellor regarded as beyond imagination if the agreement claimed in fact existed, and also the support of the so-called "rescission resolution" of November 14, 1911 (Minutes, Record p. 485), by W. J. B. Stokes and Manville.

The Vice Chancellor did not discuss the subsequent conduct of Massie, the writer of the letter of October 5, 1911, which was, as we shall see, quite inconsistent with the paragraph of that letter referred to; and, while admitting that it was not inconceivable that the "rescission resolution" might have been so framed even if there had been the alleged contemporaneous agreement, the Vice Chancellor deemed it more probable that mention of it would have been made in such a resolution or a preamble thereto, "as explaining and fixing the reason for such action by the Company," thus reverting to the view earlier expressed of the improbability of such an agreement unless reduced to writing.

The Vice Chancellor conceded that "looking to the circumstances and the inherent probabilities of the situation, the argument is not without weight that the Thermoid Company and Manville Company would have been unlikely to handicap themselves as manufacturers by these agreements to pay royalty unless their competitors should be likewise burdened," but refused to accept "the inherent probabilities" as controlling.

It is submitted that the court below erred in this respect, and that an examination in detail of the evidence and exhibits, as to the circumstances and conduct of the parties will convincingly support the existence of the agreement, and adherence to it by all parties in interest, from the organization of the Asbestos Brake Company to the institution of this suit.

We may well preface the discussion of this first defence in detail by a quotation from the Vice Chancellor's opinion, which is obviously in accord with fact and probability. After referring to the pre-corporate conditions and agreements resulting in the organization of the Asbestos Brake

Company the Vice Chancellor said (Opinion, Record p. 587, l. 10):

> "Of course the parties to this agreement, did not believe that upon the issuing of the patents the competing manufacturers would forthwith and without difficulty, acknowledge the validity of the patents and the right of the Asbestos Brake Comany to monopoly in in the asbestos brake lining field, and enter into license agreements whereby they would pay royalties to the Asbestos Brake Company. And it is of course evident that if competitors should be allowed to infringe these patents, unchecked, a license under the patents would be worse off than before, since he would be handicapped in his competition with the outsiders, by the additional costs arising from his payment of royalties."

The general purpose of the parties in the arrangement for the organization of the Asbestos Brake Company is apparent from the situation of the parties at the time the three party agreement of September 22, 1910, was made, and at the time it was modified by the four party agreement of March 6, 1911, and from the agreements themselves.

The Johns-Manville Company and the Thermoid Company had been manufacturing and selling asbestos brake linings in open competition with each other and numerous other manufacturers. Hubert was through the Auto Improvement Company selling asbestos brake linings manufactured by Thermoid. The Brake Liners Company was a holding company, not engaged in manufacture. The beneficial owner of its stock was Bonner, who was employed by Empire Rubber Company of Trenton, a manufacturing competitor of Manville and Thermoid. Bonner had formerly been employed by Thermoid. All of these four parties

had patent applications pending, which were on interference in the Patent Office, and all of them could not prevail in establishing the priority of invention which would give a basis for attempting individual monopolizing of the trade. They got together not only for the common good, but for the individual good. It will be shown later that their plan infringed public policy represented by the Sherman Anti-Trust statute concerning the interstate commerce in which Manville and Thermoid Company, as well as numerous other manufacturers, were concededly engaged, but, aside from this, their arrangement involved a questionable requirement (successfully observed) in which all four were equally concerned, the concealment from the Primary Examiner in the United States Patent Office of a British Patent, known as the Hutchings Patent (Ex. D-18, Record, p. 516), long antedating their respective inventions, and which they feared, if discovered, would result in the denial of all applications in which they were severally interested.

The four party agreement of March, 1911, accomplished no change in the three party agreement of September 22, 1910, except to bring the Brake Liners Company into the arrangement and to re-allot the stock for division among four parties instead of three.

The purpose of the parties in making the agreement is completely disclosed by the three party agreement of September 22, 1910, and the accompanying documents annexed thereto.

The agreement recites the ownership by the parties of the described patent applications (to which of course must be added the Brake Liners Company applications), and that such owners are involved in interferences in the United States Patent Office "and are desirous of settling the said

interferences so far as the parties hereto are concerned to their mutual advantage." To that end they agreed to form a corporation, with certificate and by-laws as per form attached, and arranged for the prosecution of the pending interferences in good faith but without appeal unless the attorneys of all of the parties should so agree. They provided that each of the parties should assign their respective patent applications to the new Company, the form of assignment being annexed, and that that Company should execute and deliver to each of the parties a license agreement, form of which was also attached, the consideration of which was to be capital stock of the corporation, preferred and common, as stated, and one of the terms of which was that the corporation should enforce the monopoly conferred by its patents against all infringers thereof to the best of its ability. They pledged each other to carry out the provisions of the agreement relative to the officers and directors of the corporation, the making of assignments, granting of licenses, etc., arranged as to the expenditure of a portion of the royalties to be received for advertising for the benefit of all licensees of the Company. They also agreed upon a schedule of prices to be observed by the licensees of the Company and a trade classification, and Hubert not being a manufacturer it was agreed that the Auto Improvement Company should have the privilege of buying such goods as should be manufactured by the Thermoid Rubber Company and the Johns-Manville Company under their licenses at a discount of 15% below the lowest net price to any others, and of selling the same under the trade mark of the manufacturer, no royalties, however, to be paid by the manufacturer on such goods so sold. They apparently contemplated an advance in price as

the 15% to be given the Auto Improvement was to be computed upon "present prices" and to be increased in the same ratio as the increase in the prices.

No one can read this pre-corporate agreement without concluding that the plan contemplated much more than the licensing of the constituent stockholders. It embraced *all* "Brake Manufacturers," "Car Builders," "Jobbers," "Dealers" and "Consumers." None of the contracting parties expected, when the agreement was made, the licenses to be limited only to Thermoid and Johns-Manville. None of them expected that Hubert's Auto Improvement Company would not be licensed or that the Brake Liners Company or its nominee would not be licensed. None of the parties expected that the constituent companies should be circumstanced otherwise than outsiders. What more natural then than an agreement that the licenses to the constituent companies should not be effective except under the contemplated conditions.

Messrs. J. O. Stokes, president, and W. J. B. Stokes, treasurer of the Thermoid Company, and Mr. T. F. Manville, president of the Johns-Manville Company, all very positively testify that the license agreements were not to be effective *unless other manufacturers were forced to come in and pay royalties under the patents of The Asbestos Brake Company.*

Messrs. J. O. Stokes and Manville testified as to conversations with Hubert, Bonner and Massie prior to, at and after the permanent organization meeting of the corporation in New York on May 3, 1911, at which meeting it would seem the license agreements were finally executed, and to definite agreement between the parties signatory to the four party agreement that no license fees were to

be enforced against the original parties to such agreement under their licenses unless and until the Company should force other manufacturers to come in and pay royalties under the Company's patents (Record, Manville, pp. 191-3, 212-8; J. O. Stokes, pp. 124-8).

Messsrs. Hubert, Bonner and Massie deny such conversations and agreement of condition, and Williams, attorney of Hubert, and Lowthorp, the then attorney of Thermoid, say they never heard of any conditional arrangement of any kind whatsoever.

A very long time has elapsed since the spring of 1911, and the dates and places of conversation occurring so long ago may well be now somewhat undefined in memory, but it is somewhat amazing that such complete contradiction as to such an important subject matter should appear in the testimony. It is, of course, possible that the principals to the agreement may have defined conditions under which the agreement was to become effective without the knowledge of the attorneys, but there is no possibility of reconciliation of the divergent recollections of the principals and the court must decide between them.

It is pertinent, however, to point out to the court the circumstantial evidence and the conduct-evidence in accord with the "inherent probabilities" recognized by the Vice Chancellor, quite apart from what the witnesses say, in support of the conditional agreement contemporaneously made as testified to by the Messrs. Stokes and Manville.

The attention of the court is primarily directed to the undoubted fact that it was the expectation of all the parties that other manufacturers should be forced to take out licenses under the Company's patents, and prices in accordance with the sched-

ule forced on such licensees with a resulting royalty from the monopoly under the patents large enough to make the return to the original licensees, as stockholders of the Company, sufficiently compensatory to enable them to pay the royalties required of them by their own licenses.

The four party agreement contemplated that a license should go to Hubert, or his nominee, the Auto Improvement Company. Such license was never accepted by him and that Company and its successor, the Ever Ready Company, have continued, ever since the organization of The Asbestos Brake Company, to sell goods manufactured by the Thermoid Rubber Company, in entire disregard of the arrangement as to the Hubert license contained in the agreement, and of the price list attached to the agreement. Hubert himself denied that his Company had bought anything from the Thermoid after the making of the contract (Record, Hubert, p. 279, ll. 10 to bottom), but on cross-examination (pp. 288-9) he admitted that the Auto Improvement Company had continued to do business to the end of 1911 and up to that time had bought at regular prices from the Thermoid. And there was introduced in evidence an agreement made October 3, 1913, with the American Ever Ready Company for the latter to act as distributor for the Thermoid Company, which agreement was assigned April 23, 1914, by Hubert as president of the American Ever Ready Company, to the National Carbon Company. The prices and discounts schedule in this agreement were the same as those made to all the rest of the Thermoid trade and were not the prices and discounts fixed by the schedule attached to the three party agreement. Trading continued under this contract of October 3, 1913, until its expiration

(Record, R. J. Stokes, pp. 330-334; Exhibits D-31, p. 543, D-31a, p. 549, and D-32, p. 552).

It was also contemplated by the four party agreement that a license should be issued to the Brake Liners Company. Such a license was prepared, directed to be issued to the Empire Rubber Company, and delivered to Massie in escrow (See Minutes, meeting of May 2, 1911, Record, p. 474). This license was never accepted by the Empire Company. As to it Bonner testified that he tried to persuade the Empire to take a license but they would not do it as they said the present licensees were not observing the prices and they felt they would not be under any obligations if they took out a license (Record, Bonner, p. 390).

Massie said as to this license that a license was also offered to Empire Rubber Company, the Brake Liners Company nominee, but it was not accepted and that there were no licenses in effect except the ones to the Johns-Manville and Thermoid Companies (Record, Massie, pp. 98, 99).

It is not disputable that both the Johns-Manville Company and the Thermoid Company continued to do business after the execution and delivery of the license agreements exactly as before, without recognition in any way of the schedule of prices attached to the license agreements, and that from that date to this the prices of both concerns have been substantially less than the license agreement schedule. This is established by the testimony of Hoff, salesmanager of the Johns-Manville Company (Record pp. 260-269, 343-345, 363-373; Exhibits originally marked for identification D-37, D-38 and C-15, 16, 17, 18, 19 and 20, and offered at the conclusion of the hearing, Record, p. 444), and by the testimony of Baur, accountant of the Thermoid Company (Record pp. 335-342, Exhibit D-33, Record p. 555).

The Vice Chancellor so found, as appears by his opinion (Record p. 588, beginning at l. 33):

> "No other licensees were obtained, either then or at any subsequent time. The last meeting of the company was a directors' meeting January 17th, 1912. Since then, although the corporate existence has been kept alive, it has not functioned in any way. No stockholders' or directors' meetings have been held, or called, nor has there been any effort by any one to call such meetings. No additional licensees have been procured; no prosecution of infringers has been had or begun. No moneys have been paid, and no reports rendered by the Thermoid Company, or the Manville Company, although those two companies have at all times continued to manufacture and sell brake lining just as before, and such manufacture and sale is admittedly, except for the license, an infringement of the patents of the Asbestos Brake Company. No effort has been made by the Asbestos Brake Company to compel the Thermoid Company and the Manville Company to make the reports and the payments as provided by their license agreements—until the commencement of this suit in 1919; nor has any such effort, at least of any formal kind, been made by or on behalf of either of the other two stockholding interests in the Asbestos Brake Company."

It is also not to be disputed that it was the expectation of the parties to the four party agreement that the royalty schedule attached to the agreement was to be on a basis of higher prices than those then prevailing, and the last sentence of the three party agreement in reference to the discount to the Auto Improvement Company provides that that discount of 15% is computed upon *present* prices and is to be increased in the same ratio as the increase in price. The Vice Chan-

cellor, referring to the efforts, after the organization of the Asbestos Brake Company to get outside competitors to acknowledge the patents and enter into license agreements, said in his opinion (Record p. 588, at l. 24):

> "* * * One or two directors' meetings were had during this time, and all four directors knew of the situation. One thing that became apparent was that the schedule of prices which the Asbestos Brake Company proposed to have adopted by its licensees was very generally considered too high, and a resolution was adopted August 29th, that a lower schedule should be adopted after further interviews with prospective or possible licensees."

Both Manville and Stokes testified as to the competitive conditions in the trade and the impossibility of securing higher prices unless the competing manufacturers were forced in, *but we can lay aside their testimony entirely and refer to Hubert and Bonner.*

Hubert, when on the witness stand, made full acknowledgment of the authority of Williams, and on June 21, 1911 (Exhibit D-27, Record, p. 535), we have Williams writing to Mr. Parker-Smith that he has just been in communication with his client, Mr. Hubert, who *"says that everything is being held up to await the issuance of the two patents which will give the desired monopoly, one of the patents to Coleman, already issued, and the other patent to Hoff, the application for which is now allowed. He says that the directors are now awaiting the issuance of both these patents before approaching competitors and endeavoring to bring about the reorganization of the business on a paying basis."* And we already have had Mr. Bonner writing to Mr. Manville, under date of

November 12, 1910, in urge of his desire to be admitted to the combination, that the Empire Tire and Rubber Company was in the business to stay but, in common with others, would prefer not to see ruinous competition; and we also have him testifying (Record p. 390, l. 20) that he could not get the Empire Tire and Rubber Company in the summer of 1911 to take a license because that Company said *the present licensees were not observing the schedule prices and were selling at the old list and at very large discounts from the list.*

Neither can it be disputed that the purpose was to get in other manufacturers at once, and that that was a fundamental part of the plan (Bonner, Record, p. 401; Hubert, pp. 295-6).

The minutes show this. On July 25th, the first meeting held after the permanent organization meeting, the secretary was instructed to obtain stationery and write letters to manufacturers of brake liners inviting them to take licenses under the Company's patents, and, in case of necessity, to call personally on such manufacturers. And he was directed to call a meeting of the directors as soon as he was ready to report the results of his correspondence with the manufacturers of brake liners. At a meeting on August 29th he did so report, and at that meeting the president was authorized to make arrangements looking to the inducing of Keasby & Mattison to take a license. And at this meeting we find this significant resolution (Record p. 483):

> "On motion, duly seconded, it was resolved that the license to be granted manufacturers of brake liners should be uniform with those held by the present licensees of the Company, *and that in view of the complaints that the present schedule of prices was too high a lower schedule would be adopted after further consideration of the view of prospective licensees.*"

The same subject was the avowed purpose of the passage of the rescission resolution at the disputed meeting of November 14th, and was the reason for the action taken at the meeting of January 17th with reference to the procurement of an opinion preparatory to contemplated action against infringers.

*The license agreement was very specific, with heavy penalties looking to forfeiture for failure to observe its terms which not only fixed a schedule of prices but also called for monthly accountings. There is no pretense that any monthly accountings were ever given or called for. No protest of any kind was ever made against the failure of either the Johns-Manville or the Thermoid Company in this regard.*

If there was no agreement conditioning the payment of royalties by Thermoid and Manville Companies, why should Hubert tell Williams in June, 1911, that "everything is being held up" until the Coleman and Hoff patents issue, and that "the directors are now awaiting the issuance of both these patents before approaching competitors *and endeavoring to bring about the reorganization* of the business on a paying basis"! Why should Bonner, when the Empire Tire and Rubber Company, in the summer of 1911, refused to take a license because Thermoid and Manville were not observing the schedule prices and selling at the old list and very large discounts, have failed to protest either at this conduct of the two licensees or at their failure to pay royalties! Why should directors Hubert and Massie (who was Bonner) vote on July 25, 1911, for the resolution above quoted for uniformity of licenses to outsiders with those to Thermoid and Manville, and solemnly resolve that the schedule of prices was too high and that a lower schedule would be adopted after

further consideration of the view of prospective licensees!

Nor indeed do we find, until we come to the self-serving declarations of the principals and agents in the trial of the present case, any suggestion from any source of any expectation on anybody's part that the Johns-Manville and the Thermoid Companies were to pay royalties, with the single exception of the letter dated October 5, 1911, written by Massie to Joseph O. Stokes, in which Mr. Massie says, after alluding to efforts he had been making to bring in licensees, the expense that would be attendant on law suits, etc., "present licensees appear to be making no effort whatever to carry out the terms of their license in the way of making returns to the Company, and this will have to be looked into at an early date" (Exhibit C-7, Record, p. 487). This single exception is at variance with the conduct of Massie both before and after October 5, 1911.

He had already voted, as a director at the meeting on July 25, 1911, for the resolution declaring for uniformity in licenses and that the schedule of prices was too high and should be lowered.

On August 23rd Massie had written to Manville advocating a change in the licenses, as being too severe (Exhibit C-22, Record p. 495). And in the very letter of October 5th reference is made to advice given by Massie to the Empire Company that there was no doubt that the schedule of prices would be made satisfactory to all parties, and Massie expresses the view that the Asbestos Brake Company "cannot *reasonably* expect these different manufacturers to sign new license agreements from time to time since each manufacturer, when he signed the license agreement *would be compelled to raise his prices and thereby cut off his own business* until such time as the majority of

manufacturers had taken licenses." This description of results is applicable to the Thermoid and Manville Companies, as licensees, in the absence of the agreement as to payment of royalties alleged by those Companies, and is another way of stating the concession of the Vice Chancellor that if competitors were allowed to infringe the patents unchecked "a licensee under the patents would be worse off than before since he would be handicapped in his competition with the outsiders by the additional costs arising from his payment of royalties."

Again, at the meeting of the directors on January 17, 1912, with all directors present, Massie, and also Hubert, vote not only for the resolution requesting the opinion of the four attorneys on the question whether suit should be brought against infringers, but also for the resolution "that in case such a suit or suits were brought and the costs of the same should be greater than the funds of the Company at that time on hand, the common stock of the company should be assessed as might be necessary to pay the actual expenses of such litigation beyond the amount of the funds on hand, and it was agreed that the Brake Liners Company of Washington, D. C., one of the stockholders of this company, should be allowed to deposit its stock in this company, as collateral security for the payment of its assessment, the amount of which should be advanced by the other members of the company, such advanced moneys to be repaid from any dividends accredited to the stock of the said Brake Liners Company." Thus we find Massie, as director, voting for an assessment on the stock of his own Brake Liners Company, and agreeing with Hubert, J. O. Stokes and Manville, to pledge such stock to sceure the payment of such assessment. Is it credible that such

action would have been participated in by Massie or Hubert if royalties accrued under the Thermoid and Manville licenses had been collectible as of right, and that a large arrearage of royalties was then accumulated and owing to the Asbestos Brake Company to the knowledge of its directors!

And still later, in a letter written on February 26, 1912 (Exhibit D-29, Record p. 537), by Massie to Parker-Smith, reference is made to the probability that a conference with Mr. Hoff might result in arriving at a satisfactory schedule of prices to cover all cases.

It is, therefore, evident that Mr. Massie himself did not regard the schedule of prices attached to the Thermoid and Manville licenses, the only two ever issued, as final or as containing prices which could be forced on the trade. And it is equally evident that notwithstanding the statement in his letter of October 5, 1911, that his conduct before and after that letter, was highly inconsistent with the existence of an absolute right on the part of the Asbestos Brake Company to the royalties prescribed by the schedules attached to the Thermoid and Manville licenses.

No other word of protest appears in any letter, which has been produced in evidence or out of the mouth of any witness, making any objection at any time by reason of the non-observance of the license agreements in the matter of the payment of royalties by the Johns-Manville Company or the Thermoid Rubber Company. Mr. Hubert never protested and apparently took no interest in the matter at all and is quite frank in saying so.

Mr. Bonner, on December 11, 1911 (Ex. D-42, Record, p. 562), writes to Massie about his meeting with Stokes on the preceding Friday. At the

meeting on November 14, at which Manville, W. J. B. Stokes and Bonner had been present (Minutes, Record, p. 485), Stokes had been authorized to see Mr. Penny, a patent attorney, as to his charges for an opinion as to the validity of the patents of the Asbestos Brake Company. Bonner now disputes the legality of that meeting, but in December, 1911, that was not his frame of mind. In his letter of December 11, to Massie, above referred to, he reports that the Penny opinion will cost $1,000 and that Stokes and Manville are in favor of paying it and wanted to know what we were willing to do. "I told him I would write you at once and have you write he and Manville, but added that so far as I knew none of the B. L. Co. felt like putting up much in this matter before the last effort had been made to reach the desired end by other means." The "desired end" referred to in this letter was the getting in of outside licensees (Bonner, Record, p. 401, l. 15). Would this letter and Bonner's conduct be possible if a large fund was then available in the shape of unpaid license royalties by Thermoid and Manville?

Mr. Bonner later had a somewhat desultory correspondence with Manville, which certainly disclosed no unwillingness on the part of Mr. Manville to meet Mr. Bonner for purposes of discussion or to have meetings of the directors called. In this correspondence no complaint will be found based on any faliure of the two companies to pay license fees. Mr. Bonner proposes by letter dated October 14, 1916 (Exhibit D-55, Record, p. 572), to organize a new company to take over the Brake Company, licensing for a dollar consideration the Johns-Manville and Thermoid Rubber Companies. In this letter nothing is said about arrears of royalties and reference is made to the then situa-

tion as follows: *"As the matter now stands it is worth nothing to anyone, except that it protects you and the Thermoid from any outside interference."*

This letter Mr. Bonner took pains to say in his testimony was entirely personal and had nothing to do with the Brake Liners (Record, Bonner, p. 414).

Again, on July 9, 1919, Mr. Bonner writes to Mr. Manville (Exhibit D-58, Record, p. 575), referring to the fact that the Johns-Manville and Thermoid Companies were the only two interested parties in the Asbestos Brake Company who manufactured brake linings, and proposing to acquire the entire holdings of those two companies in the Brake Company, issuing to the two companies for a nominal consideration a license covering all its patents, and further participating interest in the new organization. *"This would leave the Manville and Thermoid Companies in the same free and unrestricted position they now enjoy."*

This letter Mr. Bonner says was also personal and had nothing to do with the Brake Liners (Record, Bonner, p. 414). But whether personal or otherwise it contains no hint of any claim against the two companies for unpaid royalties. To the contrary it recognizes immunity.

And finally, on August 2, 1919 (Exhibit D-63, Record, p. 578), Mr. Bonner writes to Mr. Manville referring to the proposition contained in his July letter as a very fair offer, concluding: *"In the event of failing to come to any agreement my principals have decided to begin action to have the Asbestos Brake Company of New Jersey dissolved and the patents revert to their original owners."*

There is not a word in this letter suggesting any claim of liability to pay royalties under the agree-

ments, the proposed suit being to dissolve the Company and secure a reversion of the patents.

And that Mr. Lowthorp, notwithstanding his present testimony, did not, in 1914, entertain any idea that there was any outstanding claim for royalties against the Johns-Manville and Thermoid Rubber Companies is quite apparent by his letter to Mr. Manville of March 3, 1914 (Exhibit D-6, Record, p. 504), written before his break with the Thermoid Company (Record, p. 439, bottom). In this letter he presents an unpaid account, stating that he had omitted charges for three years for office rent and for representation of the Company's statutory agent amounting to $25 per year *"because the Company was not active and was without income."*

If there had been a continuous obligation on the two companies to pay royalties from the date of the license agreements it hardly seems possible that Mr. Lowthorp would have regarded The Asbestos Brake Company as devoid of income.

The opinion of the four attorneys, dated January 29, 1912 (Exhibit D-19, Record, p. 520), rendered pursuant to the directors' resolution of January 17, 1912, is persuasive as to the absence at that time from the minds of the attorneys, Massie and Williams, Lowthorp and Parker-Smith, of any thought of unsatisfied liability for royalties on the part of Thermoid and Johns-Manville. This document expresses the unanimous view of counsel that the procuring of acceptance and execution of licenses by as many manufacturers as can be induced to accept them, before *any* suits are brought against the infringers who refuse to take licenses, will have a beneficial effect on such suits as may be subsequently brought to establish the patents (a) because the payment of license fees thereunder will establish a measure of damages

as the basis of recovery against other infringers, so that the expenses of such litigation might be partly or wholly paid out of such recoveries; and (b) because the acceptance of such licenses would create a showing of acquiescence *by the public* in the validity of the patents which would help in the suits against others; if no licenses were outstanding during the prosecution of the suit on the patents except those taken by the constituent interests, the defendant might say that we had merely pooled a lot of worthless patents under which we pay licenses into our own pockets and were trying to dominate the trade by such combination, but if a number of disinterested outsiders had taken licenses before suit, and *were paying considerable royalties* to the corporation, it would create a situation that might well influence the court in favor of the patents on any doubtful points. The attorneys further advised that the form of license agreement previously adopted be carefully reconsidered to insure if possible the recovery of the 10% royalty from infringers who might not infringe *all* of the patents, as also in the event of one or more of the patents being held invalid, while others were sustained; while counsel would not assume to advise the directors on points of business policy it seemed to them that the "legal advantage of getting some *bona fide* and substantial licenses in force before bringing suit" rendered it worth while to make concessions to manufacturers of large quantities of cheap brake linings, so that they, after taking out licenses, would not be put out of business by competition with the more elaborate asbestos linings (like the Thermoid or Johns-Manville Grade A) on the question of quality, etc.; that such concessions, if commercially practicable, would apparently facilitate the negotiations of licenses with the makers of

cheap single ply linings "who sell enormous quantities to the manufacturers of cheap automobiles" and whose large output as licensees would make a heavy showing of general acquiescence in the patents, most useful in a closely contested patent litigation.

These attorneys all knew that Thermoid and Johns-Manville were not in fact paying royalties and never had. They wanted, before bringing infringement suits, to get in disinterested outsiders "who had taken out licenses previous to the institution of the suit *who were paying considerable royalties.*" They also knew that under the pre-corporate contracts, the license agreements to all licensees were to be uniform as prescribed and they recommended a careful reconsideration of the *form* previously adopted.

They also emphasized "the legal advantage of getting some *bona fide* and substantial licenses in force before bringing suit," and recommended concessions to that end. Did they not *also* know at that time, although they may have since forgotten, that the licenses to Thermoid and Johns-Manville were not *bona fide* in the sense that they were not operative as to the payment of royalties until outside manufacturers were brought in?

Certainly the views of the four attorneys as expressed in their opinion are harmonious with the existence of such an agreement.

"Conduct-evidence" is persuasive and given great weight.

*Faulkner* v. *Wassner,* 77 N. J. Eq., 537, 543, explaining *Dennis* v. *Jones,* 44 N. J. Eq., 513;
*Clampit* v. *Doyle,* 73 N. J. Eq., 678;
*Globe Ticket Co.* v. *International Ticket Co.,* 90 N. J. Eq., 605, 611.

The circumstances and the documentary evidence and the conduct-evidence are highly corroborative of the defendants' witnesses testifying that there was an understanding, contemporaneously with the organization of the Company, that the royalties contained in the license agreements were not to be enforced against the original stockholders, unless and until outside manufacturers were brought in as expected and planned. The failure to assert a claim for royalties during the whole period of eight years is most remarkable in the absence of such an agreement. It is submitted that there was an agreement, and that the interested parties recognized and observed it. The first evidence of the departure from it is the filing of this bill of complaint.

## II.

**The provisions of the license agreement requiring payment of royalties by the original stockholders, were suspended with the consent or acquiescence of all stockholders, in November, 1911.**

A resolution to this effect appears in the minute book under date of November 14, 1911.

A meeting was called by proper notice for that date. The notices from the secretary to Hubert and Manville are in evidence (Exhibits C-11, Record, p. 255; and D-36, Record, p. 559).

Only one director was present at this meeting, viz., T. F. Manville, and as a directors' meeting it was without a quorum.

The meeting was, however, attended by representatives of three of the four stock interests,

Manville representing Johns-Manville, J. W. B. Stokes representing Thermoid Rubber, and Bonner representing Brake Liners.

Notice of the meeting was sent to Hubert (Exhibit D-36, Record, p. 559), although he denies that he received it. He is quite likely to be mistaken as to this. He received notices of all the other meetings, for he attended all of them (Record, Hubert, p. 297).

There is no room for doubt about the nature of the discussion and the action taken at the meeting.

Messrs. W. J. B. Stokes and Manville are undoubtedly mistaken as to the presence of Lowthorp, who was on that date in Cincinnati (Record, Lowthorp, p. 424). Lowthorp's attention was directed (Record, Lowthorp, pp. 432-434) to the testimony of J. O. Stokes on pages 79 (Record, p. 133), 82 and 83 (Record, p. 433) of the stenographic record, and while he denied having given the advice imputed to him by Stokes, he said, "but I did attend a number of conferences, informal conferences, between parties to these agreements; they were not meetings of the corporation; that part is true; but I never gave any such talk as that, at all." And again on cross examination Lowthorp repeated that he had attended such conferences at Mr. Manville's office in New York, and that W. J. B. Stokes was present at "I think perhaps two of them"; and he recalled one trip to New York in company with Mr. W. J. B. Stokes, although on other business (Record, Lowthorp, pp. 737-8).

It is quite possible that Messrs. Stokes and Manville may have confused some of these conferences with the meeting of November 14, at which Lowthorp was certainly not present.

But it is not of present importance as to what was done at the meeting with reference to the suspension of royalties, whether Lowthorp was present or not.

Nor is Greenwood's testimony necessary to establish what was done at this meeting, although we have his recollection as to the correctness of the minutes (Record, Greenwood, pp. 143 *et seq.*).

Manville, W. J. B. Stokes and Bonner are in agreement as to the result of the meeting and they all support the minute so far as it purports to record action.

W. J. B. Stokes testified that Manville stated that efforts to persuade other manufacturers to come in had been unsuccessful, that we were in competition with the world and couldn't afford to pay the royalties and that he didn't see why we should pay royalties (Record, W. J. B. Stokes, pp. 160 to 165; pp. 170-172).

Manville testified that he remembered the resolution in the November 14th meeting rescinding the payment of royalties under the license agreements, and that everybody there understood we were not to pay royalties and we simply made a record of what we all agreed to (Record, Manville, pp. 193-4, pp. 220-1).

Bonner, who was President of the Brake Liners Co. (Record, Massie, p. 94), testified that he attended the November 14th meeting; that he told W. J. B. Stokes and Manville, who were there, of what the Empire had decided and they both said they did not feel that they should pay any royalties under their licenses; that they held a meeting and asked him to act as secretary, but he told them he could not as he was not a stockholder or officer; that Greenwood then acted and the resolution was passed rescinding the licenses, but he didn't vote; that he remembered discussing

the matter but that he didn't vote (Record, Bonner, pp. 389, l. 33, to 391).

Bonner further said that he did not agree to the action taken rescinding the licenses; that Stokes asked him if he controlled the Brake Liners, and that he replied that he had a majority of the stock but had given Massie a power of attorney in respect to the general management and the expected relations with the Asbestos Company and that he did not state that he would agree to rescinding for the Brake Liners (Record, Bonner, p. 393); that he made no dissent to the November 14th meeting on the ground of illegality, but only on the ground that he could not act, having given Massie power of attorney, and therefore felt that he had nothing to do with the meeting (p. 398).

*Bonner nowhere says that he affirmatively protested against the resolution in the minutes. He frankly admits discussion of the subject and he does not pretend that he was not fully advised of the action as it appears in the minutes.*

Bonner kept in close touch with Asbestos Company's affairs and expected that there would be another meeting after November 14. He received notice from Manville of the meeting of January 10, 1912, and replied that Massie would be present to represent the Brake Liners interests and that his (Bonner's presence would in such case be immaterial (Exhibits D-40 and D-41, Record, p. 561).

Massie knew about the meeting of November 14, 1911 (Exhibit D-2, p. 501) in advance. The notices that he sent as secretary have already been referred to. It would seem from Exhibit D-2 that Massie fixed the date.

He learned of the details at a later meeting at which Manville gave him the minutes, which he

later entered in the minute book (Record, Massie, p. 96, l. 10).

Massie furnishes, in his testimony, what may be the key to some of the differences of recollection as to this November 14th meeting, especially when taken in association with Lowthorp's statement as to conferences of the interested parties at Manville's office in New York.

Massie (Record, pp. 96-7) thinks there was another meeting between November 14, 1911, and January 17, 1912, the minutes of which are not in the book. He thinks that he attended such a meeting and that J. O. Stokes, the director, was not present, but that his brother, W. J. B. Stokes, was present, and it struck him, Massie, as peculiar that there should be a substitute director. Massie says that at this intermediate meeting there was a general discussion of the situation and that sometime near the end of the meeting Manville handed him (Massie) a piece of paper which he (Manville) had had his secretary prepare as the minutes of the meeting of November 14th (which Massie had not attended), and Massie entered the contents of this paper in the minute book.

Massie wrote Manville under date of October 5, 1911 (Exhibit C-8, Record, p. 247), discussing the Hammerstrom matter, and suggesting that if he (Massie) had a free hand and the necessary funds for expenses, he could settle things before January 1, 1912, but that it might be necessary to modify the license agreement as suggested in a letter of the same date to J. O. Stokes, "but this is a mere detail to which I am sure the directors of our Company will agree."

The letter of J. O. Stokes of October 5, 1911, already referred to, is Exhibit C-7 (Record, p. 487), in which Massie referred at considerable length to the efforts to induce other concerns to

take licenses. He mentions United States Asbestos Company, Woven Steel Hose & Rubber Company, and Empire Company. He discusses changes in the license agreements deemed necessary to get these companies in, and the resulting beneficial effect on Keasby & Mattison. He writes his understanding, that it was settled at the last meeting that outside manufacturers should be given a license on the same general terms as the licenses already issued to the constituent companies, the schedule of prices, however, to be fixed by the new licensees themselves. (See minutes meeting of August 29, 1911, Record, p. 483, with all directors present.) He follows with suggestions as to changes in the license agreement, to protect against price cutting by licensees, continuing as follows:

> "It seems to me that our company cannot reasonably expect these different manufacturers to sign new license agreements from time to time since each manufacturer when he signed the license agreement would be compelled to raise his prices and thereby cut off his own business until such time as the majority of manufacturers had taken licenses. Consequently I have merely worked to keep in line the three manufacturers who have already agreed to take licenses, providing the others do, until such time as I can get most of the others to agree.
>
> "So far as Keasby and Mattison are concerned, my plan is to leave them for the last, because we have less to offer that Company in view of the fact that they are tape manufacturers. When they find all their customers joined with our Company as licensees Keasbey & Mattison will be more inclined to be reasonable. Furthermore, if we have a lot of licensees in the Company and paying royalties we will have a fund with which to sue Keasbey & Mattison, if necessary to enforce

> our patents. However, the United States Asbestos Co. claims to have great influence with Dr. Mattison and possibly through the aid of Mr. Zimmerman we may be able to mollify Dr. Mattison."

This is the same letter, in which appears the only expression from any source, of any expectation on anybody's part that the constituent companies were to pay royalties as per schedule, without regard to success in bringing in other manufacturers, and it may be that this suggestion prompted the rescission resolution at the November 14 meeting. Such a resolution is not at all inconsistent with the previous oral understanding of the parties, as claimed by Messrs. Stokes and Manville, as to the conditions under which the licenses to the constituent companies were to become effective, and would merely make such oral understanding matter of record.

But if the court rejects the oral understanding, as claimed by Messrs. Stokes and Manville, the action taken on November 14, assented to or acquiesced in by all the constituent interests, operates to suspend royalties until the expected conditions as to other manufacturers are realized.

The minutes of the meeting of August 29, 1911, and Massie's letters of October 5, 1911, and the testimony of Stokes, Manville and Bonner as to the discussion at the November 14 meeting, and Massie's impressions as to another meeting following that date, *all show most conclusively that the parties were actively discussing the procurement of outside licensees, and that the stumbling block was in the prices as fixed by the licenses to the constituent companies, which none could be induced to accept, and that all were agreed that the licenses would have to be modified in reference to prices before the "desired end" to quote Bon-*

*ner's letter of December 17, 1911 (Exhibit D-42, Record, p. 562) would be attained.*

This is further in harmony with Williams' letter to Parker-Smith, dated June 21, 1911 (Exhibit D-27, Record, p. 535), reporting Hubert as saying that everything was held up awaiting the issue of the Coleman and Hoff patents, and that the directors of the Asbestos Brake Company were waiting the issuance of these patents "before approaching competitors and endeavoring to bring about the reorganization of the business on a paying basis."

The patents referred to were issued one shortly before and one shortly after the date of this letter.

All the directors were therefore in harmony in the view that the prices in the license agreements to the constituent companies were too high and would have to be modified before outsiders could be brought in.

The fairness of suspending royalties as against themselves until the patent monopoly contemplated had been accomplished is obvious, and the probability of assent is, under the admitted circumstances, very great. The Stokeses and Manville testify to positive assent by Hubert and the Brake Liners.

As to the Brake Liners, Bonner, who was present at the November 14 meeting, made no affirmative protest either at the meeting or ever afterward. He owned the controlling interest and kept in active touch. He alone continued to display any interest in the Asbestos Brake Company in subsequent years, keeping up contact and correspondence with Manville at more or less frequent intervals. He twice offered to buy the Asbestos Company, in 1916 and in 1919. No word, by mouth or writing, has been pointed out advancing, or even suggesting, a claim against either Johns-

Manville or Thermoid for royalties under the license agreements until the filing of the present bill. In 1916, when he offered to buy, he alluded to the existing conditions as protecting both companies, and included in his offer a proposition to continue that protection (Exhibit D-55, Record, p. 640). In 1919, when he again offered to deal, he offers licenses for nominal considerations and participation in future profits, saying "this would leave the Manville and Thermoid Companies in the same free and unrestricted positions they now enjoy" (Exhibit D-58, Record, p. 575).

And in August, 1919, when he notifies of his intention, if his last offer is rejected, he says not one word about liability for royalties, but announces his determination to "begin action to have the Asbestos Brake Company of New Jersey dissolved and the patents revert to their original owners."

Massie, trustee for Brake Liners, but in the bill in this case declaring the beneficial interest of that Company, did indeed in a letter in October, 1911, make a threat of looking into the failure of the Johns-Manville and Thermoid Companies to pay royalties under the original license agreements, but that was the only occasion, and that was before the meeting of November 14, 1911. Of that meeting he had prompt notice and he does not claim that he ever made any protest of any kind against the resolution then adopted. He says he regarded the action as illegal (Record, Massie, p. 104, l. 20) but he told nobody what he thought, and, although himself a lawyer, entered in the minute book the resolution he now says he regarded as illegal. After he discovered the action from the minutes given him by Manville, he did not protest to anybody or take action of any kind whatever. And he voted as a director at the meet-

ing on January 12, 1912, to assess the stockholders to raise funds to sue infringers, a quite unnecessary performance if Thermoid and Manville were owing large arrears of royalties. He participated in the opinion of the attorneys, dated January 29, 1912 (Exhibit D-19, Record, p. 520) in recommending a plan of proceeding against outside infringers, indicative, as we have already seen, that, at the time of such opinion, there was no thought in the mind of the four attorneys of arrearage royalties due by Thermoid and Manville Companies, and on February 28, 1912, he wrote to Bonner a letter (Exhibit D-43, Record, p. 563) apprising him of the attorneys' opinion, concluding the letter:

> "* * * I suppose the result of this report will be that a new meeting of the Asbestos Brake Co. will be called and that someone be authorized to prepare a respectable schedule and sensible license agreement with the classification of brake liners so that such manufacturers as make the cheaper brake liners for sale to automobile companies will be able to do business and pay our license fee. When this has been done I feel sure that if the Company will pay expenses for some one to visit the various manufacturers, a large number of them can be induced to accept a license."

Massie was secretary of the Asbestos Company. He could under the by-laws have assembled the stockholders in annual meeting in each one of the years from 1912 to 1919 inclusive, where these matters could have been openly discussed. The Brake Liners Company with Hubert could have compelled a special stockholders meeting at any time, and, on the request of himself and Hubert, he could have convened the directors in special session at any time. Massie's silence was complete

from the date, shortly after the meeting of November 14, 1911, when he became aware of the action taken at that meeting, until the bill in this case was filed. He tells us so himself (Record, Massie, p. 105).

Hubert claims to have received no notice of the November 14 meeting although one was undoubtedly mailed to him by Massie, as secretary (Ex. D-36, Record, p. 559), and he says he never heard of the rescission resolution of November 14, 1911, until told of it recently by Mr. Plante, his counsel in the present case. He has before and since November 14, 1911, been a director of the Company but has confessedly manifested no interest in its affairs. There was no concealment of the resolution of November 14, 1911. It was handed to the secretary of the Company and promptly put in the minute book. It was at all times within reach of his inquiry by right of his office as director, or of his interest as a stockholder. He received a copy of the attorneys' opinion of January 29, 1912. He wrote to no one about the Asbestos Brake Company during all these years, and the first word of its affairs that had come to him in almost a decade was when, to avoid litigation, Manville sought in 1919 to buy his interest. He did not even become a party complainant in the present case until September, 1920, after the case had been partially heard. And in the meantime his companies, the Auto Improvement and the Ever Ready, had been acting as Pacific coast representatives of the Thermoid and buying from that Company asbestos brake lining at prices not at all related to the schedule set forth in the license agreements.

Of course the action taken at the November 14, 1911, meeting was not official action of the Asbestos Brake Company as such. There was but

one director present. If the resolution then passed had been official, considering the relationship of the directors to the licensees, its action would probably have been open to challenge if promptly made, by either Hubert or the Brake Liners, except for the agreement conditioning the payment of royalties by Thermoid and Manville on securing outside licensees, and such conditional agreement may account for the fact that no protest was made by Bonner or Massie. It would at the same time account for the indifference of Hubert to the non-payment of royalties by Thermoid and Manville. But stockholders can bind themselves by participation in an informal meeting, or by acquiescence after knowledge, quite as effectively as they can be bound by formal action of the Company's directors, and sometimes even more effectively. The Vice Chancellor recognized this in his statement as to price fixing (Record, p. 600, l. 8). "Of course it is perfectly clear that the Asbestos Brake Company is simply the Manville Company, the Thermoid Company, the Brake Liners Company and Hubert in another—a corporate form."

Certainly Johns-Manville Company, Thermoid Rubber Company and Brake Liners Company are bound, as to respective stock interests in the Asbestos Brake Company, by the resolution of November 14, 1911, whether Hubert is bound or not as to his stock interest.

Hubert is not only in the position of a stockholder. He is also a director. Can he excuse himself in his latter capacity for ignorance of action recorded in the minutes, even if he could do so as a stockholder with no other relationship to the corporation?

It is submitted that under the circumstances of this case and his own conduct his assent to the

rescission resolution of November 14, 1911, may not be now denied.

The Vice Chancellor, with some bitterness of language, finds *mala fides* in this meeting, based on Manville's letter to Massie of November 14, 1911 (Exhibit C-10, Record, p. 252). There certainly could have been no *mala fides* in advance of the meeting. It was called by the Secretary, Massie, on a date fixed by himself (Letter Massie to Stokes, Exhibit D-2, Record, p. 501) and notice thereof was given to all the directors including Hubert (Exhibit D-36, Record, p. 559). The *mala fides* charge however is definitely founded by the Vice Chancellor in the letter of Manville to Massie of November 14, 1911. That letter is as follows (omitting address and signature):

> "I have your telegram advising that you could not attend the meeting. There was a quorum present, and we passed a few resolutions, which we will hold and have you enter in the minute book at the first opportunity."

This letter was called to Mr. Manville's attention on the witness stand and a perfectly reasonable explanation of the subject matter given by him (Record, pp. 252-4). It is obvious that under the charter and by-laws of this Company the meetings were meetings of the four interests, and there is no suggestion of *mala fides* in referring to a meeting at which three of the four interests were represented as, for practical purposes, having a quorum. Certainly if Hubert had been present at this meeting and all four interests had assented to the action taken, the corporation as well as the represented stockholders would have been bound by its proceedings. In another part of his opinion (Record, p. 600, beg. at l. 8) the Vice Chancellor says:

> "Of course it is perfectly clear and undisputed that the Asbestos Brake Company is simply the Manville Company, the Thermoid Company, the Brake Liners Company and Hubert in another—a corporate form * * *"

This was just as much so on November 14, 1911, as earlier or later. The letter refers to "a few resolutions." There were in fact three, one to pay bills of Massie and Parker-Smith (Massie says that his bill $52.60 was paid as directed at that meeting [Record, top p. 98] ), another the so-called rescission resolution, and the third to authorize Mr. Stokes to see Mr. Penny as to his charge for an opinion on the validity of the patents. The letter also says that the resolutions will be held and handed to Massie for entry in the minute book. This was done promptly as Massie testifies, at a later meeting, which he thinks was held between November 11 and January 17. Because of this letter the Vice Chancellor condemns Manville for false statements as to quorum and resolutions. It is submitted that the letter affords no warrant for any such reflection on Manville. The business of the meeting was participated in by three of the four interests, the meeting was held on a day noticed to all and there was no concealment of the result, the minutes being promptly handed to the Secretary, who, notwithstanding his opinion that they were entirely nugatory, promptly recorded them in the minute book. In determining their effect, either originally or as the basis of subsequent acquiesence with knowledge, they are free from any taint of fraudulent inception, concealment or misrepresentation.

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## III.

**The complainants may not have relief in this case because they are, under the circumstances of this case, by abandonment and acquiescence, equitably estopped from asserting the claims set forth in the bill of complaint, and by reason of their own laches may not now ask of this Court such relief.**

The answers in this case set up abandonment, acquiescence, equitable estoppel and laches. It will save repetition to treat them under one head.

Even if the court should find, that there was no oral agreement, contemporaneous with the organization of the Company that the royalties fixed by the license agreements should not become effective until other manufacturers should be brought in as contemplated and the expected monopoly under the patents accomplished, and should further hold that the resolution adopted at the meeting of November 14, 1911, does not operate according to its terms, the facts and circumstances as shown by the testimony and exhibits prohibit the complainants from recovery in a court of equity.

The recovery sought in this case is in the corporate right and the complainants speak in the corporate behalf. But, none the less, the complainants are not freed from the equities applicable to their own relationship to the corporation and to their fellow stockholders.

Representative suits were considered from a practice standpoint by Vice Chancellor Howell in *Goodbody* v. *Delany*, 80 N. J. Eq., 417, with discussion of the authorities in our own and other

jurisdictions. In such cases the stockholders do not sue in their own right but in the right of the corporation, and the use of the names of stockholders as complainants is mere procedure and belongs not to the substantive law of the case but to the pursuit of the remedy in favor of the corporation.

While ordinarily a stockholder before instituting a representative suit of this character must show that he has made every reasonable effort to have the corporation itself bring the action, and while no such request was made in the present case, it is not contested that on the face of the bill allegations appear which, if taken as true, are sufficient to justify the filing of the present bill without demand first made upon the directors of the corporation. This technical situation in a matter of procedure cannot of course be construed as an admission of conspiracy in fact to prevent corporate action, or that a demand upon the corporation would have necessarily met with refusal. The divergent interests of the stockholders, complainant and defendant, represented by the directors, in their present relationship to the relief sought by the bill in the corporate behalf, are such that technical questions as to procedure should not be considered. The defendant stockholders have, therefore, answered the bill on its merits.

The burden is upon the complainants to convince the court that the relief sought is equitable, that their own conduct is unimpeachable, that they have not either ratified or acquiesced in the conduct of which they complain, and that they have pursued their remedy promptly, and that the result of their prevailing will be to promote justice and not to produce inequitable results.

Mr. Justice PITNEY, speaking for the Court of Errors and Appeals, in *Breslin* v. *Fries-Breslin Co.*, 70 N. J. L., 274, at page 282, says:

> "In the eye of the *law* corporations are entities separate and distinct from their constituent members and not bound by the individual acts of the latter. The *law* deals with the corporation as an artificial person. *Equity* realizes that this legal entity is but a legal fiction; looking through the form it discerns the substance. It finds that a stock corporation is in essence an aggregation of individuals, a statutory partnership with assignable membership, and limited liability of the members, and so the doctrine of equitable estoppel applies fully to all the internal concerns of stock companies."

The learned Justice cites *4 Thompson Corporations,* Section 5269.

Vice Chancellor Garrison, in *Perkins* v. *Trinity Realty Company,* 69 N. J. Eq., 723, states the doctrine thus:

> "When the rights of the state, the public and creditors are eliminated, and only the rights of stockholders are involved, the form of the fictional body termed a corporation does not hamper the court in the least in dealing with the rights of the parties. And that which the individuals composing the corporation might do, and will be held to have done among themselves, will be dealt with without regard to the immaterial fact that they were members of a fictional body."

Many stockholders' suits appear in the New Jersey reports and in other jurisdictions, in which the relief requested has been denied simply because of the fact that the complaining stockholder is barred by his conduct from maintaining a suit which would otherwise lie. The terms "estoppel,"

"ratification," "acquiescence," "assent," and "laches," in varying combinations are used, it would seem almost indiscriminately, in the decisions in which the subject is discussed, and it is sometimes difficult to reach a definite conclusion as to the specific ground upon which the decision rests.

Perhaps the most common classes of cases are, those in which the promoters of a corporation have acquired secret profits, those in which the board of directors has made a contract which is voidable by reason of the fact that one of them has an individual interest in it, and those in which the board of directors commit an act *ultra vires* to the corporation. In all such cases a stockholder is entitled to bring a bill in behalf of his corporation. Still courts of equity, though fully recognizing this right, have denied the relief under circumstances showing ratification or acquiescence in the conduct complained of, or where the complaining stockholder has been guilty of laches through unreasonable delay.

Vice Chancellor Leaming, in *Delsheimer* v. *Graphic Arts Company,* 86 N. J. Eq., 49 (affirmed on opinion below 89 N. J. Eq., 210), at page 52 said:

> "There can be no doubt that in some circumstances laches can be attributed to a stockholder and remedies to which he would be entitled but for his laches denied. A stockholder's bill in behalf of his corporation to set aside a contract which has been made by a board of directors with its members must be promptly filed or it cannot be maintained."

The New York Supreme Court (Appellate Division, 2nd Department), in a recent case said that the particular ground upon which the stockholder was barred was immaterial, and that the court

should apply "the rule of laches, acquiescence or ratification, whatever the proper term may be." *Venner* v. *Central R. R. Co.,* 164 N, Y. Supp., 626; 177 App. Div., 296.

In *Stephany* v. *Marsden,* 75 N. J. Eq., 90 (affirmed 76 N. J. Eq., 611), it was held that a stockholder must act within a reasonable time after knowledge of the conditions of which he complains, and in that case delay of three years constituted laches which barred him, saying at page 102:

> "If these circumstances and this long delay in the assertion of corporate rights have not amounted to a ratification of the contract by the stockholders, it seems entirely clear that the long delay in the assertion of the claim now asserted has operated to render it impossible for this court to ascertain at this time with reasonable accuracy or certainty the equitable terms on which relief may now be based, and I am fully convinced that the long delay, under the circumstances named, must be regarded as operative to bar the relief now sought."

In *Rabe* v. *Dunlap,* 51 N. J. Eq., 40, a stockholder sought to have a transaction set aside by which his corporation consolidated with and conveyed all its property to another corporation which was thereafter mortgaged to the defendant. Vice Chancellor Van Fleet held that, although this was a clearly *ultra vires* act, the complainant was barred by his laches from a remedy which he otherwise would have had by delaying action for three years after he knew of the transactions. At page 47, after thoroughly reviewing the English authorities, the Vice Chancellor said:

> "The doctrine they establish is, that where an act is done openly, and especially on notice, and without evil intent, though clearly in ex-

> cess of the power of the corporation, a non-assenting stockholder will not be allowed to pause to speculate upon the chances—to wait until he can see whether such an act is likely to result in profit or loss—but to be entitled to the summary interference of the court he must ask for it promptly, and before the act of which he complains has become the foundation of rights or equities which must be destroyed or greatly impaired if the act be nullified or undone."

In *McMahon* v. *Pneumatic Transit Co.*, 85 N. J. Eq., 544, relief was denied to a stockholder who, in effect, prayed to have set aside a transaction by which his corporation had issued stock to another corporation in return for property which was over-valued. It was held that in any event a stockholder must prove actual fraud on the part of the directors, and Mr. Justice BERGEN, speaking for the Court of Appeals, said at page 550:

> "We also think that where, as in this case, the complainants were present and voted for the resolution, and with knowledge of the fact that for more than two years the two companies had been operating under the purchase, and during all that time stood by and made no protest, they are now estopped, in the absence of proof tending to show that the action of the directors was a fraud upon them, to deny the force and effect of their conduct, relying upon which the two defendant companies have availed themselves of the terms of the contract, which in equity has been executed. Having approved the valuation, they are bound by it unless they show that their action was induced by some fraudulent representation, or the concealment of some material fact, by the directors."

In *Brady* v. *Atlantic City*, 53 N. J. Eq., 440, this court refused relief to a stockholder, who brought a bill to have an agreement set aside, on the

ground that the agreement was not *ultra vires* and so could not be attacked, but the court said further that, in any event, the complainant was estopped as he was guilty of laches by reason of having stood by inactive for two years while the proceedings were going on.

In *Arnold* v. *Searing,* 73 N. J. Eq., 262, Vice Chancellor Leaming, while overruling a demurrer to a stockholder's bill, recognized the rule that a corporation cannot complain of the transaction to which its stockholders have assented with knowledge.

In *Zabriskie* v. *Hackensack R. Co.,* 18 N. J. Eq., 178, a stockholder was denied relief not only on the ground that the extension of track by the railroad company was not *ultra vires* but also on the ground that the complainant must have been taken to have consented to it by his acquiescence in its construction and maintenance for a period of six years.

In *Knoop* v. *Bohmrich,* 49 N. J. Eq., 82, Vice Chancellor Von Fleet recognized the doctrine of personal estoppel which might bar suit even though the corporation were not estopped. While overruling the existence of a contract claimed to have been made between the complainant and the defendant, the Vice Chancellor said on page 86:

> "If this claim is true, it would seem to be quite clear that the complainant is not entitled to the decree he seeks. Though the corporation may not be bound by this contract, still it would seem to be unquestionably just, that the complainant should be held to be bound by it to the extent of depriving him of the right to maintain an action in equity to compel Bohmrich to pay for his stock in a manner entirely different from that agreed upon; especially should this be so, if it be true, as alleged, that the complainant was present when the stock was issued and consented to its issue in execution of the contract."

In *Breslin* v. *Fries-Breslin Co.*, 70 N. J. L., 274, from which a citation of Mr. Justice PITNEY, speaking for the Court of Appeals, has already been made, the court held that, although there was neither proper corporate action as to the retirement of the common stock, nor as to the resignation of the original directors, nor as to the declaration of dividends, still, if all the stockholders assented to these various informal acts, both they and the corporation were estopped from thereafter attacking them.

In *Robson* v. *Fenniman Co.*, 83 N. J. L., 453, it was held error to exclude evidence of what was done at an informal meeting of the directors of the corporation, as the acts taken by all the directors bound the corporation although there was no formal call or notice of the meeting.

In *New Jersey Car Spring Co.* v. *Fields*, 85 N. J. L., 217, a corporation sought to recover at law moneys which had been paid to decedent for six years as annuities, under a contract of that corporation made with him at the time he resigned from the board of directors and transferred all his holdings to the other two directors, to pay him an annuity for life. Recovery was refused on the ground that the corporation was bound by the contract, Mr. Justice SWAYZE saying that:

> "The case of the defendant might therefore be rested upon the right of the stockholders as distinguished from the directors to make or to ratify the contract (*United States Steel Corporation* v. *Hodge*, 19 Dick. Ch. Rep., 807). or upon their acquiescence in what was done (*Breslin* v. *Fries-Breslin Co.*, 41 Vroom, 274), or upon the long delay in acting (*Lilland* v. *Oil, Paint and Drug Co.*, 4 Robb., 197, 210)."

Of course every case involving defenses of this character is to be decided on its own facts. The

foregoing cases are by no means the only ones to be found in our report, but they sufficiently illustrate the principles involved and are cited for that reason.

In one respect the case now before this court is quite unlike most cases involving the assertion of similar claims. Generally, in cases of this character, we find the relief sought to be based on some corporate claim against promoters or directors for secret profits, or on some contract made between the corporation and a director, voidable by reason of the director's individual interest, or based on some claim of *ultra vires* action to the detriment of the corporation, or based on some claim of unpaid stock subscription, most frequently through under valuation of property acquired for stock. Generally, in these representative suits, we find relief is sought in aid of some stockholder or group of stockholders not adequately represented on the board of directors, or excluded from representation on the board, or otherwise shut out of the corporate councils.

*We have in the present case, the unusual condition that all parties, actually or beneficially interested, are, in equity at least, related to the corporation in whose right the action is brought both as directors and stockholders and their status as both the necessary outcome of their unanimous agreement.*

The stock of The Asbestos Brake Company, as to the issues between preferred and common and the division thereof, are determined by the pre-corporate agreement, the division originally made by the three party agreement being modified after the Brake Liners Company came in, and the bill alleged and the answer admits that the stock was issued as agreed.

The preferred stock alone had voting power, for the purpose of preserving equality of interest in the control of the corporation, the modified four party agreement requiring that five shares each should be allotted to the Johns-Manville Company, Thermoid Rubber Company, Conrad Hubert and Brake Liners Company.

The common stock, in accordance with the modified four party agreement, was to be allotted 15% to Conrad Hubert, 15% to Brake Liners Company and 70% to Thermoid Rubber Company and H. W. Johns-Manville Company, to be disposed of between them.

At the meeting of the corporation held on May 2, 1911, the minutes show that the secretary reported that the several parties had requested the following allotment of shares: To Thermoid Rubber Company 4 shares of preferred and 35 shares of common stock, and to Joseph O. Stokes, nominee of said Thermoid Company, 1 share of preferred stock; to H. W. Johns-Manville Company, 4 shares of preferred stock and 35 shares of common stock, and to T. F. Manville, nominee of Johns-Manville Company, 1 share of preferred stock; to Mitford C. Massie, nominee of the Brake Liners Company, 5 shares of preferred stock and 15 shares of common stock; and to Conrad Hubert 5 shares of preferred stock and 15 shares of common stock.

This stock was admittedly issued as requested and no change in beneficial interest has since taken place, with the possible exception of one share of the preferred stock, of which Massie claims in the bill of complaint to be the actual owner. All of the stock allottable to the Brake Liners Company was at its request issued to him, and no proof has been offered of change in beneficial interest as to this one share, which, from the terms

of the agreement, was undoubtedly originally the property of the Brake Liners Company. If any transfer of beneficial interest in this one share has passed to Massie, it, of course, has happened under circumstances which would give him, as transferee, no superior right to that of the Brake Liners Company as an original party to the agreement.

Not only did the parties by the original three party agreement agree to organize a corporation, but also agreed that *"the parties hereto, personally or by their representatives or officers as directors of The Asbestos Brake Company shall vote for and direct the carrying out of this agreement in all particulars, etc.,"* which provision, of course, was carried into the modified four party agreement. *There can be no pretense, therefore, of any presence of any of these directors in the board other than as the accredited and agreed upon representative of the stockholding interest.*

After the organization of the corporation the attorneys, who had respectively represented them in the patent applications, continued to represent such applications during the conduct of the interferences and until the issue of the patents, as was evidently contemplated by the agreement in its reference to the prosecution of the claims in the Patent Office and appeals relating thereto, and as was expressly recognized by the direction to the attorneys in the minutes of the directors' meeting of May 2, 1911.

Whatever the property interests of the stockholders, equal as we have seen in the preferred stock, and, as to the common stock, distributed 15% to Hubert, 15% to the Brake Liners, 35% to Johns-Manville, and 35% to Thermoid Rubber Company, such distribution was in accordance with the original agreement, *which also contemplated*

*that there should be uniform licenses issued to the constituent companies or their nominees.*

Bonner at that time was connected with the Empire Rubber Company and named that Company as the nominee for a license, which was apparently executed and delivered in escrow to Mr. Massie but was never accepted because of the high royalties.

The license to Hubert's Auto Improvement Co. was never delivered.

The only two licenses ever actually executed and delivered were to the Johns-Manville and the Thermoid Rubber Companies.

*There is, therefore, in this case no fiduciary or trust duty as directors of the Company attachable or attributable to any one of the parties to this agreement in any greater degree than to any other.*

The case is entirely devoid of any evidence of active co-operation between any two or more of the directors, or any two or more of the stockholders to the disadvantage of the corporation or any of its constituent members.

The minutes show active co-operation, after the organization of the corporation, on the part of parties in interest in the direction of inducing outside manufacturers to take out licenses, and there is no suggestion that any lack of success in this behalf was due to any action, or want of action, on the part of any director or stockholder. This harmonious condition continued so long as we have any corporate records, that is to say until January, 1912, at which meeting there was unanimous action with reference to procuring the joint opinion of attorneys, representative of the four stockholders, and also agreement upon the raising of funds by assessment upon the common stock.

This method of raising funds was of itself indicative, not only of harmony, but of fairness on the part of the Johns-Manville and Thermoid Companies, as the assessment would have fallen in much larger proportion upon those companies. An additional indication of fairness is the suggestion that the assessment upon the Brake Liners Company, which was without funds, should be advanced by other stockholders.

Neither is there any evidence, after January, 1912, to the bringing of the present suit, of any collusive action, or want of action, on the part of directors or stockholders as against each other. Hubert paid no attention to the affairs of the Company whatsoever. Bonner, for the Brake Liners, kept up an intermittent contact with Manville by interview and correspondence. Notwithstanding that he met J. O. Stokes on several occasions socially he never said anything to him about the affairs of the Company. Apparently, from the letters written by Manville to Bonner, Manville did at times talk to Stokes, but there is not the slightest indication in any of the letters written by Manville of any indisposition on his part to conferences or to directors' meetings; indeed in one of the letters he said that he and Stokes would like to have a meeting, and in another he asked Mr. Bonner to have a meeting called by Mr. Massie, who was the secretary.

Neither was there at any time (except in the single instance of the letter of October 5, 1911, from Massie to Stokes) a suggestion from any stockholder of the Company, or any director of the Company, to any stockholder or director, individually or collectively, indicating any expectation on the part of any stockholder of any claim against the two stockholders who were manufacturing, for royalties under the license agreements

made to them at the organization of the Company, or any demand that suit should be instituted in the corporate behalf for the collection of royalties on any such liability, or in accordance with any agreement of any kind.

The letter of October 5, 1911, of Massie to Stokes, did indeed suggest that royalties were accumulating against the two stockholders who were manufacturing, and that their failure to pay should be looked into. But Massie himself, either as a director or secretary, or trustee for the Brake Liners, or otherwise, never followed this up by any further like suggestion, or took any steps of any kind in assertion of such liability or for the enforcement thereof, and we have seen that his conduct before and after October 5, 1911, was entirely inconsistent with honest belief in the existence of any such liability. He was, after January, 1912, as secretary and director, and so far as he personally was concerned, as quiescent and indifferent as Hubert.

The Johns-Manville and Thermoid Rubber Companies, stockholders, were manufacturing when the agreement was made and have continued to manufacture without interruption and without reference to the license agreements, and under the conditions imposed by increasingly active competition throughout all the time to the filing of the bill in this case. The license agreements, executed and delivered to them by The Asbestos Brake Company at the time of the organization of the corporation in pursuance of the pre-corporate agreement, were most drastic in their terms, requiring monthly accountings under penalty of forfeiture and damages. Their business was openly conducted, afterwards as before, and there can be no pretense that the other directors or stockholders were not aware of their activities in the trade.

Hubert was, as president of the Auto Improvement Company and Ever Ready Company, also continuing business as before, and was actually buying asbestos lining from the Thermoid Rubber Company, and Bonner's letters of 1916 and 1919 to Manville, proposing to buy out the Johns-Manville and Thermoid interests, openly recognized that the two companies were unrestrictedly manufacturing and selling asbestos brake linings supposedly covered by the license agreements. Massie, in his letter of October 5, 1911, to Stokes, must have written in the knowledge of the continuation of the manufacture of both companies, and he has not pretended any ignorance thereafter.

That all of them from the beginning knew of possible danger by reason of the British patent is also apparent. Bonner forced his way into the original three party combination through the threat contained in his letter to Manville of November 12th, 1910, and in his previous letter and interview to and with Parker-Smith, that, "owing to the existence of Eng. patent No. 7,900, granted March 27, 1897, to Chas. Robt. Hutchings, no basic or prohibitive patent or patents can be issued to any one." Parker-Smith agreed that this was so, while Williams and Lowthorp were not so completely scared. But all of them carefully refrained from letting knowledge of the English patent come to the Examiner in the United States Patent Office, and were keenly aware that in any real fight to enforce The Asbestos Brake Company's patents they would have to meet the effect of this English patent, as well as whatever might be developed as to the prior art, all four hedging as to this in the concluding sentence of their joint opinion of January 29, 1912 (Ex. D-19, Record, p. 520).

It is also apparent that all the parties were aware of the possible invalidity of their arrangement by reason of the provisions of the Sherman law.

While Williams had convinced himself of the safety of the plan in relation to that law after his debate concerning it with Parker-Smith, referred to in their correspondence in March, 1910, prior to the negotiations of the three party agreement (Exhibits D-22 and D-23), he still was aware, as appears by his letter to Lowthorp of April 1, 1910 (Exhibit D-39) that the question existed, admitting in his testimony that the reference in that lettor to "sailing close to the wind in other respects" referred to the Sherman law (Record, Williams, p. 460). And the subject of the Sherman law was still in his mind on May 16, 1911, when he wrote the letter of that date to Parker-Smith (Exhibit D-24) winding up with this, "Probably Mr. Massie was convinced upon simultaneously receiving both of our letters, that we had acted for the best interests of our new born corporation, which I trust, in the light of reason, will not be held to be undue restraint of trade," as he frankly said that, when he wrote that letter, he had in mind the opinion of Mr. Justice WHITE in the Standard Oil Company case, and that whether or not he had been discussing the matter with counsel he had the Sherman law in mind with reference to this transaction and to every transaction of that sort carried out in his practice.

Lowthorp early concluded that the Sherman law was not being infringed, and continued of that belief.

Parker-Smith was always in doubt, and so continued, his impression being that even when he framed the joint opinion of January 29, 1912, he had that point in mind although he was not will-

ing to go so far as to say that in reference to that opinion he discussed the Sherman law with other counsel.

But, as to these attorneys and their views as to the Sherman law, it is to be remembered that it does not anywhere appear in the case, that any of them were further consulted, or inquired of, by any of the interested parties, with reference to the patent situation after the rendering of their joint opinion of January 29, 1912. It does not follow, however, that the doubt as to the arrangement arising under the Sherman law, which they had communicated to their clients, did not have some influence on the latters' attitude toward infringement suits, as well after as before the organization of the Company.

But, be that as it may, and whether or not the British patent or the Sherman law were, either or both, with or without influence in the consideration of infringement suits against outsiders, the fact remains that no such suit was brought, and there is no evidence in the case of any request on the part of either of the complainants, or any action whatever on their part, looking to any such suits after the early part of the year 1912, except such references as may be found in the two propositions of Bonner, in the event that he acquired the interests of Johns-Manville and Thermoid Rubber Company in The Asbestos Brake Company, and these offers, and consequently his intentions as to the prosecution of infringers, were not he is careful to say by reason of his stockholding interest in the Brake Liners Company but entirely on his own account.

Bonner did not even have the idea, when he wrote his final letter in 1919, of any claim against either the Johns-Manville or the Thermoid on account of royalties in arrears, as the purpose of

his suit as then declared was "to have the Asbestos Brake Company of New Jersey dissolved and the patents revert to their original owners"—a very different idea from that represented by the present litigation.

The original purpose of the parties to the agreement, as heretofore developed in detail, from the agreement itself and the prior and subsequent conduct of the parties, to bring in outside manufacturers and establish a monopoly profitable to the stockholders of The Asbestos Brake Company, has absolutely failed. Since this suit was started efforts have been set on foot for the purpose of testing the patents. Outside of the efforts recorded in the minutes and testified to, terminating in the early part of 1912, from the organization of the Company until the filing of the present bill and for almost a year thereafter, *absolutely nothing was done by anybody connected with The Asbestos Brake Company with reference to enforcing its rights, if any, against others, or enforcing its right, if any, against its constituent stockholders.*

What is the effect of the failure of complainants to assert the corporate right which they now assert, relative to the collection of royalties from the defendants as constituent stockholders under the license agreements with them?

In the meantime the two stockholders, Johns-Manville and Thermoid Rubber Company, have continued their business in active competition with all the world, and without any thought of any claim on the part of The Asbestos Brake Company against them under the license agreements.

If they have been during all of these years constantly liable to The Asbestos Brake Company to account, as prayed for in this bill of complaint, why was not some claim asserted against them?

Can the complainants sit idly by and permit these associates of theirs to conduct their business without reference to the arrangement between them, speculating as to whether, in the passage of years, business would increase to such an extent as to make an accounting profitable, and then, suddenly concluding that profits have accrued out of this manufacture, demand accounting according to the letter of the law?

Clearly the four parties involved in the organization of the Asbestos Brake Company did not have, in March, 1911, any very large notion of the then present value of their patents. They organized a corporation with only $12,000 of total capital, $2,000 of which was 6% preferred stock equally distributable in membership and $10,000 was common stock. The parties contributed $2,000 in cash, Thermoid and Johns-Manville $700 each and Brake Liners and Hubert $300 each. They were satisfied with a 6% return non-cumulative on the actual money. All of the patents were put in for $10,000 of common stock distributed in the proportions of the cash contributions. The whole plan was speculative and based in its hope of profit on the success of the efforts contemplated to compel all manufacturers, dealers and users of asbestos brake lining to submit themselves to licenses under the patents on a basis of 10% royalty. There were numerous manufacturers and the competition was keen. Thermoid and Johns-Manville were manufacturers, Hubert a dealer and Brake Liners not in business at all. Hubert agreed to take a license for the Auto Improvement Company and Brake Liners was expected to take a license for itself or its nominee. It was not contemplated that Thermoid and Johns-Manville should be the only licensees. All four contemplated outside licensees. It is out of reason to

suppose that Thermoid and Johns-Manville Companies would have been willing to submit themselves to the burden of a 10% royalty without imposing the like burden on their competitors. They would have been infinitely worse off in trade competition than though they had no licenses at all. The defendants have asserted an actual agreement that their license agreements were not to become operative until outside competitors were brought in, and also an actual suspension of royalties by common consent. They now further assert that the conduct of the interested parties complainant from the inception of the pre-corporate agreements to the filing of the bill in this case has been not only in accord with the original purposes of the parties, but has been so highly inconsistent with any present assertion of any liability to collect royalties from the defendants, the only two licensees the Asbestos Brake Company ever had, as to show actual abandonment of the plan and preclude by acquiescence, estoppel and laches such assertion of liability even if at an early date legally possible.

*If a suit on the present theory is maintainable it is because of the license agreements.*

*The breach of the agreement began at the end of May, 1911, and, cumulating at the end of each month, had continued for eight years and eight months before the present bill was filed.*

*During all that period it has been open to the complainants to take affirmative action for the enforcement of the license agreements, and to put in action the forfeitures provided in them for their breach. A bill of the nature of the present bill could have been filed as well eight years sooner.*

*Not one single right of any kind now resides in either of the complainants as stockholders, or*

*in either of their nominees as directors of this Company, which was not theirs in January, 1912, and has not been theirs ever since that time.*

The position of the defendants as licensees has in the meantime greatly changed, and if they are now called upon to account, on the theory that the license agreements are now enforceable against them, they will be called upon to part with money earned in strenuous competition with competitors unhampered by license agreements.

Their associates have stood idly by, speculating as to whether the asbestos brake lining business would become large enough, and a sufficient share of it be acquired by these two companies, to make an attack upon their respective treasuries profitable. These associates have been at all times completely equipped to induce corporate action in the interests of The Asbestos Brake Company, even against the will of the Johns-Manville and Thermoid Companies, for the enforcement of the patents of the Asbestos Brake Company against these two companies, if they were enforceable; but no effort was made in that direction although complainants urge that it was the intention of the parties when The Asbestos Brake Company was formed that such an effort should be made. The Brake Liners Company, by reason of the presence of Bonner at the meeting of November 14, 1911, and the knowledge of what was done at the meeting by Massie acquired promptly thereafter, has been all the time aware of the rescission resolution passed at the meeting of November 14th, and of the fact that no accountings were being made and no royalties paid.

Hubert, while he denies knowledge of the rescission resolution of November 14th, admits that he knew that no accountings were being made and no royalties paid, and that he took no steps of any

kind looking to accounting or collection. He paid no attention to the Company and did not even come into the present suit until long after it was started and after it was partly heard—further speculating apparently, even after the suit was started, as to the chances of recovery before committing himself even to this litigation.

*And there is a more serious effect on the complainants, suing in the corporate right, by reason of their failure to insist on corporate action, relative to the enforcement of the provision of the license agreements, which required the Asbestos Brake Company to enforce the monopoly conferred by the patents against all infringers to the best of its ability.*

The license agreements (see Exhibits C and D attached to bill of complaint) contained the following covenant of the Asbestos Brake Company. in those agreements styled the "patentee":

> "II. The patentee shall enforce the monopoly conferred by its patents against all infringers thereof, to the best of its ability."

The complainants participated equally with the defendants in the imposition of that obligation upon the Asbestos Brake Company, and they are as much responsible as the defendants for failure to enforce it. The complainants have been, at all times, able, if wishing so to do, and without regard to any act or conduct of the defendants, to insist upon the performance of that obligation. It was a condition of the right to recover royalties.

It has been held by the United States Circuit Court of Appeals, for the 9th Circuit, in *Wilfley* v. *New Standard Concentrator Co.,* 164 Fed. Rep., 421, that where a license under a patent is coupled with an express covenant by the licensor to protect the rights so granted, a breach of such cove-

nant by failure to prosecute known infringers, is sufficient to defeat the recovery of any royalties contracted to be paid by the licensees, and that unless the complaint on such a contract alleges performance of the covenant to protect the granted right, it fails to state a cause of action. In its opinion the Court said:

> "In this case there can be no question that the covenant to guard the claims of the Wilfley patent and the rights granted the licensee thereunder and to prosecute infringers was a *concurrent* condition to be complied with at all times during the life of the license. A license implies that the licensee shall not be evicted from its enjoyment and such an eviction is a defense to a suit for royalties accruing after it occurs. * * *
>
> "Cases are cited which hold that if in the grant of a license to use and vend a patented invention there is no express covenant that the licensor will protect the licensee from infringement, no such covenant will be implied to defeat the licensor's right, to recover the stipulated royalties (citing cases). But it is the clear inference to be drawn from these decisions that, if the license is coupled with an express covenant on the part of the licensors to protect the exclusive right so granted, the breach of such covenant is sufficient to defeat recovery."

*It is admitted in the present case that there were many infringers of the patents owned by The Asbestos Company and that that Company has not brought any suit for infringement of its patents. It is clear, therefore, that if the defendants were strangers and not interested in the Asbestos Company, each would have an adequate defense to a suit for royalties under these license agreements; the Asbestos Company could not allege and prove performance of its covenant to "enforce the mon-*

*opoly conferred by its patents against all infringers."*

As the complainants in the present case are enforcing rights which are the rights of the corporation, they cannot compel the payment of royalties by the defendants, *unless they can allege and prove an adequate, complete and legal excuse for the failure of the Asbestos Company to perform its covenant.*

That they were aware of this burden is apparent from the allegations in paragraph 10 of the bill of complaint (Record p. 12):

> "That, although the other directors and stockholders of said The Asbestos Brake Company have been willing and desirous to suppress all infringements of the aforesaid letters patent, the said H. W. Johns-Manville Company and said Thermoid Company have, for reasons unknown to your orators, been unwilling to have proper suits and actions instituted and prosecuted in the courts to enjoin such infringements; and, through their respective representatives, the said T. Frank Manville and Joseph O. Stokes, directors as aforesaid, have prevented the taking of any action by said The Asbestos Brake Company to suppress such infringements," etc., etc.

and by the allegations of paragraph 12 (Record p. 13):

> "That said T. Frank Manville and Joseph O. Stokes, representing and conniving with the said H. W. Johns-Manville Company and Thermoid Rubber Company, as aforesaid, have disregarded the request of your orator Mitford C. Massie, that said licensees perform the conditions of their said license agreements, while they have wilfully permitted the very extensive and grievous infringements aforesaid of said patents of The Asbestos Brake Company," etc., etc.

These allegations are denied by the answers, and no proofs are found in the record in affirmative support. The only possible basis from which it can be argued that these allegations are supported on the hearing must be made from the inactivity of the Asbestos Brake Company from 1912 forward, *which inactivity it cannot be rightfully assumed is any more due to directors Manville and Stokes than to directors Massie and Hubert.*

The control of the corporation is in the preferred stock, pursuant to the terms of the agreement, and the preferred stock is equally held by the four stockholders, so that the Johns-Manville Company and the Thermoid Rubber Company are no more in control of the corporation than are Hubert and The Brake Liners Company.

*The directors are four in number, nominees of the four stockholders, and the record is devoid of evidence to support the allegation that the inactivity of the corporation is due to any refusal on the part of directors Manville and Stokes to function. There is no more evidence of refusal on their part than there is evidence of refusal of directors Massie and Hubert.*

There is absolutely in the record no proof of the conspiracy by the defendants charged in the bill.

Under the by-laws Massie and Hubert might have compelled meetings of the directors, and Hubert and the Brake Liners Company might have compelled a meeting of the stockholders. If they had endeavored to compel such meetings and Stokes and Manville had refused as directors, or the Johns-Manville Company had refused as directors, or the Johns-Manville Company and the Thermoid Rubber Company as stockholders, to participate in such meetings, there might have been ground for the allegations in the bill of complaint.

But both Massie and Hubert have testified that they have made no request for meetings of either stockholders or directors to any officer or other director or stockholder of the Asbestos Brake Company, or taken any steps whatsoever with reference to the business of the corporation since January, 1912. There is no room for doubt as to this unless their own testimony is completely rejected.

*It is clearly impossible that the complainants can claim the benefit of this alleged deadlock situation, to the detriment of the other two, in the absence of any proof of actual agreement or conspiracy on the part of Stokes and Manville to, by refraining from participation in corporate meetings, defeat some proper corporate action which it was the duty of the corporation to perform.*

It is clear that Massie and Hubert as directors of the Brake Liners, and Hubert as stockholder, acting together, or either alone, could have made upon The Asbestos Brake Company and upon Manville and Stokes a demand that an infringement suit be instituted by the Company; failing in that they could have called a meeting of the board of directors and offered a resolution directing infringement suits. They could have called a meeting of the board of directors and insisted on affirmative action; they could have offered to pay into the treasury of the Company their proportionate share of the expense necessary for such suits, and made formal demand upon the other stockholders to contribute. If, having taken any one or all of these steps, Manville and Stokes had gone on record as opposing, the complainants would then have been in a position to assert interference with their rights and to have proceeded to enforce them in the corporate behalf.

Not even the letter of Massie of October 5, 1911 (Exhibit C-7), written eight years before this bill was filed, can be construed as constituting a demand or even a request on the Asbestos Brake Company, or upon Stokes as president of that Company, to institute any suit for the infringement of the patents. We have seen that as an assertion of liability on the part of Thermoid and Manville to pay royalties, it is inconsistent with its author's prior and subsequent acts and writings to the contrary, but at most, it cannot be twisted into any request looking to corporate action against infringers, or construed to shift the burden of responsibility for failure to take corporate action to the directors Stokes and Manville, as distinguished from the directors Massie and Hubert. Nothing in that letter excuses Massie, the director and officer of Asbestos Brake Company, or the Brake Liners Company he represented.

Nor is there anything in the record showing any refusal on the part of Manville or Stokes, or showing any unwillingness on their part, to participate in corporate meetings or in corporate action. Both indicated their willingness, communicated by Manville to Massie, for a corporate meeting in the summer of 1912 (Ex. D-46, Record p. 567), and on January 27, 1913 (Ex. D-52, Record p. 571). Mr. Manville wrote to Bonner suggesting that he have Massie call a meeting. *Both Manville and Stokes say that no demand was ever made upon them as directors looking to any corporate action, and they must be right about this as their fellow directors, Massie and Hubert, both affirmatively testify that they never made any such demands or requests.*

*It is, therefore, apparent that the Asbestos Brake Company, considered as an independent*

*corporate entity, is in default because of its failure to perform its covenant to pursue infringers, and that the complainants suing in the corporate right could not compel the defendants to pay royalties under the license agreements, if the defendants were strangers to the Asbestos Company.*

*It is also apparent that the complainants have failed to show any demand or action on their part as stockholders or directors of the corporation, in excuse of the failure of The Asbestos Brake Company to perform its covenant, or to affirmatively establish that they took steps to secure the enforcement of the corporate obligation to prosecute infringers, which enforcement was essential to the corporate right to collect royalties prescribed by the license agreements.*

They have had more than eight years to take steps for the prosecution of infringers of the Asbestos Brake Company patents, the thing necessary to establish the corporate right to collect royalties from the defendant licensees.

*Inactivity of the defendants cannot excuse the non-action or delay of the complainants. The duty and the responsibility to protect the corporate right were just as much theirs as the defendants', and the complainants cannot complain of the consequences to themselves of their own inaction. They offer no adequate legal or equitable excuse for the failure of the Asbestos Brake Company to perform its covenant to bring infringment suits and enforce the monopoly of its patents, when for eight years they have taken no action to that end.*

*The complainants are, therefore, estopped themselves to compel the payment of royalties in the corporate right, or at least by laches and long delay have precluded themselves from present recovery.*

And, finally, as to these defenses of acquiescence, estoppel and laches, *not even an actual agreement or conspiracy between Manville and Stokes as directors, or their respective companies as stockholders, could have prevented complainants from asserting the rights they now claim, in the form of action in which they now assert them.*

The deadlock, if one existed, was the legitimate child of pre-corporate agreement. It had been deemed essential to constitute a scheme of corporate stock voting and a scheme of corporate directorate which would permit no two stockholders to control, alone or in combination. Johns-Manville Company and Thermoid, notwithstanding a preponderating beneficial interest in the stock, were, for the protection of the lesser beneficial interests in the stock, restricted in power by the voting scheme lodged in the preferred stock. They could not oppress, even if deliberately desirous so to do. They could not, deliberately or otherwise, combine to effectively prevent, by positive or negative action, the assertion of the rights of the other stockholders.

The doors of the court have been just as wide open to the complainants for the last eight or nine years as now, to assert the corporate rights they now assert, and no agreement or conspiracy on the part of the defendants, active or secret, could have blocked the approach of the complainants to present their present prayers.

*And, if they are honest in their present claims, they have for years neglected their plain right and duty, and have contributed to the development of a situation of great hardship and inequity to the defendants.*

We may repeat again that not one single right of any kind now resides in either of the complainants as stockholders, or in either of their nominees

as directors of the Asbestos Brake Company which was not theirs in January, 1912, and which has not been theirs ever since.

The Vice Chancellor denied the complainants' prayer for specific performance on the ground of delay, but he ordered defendants to account pursuant to the letter of the license agreements of May 2, 1911, from the day of their date, holding that the defendants had not been prejudiced by the delay, and that the defendants were themselves to blame because no suits had been brought against outside infringers and could not therefore refuse accounting because of the failure of their licensor to protect the patent monopoly.

As to the finding of fact, that defendants have not been prejudiced by the delay of the complainants of about eight years in asserting their liability to pay royalties, we submit that an examination of the record shows conclusively that the position of both defendants has materially changed to their disadvantage. The Vice Chancellor says, "Not even is there evidence to prove, nor to indicate, that defendants would not have continued to manufacture and sell if this litigation had been commenced eight years ago." Where is the strength in this statement, as against the equally certain proposition: "Not even is there evidence to prove, nor to indicate, that defendants would have continued to manufacture and sell if this litigation had been commenced eight years ago." In all probability if this suit had been brought eight years ago, and had then been successful, these defendant companies, under the burden of a 10% royalty, would have been so handicapped in competition as to have prevented the growth of their respective businesses to their present proportions. Complainants have stood by and speculated on that result. Common knowledge of the

growth of the use of motor vehicles from 1911 to 1919 compels the conclusion that defendants are differently circumstanced by the failure of complainants to promptly assert the rights they now claim.

The evidence shows, we submit, an abandonment in fact of the corporate scheme, with the acquiescence of complainants. While it is true that every case involving acquiescence and laches must be decided on its own facts, we think that the Vice Chancellor was mistaken in relating the period of time needed to support these defences in this case to the statute of limitations on a sealed instrument.

Time is not the only element to consider, and, while we concede that these defences may not be availed of to do inequity or injustice, the complainants are in a Court of Equity, and bound equally with the defendants by the rules and maxims which govern in that court, and may not escape the consequences of their own delay in asserting the rights of the Asbestos Brake Company for their benefit, because of a sixteen year statute of limitations. The defendants have not prevented and could not have prevented if they would the assertion of the corporate rights advanced in this suit. The defendants owed, in this case, no trust duty to the complainants, which the complainants did not owe them. The complainants were in full possession in 1912 and have been ever since of all information now available and have utterly failed in proving the allegations of conspiracy contained in their bill.

The considerations applicable in relation to these defences are too well established to require citation of authorities. As contrasting with the Vice Chancellor's sixteen years as the period which must have elapsed to conclude the complainants

in the present case, we may, however, contrast the period of two years deemed sufficient by Vice Chancellor Lane, with the approval of this court, to establish laches, on conduct evidence, in *Globe Ticket Co.* v. *International Ticket Company.* While that case was to protect a trade secret alleged to be in wrongful use by the Sun Ticket Company, and not upon an express contract, it is interesting to note that one of the reasons held by this court and the Court of Chancery, to deny complainants relief on the ground of laches, was that the Sun Ticket had been permitted by the complainants to build up a prosperous business.

The defendants, if required to account as directed by the decree below, must account on the royalty basis of 10% as fixed by the license agreements, without regard to the conditions of competition in which they have, to the knowledge of complainants, conducted their business from 1911 to date. Bonner and Massie have both testified that they were unable to get outsiders to take licenses because the royalties were too high. Massie and Hubert, as directors, have passed resolutions recognizing the same situation, and Massie in letters has advocated lower schedule. To account on the basis of 10%—the letter of the contract—will make the accounting directed by the Vice Chancellor anything but an equitable accounting, especially when made for the benefit of complainants, who, with full knowledge, have stood silent for eight years.

So also as to interest, which in equity is awarded on equitable conditions, the final decree allows these same complainants, who have stood by without protest or notice of claim as now presented, while these defendants were participating in the competition with the outside prices, to add to the 10% royalty during the period of account-

ing, interest on each monthly item at the legal rate. It is submitted that the accounting, if equitable, ought to be without interest and on a basis not in excess of the profits, if any, actually obtained in the competitive market.

The Vice Chancellor, in his opinion, refers to the surrender by Thermoid and Manville of their licenses to the Receiver appointed in this cause (Record p. 602) to which he accorded no efficacy, saying, "There existed no more ground for rescission than there did in 1911." The same thought applies to every party to this suit, which the Vice Chancellor himself says in another part of his opinion could have been brought at any time during a period of eight years preceding the filing of this bill.

With every party in interest so conducting themselves as to indicate complete abandonment by common consent of the whole enterprise, if action taken by any one is denied efficacy, which if taken earlier might have been accorded judicial recognition, the same treatment should be extended to all, as most certainly the facts of this case disclose no greater requirement of duty or lesser degree of indifference as between the interested parties.

## IV.

**The contract of March 6, 1911, between the parties to this cause, and the license agreements made between The Asbestos Brake Company and the defendants, are illegal and void and unenforceable by reason of the provisions of the Act of Congress of July 2, 1890, known as the Sherman Act.**

The following undisputed facts appear upon the record in this cause:

Prior to September, 1910, Conrad Hubert, lately joined as a complainant in this case, the defendants Manville Company and Thermoid Company, were owners of *applications* for patents relating to brake linings, between which interferences were pending in the Patent Office (Exhibit C-5, Exhibit C-6, printed as part of bill of complaint, Record, p. 17 and p. 39); no Letters Patent had yet issued upon these pending applications; by an agreement in writing (Exhibit C-5, Record, p. 17), dated September 22, 1910, these parties agreed to form a corporation, The Asbestos Brake Company, with a certificate of incorporation and by-laws in the form annexed to said agreement, and to severally assign each of the said applications to that Company, upon the condition, however, that the Asbestos Company immediately grant licenses under said applications and patents to be issued thereon to each of the said parties to the agreement, and in part consideration for said assignments to receive preferred and common capital stock in the proportions recited in said agreement; the said agreement had attached to it a form of assignment which each of the parties agreed to execute, to

which assignment was attached a form of license agreement to be executed by the Asbestos Company with the said parties as well as all others applying for licenses; by the said agreement each of the parties agreed personally or by their respective representatives on the board of directors of the Asbestos Company to vote for the granting of the licenses immediately after the delivery of the said assignments, the said Hubert undertaking that the Auto Improvement Company will accept such license, and the other parties agreeing to accept such licenses, and each of the parties further agreed *to vote and direct a schedule of prices to be observed by the licensees of the Asbestos Company,* and that Auto Improvement Company was to have the privilege of buying brake linings manufactured by the Thermoid and Manville Companies at a discount of 15% below the lowest price fixed for any others and of selling them under the trade mark of the said manufacturer; the said parties agreed, by virtue of the condition of the said assignment, that no license which shall be granted shall be changed, altered, revoked or annulled except by the votes of all of the said parties acting as directors of the Asbestos Company; the said parties agreed, by virtue of Clause (5), Section IV of Article II of the by-laws (Exhibit C-2, Record, Minutes, pp. 454 *et seq.*), forming a part of the said agreement, that the votes of all of said parties acting as directors of the Asbestos Company shall be required *to adopt and amend the prices and discounts at which goods shall be sold by the Company or its licensees,* for cancelling licenses, the sale, assignment, transfer, mortgage or encumbrance of inventions or letters patent or rights thereunder.

By an agreement of March, 1911 (Exhibit C-6, Record, p. 39) between the said Hubert, the Man-

ville and Thermoid Companies and the Brake Liners Company, one of the complainants in this suit, the said agreement of September, 1910, was modified so as to limit the preferred shares (the only stock having voting power) of Asbestos Company to 20 shares, five of which were to be allotted to each of the four aforesaid parties, the number of directors was to be four instead of three, and the common stock divided so that Hubert shall receive 15 shares, the Brake Liners Company 15 shares, and the remaining 70 shares to be allotted to the Thermoid and Manville Companies, subject to the assignment by the Brake Liners Company to Asbestos Company of certain patents and applications owned by the Brake Liners Company, the latter or its nominee to receive from the Asbestos Company a license under its patents similar in all respects to the licenses to be granted to the other parties to the said modified agreement, but except for the modifications noted above the said agreement of September, 1910, remained in effect as recited above.

Pursuant to the said modified agreement the Asbestos Company was incorporated and duly organized with a certificate of incorporation (Exhibit C-1, Record, p. 445) and by-laws (Exhibit C-2, Record, p. 454) exactly in the form attached to the said agreement of September, 1910, but modified only as specified in the said modified agreement, each of the said parties to said agreement executed and delivered assignments (not received in evidence, but admitted to have been executed and delivered (Record, pp. 230-1), in the form attached to said agreement, transferring and assigning to Asbestos Company all the patents and applications for patents covering brake linings owned respectively by each of them; Asbestos

Brake Company on May 2, 1911, executed and delivered to both Thermoid Company and Manville Company licenses (Exhibits C-3 and C-4, printed as part of bill of complaint, Record, pp. 41 and 46), in the form attached to the said agreement between the parties, granting non-exclusive personal licenses, *to manufacture, sell and use* brake linings embodying the inventions shown and claimed in each of the applications and patents of the Asbestos Company *within and throughout the United States,* to the full and of the terms of each of said patents, the said license agreements providing that Asbestos Company shall enforce, to the best of its ability, the monopoly conferred by its patents against all infringers, and the licensees agreeing that *all sales* of brake linings, except such as are made to other licensees, *shall be at prices now or hereafter established by Asbestos Company,* which prices are set forth in the Schedule attached to each license agreement; *the prices* set forth in said Schedule *were agreed to and fixed,* in accordance with the agreement aforesaid, *by the parties or their respective representatives acting as directors of the Asbestos Company;* similar agreements were tendered to the said Hubert and Brake Liners Company.

At and prior to September 22, 1910, the date of said first agreement between the parties, brake linings shown and claimed in certain of the said applications and patents since granted thereon, were being manufactured and sold by Thermoid and Manville Companies, and many other concerns, in active competition one with the other, and prices of said brake linings were then the result of said open, free and active competition (Record, pp. 91, l. 30; 108, 179, 183, 187, 268, 288-9, 291, l. 33). Neither of the complainants, Hu-

bert nor the Brake Liners Company, were engaged in manufacturing brake linings.

So it appears, that at a time when the inventions in brake linings and pending applications for patents covering the said inventions were adversely held, and the Manville and Thermoid Companies and many other concerns were in active open competition with each other, all of the parties to this suit entered into written agreement with each other, whereby the prices for the sale of brake linings were to be fixed by the parties through their respective representatives, and the parties agreed to sell brake linings at the prices so fixed. Such price fixing agreement was not made for the benefit of the Asbestos Brake Company, the owner of the applications and inventions, *because that Company was not engaged in manufacturing brake linings.* We shall now show that such an agreement, with respect to unpatented articles is clearly illegal and void under the Sherman Law; the creation of the Asbestos Company to hold title to the applications and patents to be issued, and the granting of licenses, is merely an instrument to effect the combination with the avowed object of controlling prices and the suppression of competition between two of the parties to the agreement—the Manville and Thermoid Companies—and all other concerns who might take licenses, and does not remove this agreement from the condemnation of the law.

**An agreement between several independent competing manufacturers of an unpatented article of interstate trade or commerce whereby each agrees to maintain the prices, fixed for the sale of such article by an individual, board or committee acting as agent or representative of the parties, is in restraint of trade or commerce and therefore illegal and void under the Sherman Law, Act of July 2, 1890, C. 647.**

The Act of July 2, 1890, C. 647 (U. S. Compiled Statutes, Sec. 8820, *et seq.*), entitled "An Act to Protect Trade and Commerce Against Unlawful Restraints and Monopolies" known as the Sherman Law, provides in Section 1 as follows:

> "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is hereby declared to be illegal."

The natural result of the contracts involved in this litigation is *the removal of competition.* The parties to the contracts were all situated in the same part of the country, the Thermoid Company manufacturing in the State of New Jersey and the Manville Company manufacturing in the State of New York, each selling brake linings to customers in various of the States and shipping the goods from their respective factories to customers located in the various States. It is alleged in the answer, and proven by the testimony, that prior to the making of the contracts, these defendants and other concerns were making and selling brake linings in active competition with each other. The parties to the contracts in question would necessarily, in the absence of agreement, *compete with each other,* one recognized result of such competition being a reduction of prices to the consumer.

By the express terms of the contracts involved in this litigation, the parties *agreed* that prices for the sale of brake linings should be fixed by them or their representatives on the board of directors of the Asbestos Company, and when so fixed, no sales of brake linings should be made except in accordance with those fixed prices. The prices so fixed cannot be altered or changed except by agreement of all the parties. The royalties to be paid to the Asbestos Company, at the rate of 10% upon the selling price less discounts, were to be shared in and divided among the parties to this agreement in accordance with their respective holdings of common stock. Thus each party to the agreement is beneficially interested and shares in the returns from sales at the prices fixed by the parties, and the motive, intent and purpose to fix prices greatly in excess of competitive prices is apparent and manifest.

It cannot be successfully denied that these contracts relate to "trade or commerce among the several states or with foreign nations." They do not relate merely to the *manufacture* of brake linings (as in *United States* v. *Knight,* 156 U. S., 1), but license is expressly given to manufacture, *sell* and use brake linings "within and throughout the United States" and the express agreement of the parties is that all such sales shall be at the prices fixed by the parties.

In *Addyston Pipe Co.* v. *United States,* 175 U. S., 211, 240, the parties agreed not to compete within certain territory but to sell only at prices fixed by a committee. This was held to be a restraint upon interstate commerce under the Sherman Act, and the Court said:

> "The direct and immediate result of the combination was therefore necessarily a re-

> straint upon interstate commerce in respect of articles manufactured by any of the parties to it, to be transported beyond the state in which they were made. The defendants by reason of this combination and agreement could only send their goods out of the state in which they were manufactured for sale and delivery in another state upon the terms and pursuant to the provisions of such combination. As pertinently asked by the court below, was not this a direct restraint upon interstate commerce in those goods?"

In *Swift & Co.* v. *United States,* 196 U. S., 375, 397, the contract was held illegal and the Supreme Court said:

> "Here the subject matter is *sales* and the very point of the combination is to restrain and monopolize commerce among the states in respect to such sales."

In *Bement* v. *National Harrow Co.,* 186 U. S., 70, 93, the Supreme Court said:

> "These contracts affected * * * the sale of the implements all over the country."

And so in the present litigation the contracts affected *the sale* of brake linings "within and throughout the United States" and these defendants could only send their goods out of the States in which they were manufacturing, for sale and delivery to their customers in other States "upon the terms and pursuant to the provisions" of the contracts, and at prices fixed *by the agreement* of the parties themselves.

That these contracts between the parties to this suit are "*in restraint* of trade and commerce" is clear. It has been shown herein that the Thermoid and Manville Companies were, prior to the

making of the contracts, engaged in making and selling brake linings in competition with each other. The prices at which brake linings were sold by these Companies were fixed by and as a result of this active and free competition. The result was reduced prices to the user. By virtue of the terms of the contracts between the parties, however, the prices for brake linings were fixed, not by competition, but by the specific and definite agreement of the parties establishing the prices far in advance of those established by competition. The parties agreed not only that all sales should be made at the prices so fixed, but further agreed that those prices could not be altered or changed except by the vote of all of the parties.

The Supreme Court has decided that contracts whereby competitors agree to fix and maintain prices for the sale of unpatented articles tend to prevent competition, are in restraint of trade or commerce, and hence illegal and void under the Sherman Law.

In *United States* v. *Freight Association,* 166 U. S., 290, the parties to the contract agreed that rates to be charged should be fixed by a committee. In that case it was contended that the agreement was "reasonable" as preventing ruinous competition, and that (p. 327) the Statute "only means to declare illegal any such contract which is in *unreasonable* restraint of trade," and that the Statute did not prohibit competing railways from agreeing to keep up prices to a "fair and reasonable" rate. The Supreme Court, however, held, as stated in the headnote (p. 291) that the prohibitory provisions of the Act "apply to all contracts in restraint of interstate or foreign trade or commerce without exception or limitation, and are not

confined to those in which the restraint is unreasonable." The Court said (p. 340):

> "Under these circumstances, we are therefore asked to hold that the Act of Congress excepts contracts which are not in *unreasonable* restraint of trade and which only keep rates up to a reasonable price, notwithstanding the language of the Act makes no such exception. In other words, we are asked to read into the Act by way of judicial legislation an exception that is not placed there by the law making branch of the Government, and this is to be done upon the theory that the impolicy of such legislation is so clear that it cannot be supposed Congress intended the natural import of the language it used. This we cannot and ought not to do."

The Court points out that the agreement provides for the establishment of rates and that therefore "there can be no doubt that its direct, immediate and necessary effect is to put a restraint upon trade or commerce as described in the Act," and the Court concludes (p. 342):

> "For these reasons, the suit of the Government can be maintained without proof of the allegation that the agreement was entered into *for the purpose* of restraining trade or commerce or for maintaining rates above what was reasonable. *The necessary effect* of the agreement is to restrain trade or commerce *no matter what the intent was* on the part of those who signed it."

It is to be noted that the question in such cases is as to the necessary effect of the agreement and that the parties setting up the illegality of the contract need not prove *intent*.

In *United States* v. *Joint Traffic Association*, 171 U. S., 505, the Supreme Court reiterated after careful consideration the principle announced in

the *Freight Association* case, and repeated its statement (p. 561) that an agreement establishing minimum rates was necessarily in restraint of trade. The Court held (p. 569) with respect to the agreement before it:

> "The agreement affects interstate commerce *by destroying competition and by maintaining rates above what competition might produce.*"

In the two cases just discussed, the subject matter of the contracts was service performed by competing railroads, and it was held that rates charged for such service could not, by agreement between competitors, be fixed and maintained.

We now come to a consideration of a number of cases involving contracts fixing the prices of various commodities.

A leading case, bearing upon the contracts involved in this litigation, is the case above quoted, *Addyston Pipe and Steel Co.* v. *United States,* 175 U. S., 211, in which certain pipe manufacturers entered into a pooling arrangement on the basis of certain tonnage of production by each company, and *agreed* that the prices at which pipe should be sold were to be fixed by a board (p. 217). The Supreme Court held that the contract was void under the Sherman Act, quoting (p. 237) the opinion of Judge TAFT, pointing out that though there were some competing manufacturers outside the combination, and that therefore "there was not a complete monopoly," yet this did not take the contract "out of the annulling effect of the rule against monopolies." The Court stated the point of its opinion to be (p. 244):

> "We have no doubt that where the direct and immediate effect of a contract for a combination *among particular dealers in a com-*

> *modity is to destroy competition* between them and others, so that the parties to the contract or combination may *obtain increased prices* for themselves, such contract or combination amounts to *a restraint of trade in the commodity* even though contracts to buy such commodity at the enhanced price are continually being made. Total suppression in the trade of the commodity is not necessary in order to render the combination one in the restraint of trade. It is the effect of the combination of limiting and restricting the right of each of the members to transact business in the ordinary way as well as its effect upon the volume and extent of the dealing in the commodity that is regarded."

In *Montague & Co.* v. *Lowry*, 193 U. S., 38, there was an association of manufacturers and dealers in tiles, mantels and grates, the unit members having agreed not to sell tiles to anyone other than members for less than agreed and fixed prices. The Court held that this contract amounted to an agreement or combination in restraint of trade within the meaning of the Sherman Act. The Court said (p. 45):

> "The agreement is between manufacturers and dealers belonging to an association in which the dealers agree not to purchase from manufacturers not members of the association and not to sell unset tiles to anyone not a member of the association for less than list prices which are more than 50% higher than the prices would be to those who were members, while the manufacturers who became members agreed not to sell to anyone not a member, and in case of a violation of the agreement they were subject to forfeiting their membership. By reason of this agreement, therefore, the market for tile is, as we have said, not only narrowed but *the prices charged* by the San Francisco dealers for the unset tile to those not members of the association are more than doubled."

In *Continental Wall Paper Co.* v. *Voight & Sons Co.*, 212 U. S., 227, the Court condemned as a violation of the Sherman Law, an arrangement whereby the manufacturers of wall paper agreed upon the prices at which the commodity should be sold, effecting the purpose by organizing a selling company through which their entire output was to be sold. The Court stated in its opinion (p. 256):

> "Before the combination each of the combining companies was engaged in both state and interstate commerce. The freedom of each with respect to prices and terms was restrained by the agreement and interstate commerce directly affected thereby as well as by the enhancement of prices which resulted. A more complete monopoly in an article of universal use has probably never been brought about."

In accordance with these decisions of the Supreme Court, the lower Federal Courts have often held contracts obnoxious to the Sherman Law whereby the parties agreed to fix and maintain prices at which commodities shall be sold.

*U. S.* v. *Jellico Coal & Coke Co.*, 46 Fed. Rep., 432 (coal);
*U. S.* v. *Coal Dealers Association*, 85 Fed. Rep., 252 (coal);
*Chesapeake Fuel Co.* v. *U. S.*, 115 Fed. Rep., 610 (coal);
*Cravens* v. *Carter-Crume*, 92 Fed. Rep., 479 (wooden dishes);
*Gibbs* v. *McNeeley*, 118 Fed. Rep., 120 (shingles);
*Ellis* v. *Inman*, 131 Fed. Rep., 182 (lumber);
*U. S.* v. *McAndrews*, 149 Fed. Rep., 823 (licorice paste);
*Leonard* v. *Brewing Co.*, 25 App. Cas. D. C., 161 (beer).

It is clear, from the decisions already referred to, that the agreement between the parties to this suit to maintain the prices fixed by the parties or their representatives on the board of directors of the Asbestos Company is clearly in violation of the Sherman Law, and the added element of the patents in this case cannot "confer immunity from a like condemnation."

In the Bath Tub Trust case, *Standard Sanitary Mfg. Co.* v. *United States*, 226 U. S., 20, decided in November, 1912, a number of independent and competing manufacturers entered into an agreement, appointing a committee of five charged with the duty of fixing prices and granting licenses under the Arrott patent, covering a device for spraying the powder upon the articles to be enameled, the license contracts providing, among other things, for the elimination of all competition between the units combined, so far as the fixing of prices was concerned. After a careful review of the facts and commenting upon its own statement thereof, the Supreme Court said (p. 47):

> "In this statement certain things are prominent. Before the agreements the manufacturers of enameled ware were independent *and competitive.* By the agreements they were combined, subjected themselves to certain rules and regulations, among others not to sell their product to the jobbers *except at a price fixed not by trade and competitive conditions, but by the decision of the committee of six of their number,* and zones of sales were created. And the jobbers were brought into the combination and made its subjection complete and its purpose successful."

Applying the Sherman Law to the facts as stated, the Court said (p. 48):

> "The agreements clearly therefore transcended what was necessary *to protect the use of the patent or the monopoly which the law conferred upon it.* They passed to the purpose and accomplished *a restraint of trade* condemned by the Sherman Law. It had therefore a purpose and accomplished a result not shown in the *Bement* case. There was a contention in that case that the contract of the National Harrow Company with Bement & Sons *was part of a contract and combination with many other companies,* and constituted a violation of the Sherman Law, *but the fact was not established and the case was treated as one between the particular parties,* the one granting and the other receiving a right to use a patented article with conditions *suitable to protect such use and secure its benefits.*"

It is clear that the Court rested its condemnation of the contracts before it squarely upon the agreement of the parties, by which a committee consisting of its own members was charged with the duty of fixing prices at which the products of various manufacturers should be sold. True it is that the jobbers were brought into the combination, but can it be successfully contended that if the jobbers were not brought in, and the Court was considering only the contract between the manufacturers—the parties fixing prices, that it would have held the contract legal and without the prohibition of the Act? We think not, for the Court distinctly stated that the agreements before it "passed to the purpose and accomplished a restraint of trade condemned by the Sherman Law," and it emphasized the fact that by the agreements in question the parties combined and subjected themselves to rules and regulations "among others not to sell their product *to jobbers* except at a price fixed not by trade and competi-

tive conditions, but by the decision of the committee of six of their number." It was this *price fixing agreement between the parties* which was condemned as being "a restraint of trade" prohibited by the Act.

And the Court clearly decided that the added element of the patent, or the fact that each of the parties to the agreement was licensed under the Arrott patent "cannot confer immunity" from condemnation of the price fixing agreement. In doing this, the Court was careful not only to distinguish the *Bement* case but to preserve unaffected its decision in that case, for the Court said (p. 39):

> "We shall keep in mind and apply the principle expressed in *Bement* v. *National Harrow Co.*, 186 U. S., 70, 92, that the Sherman Law 'clearly does not refer to that kind of a restraint of interstate commerce which may arise from *reasonable and legal conditions imposed* upon the assignee or licensee of a patent by the owner thereof restricting the terms upon which the article may be used and the price to be demanded therefor. Such a construction of the Act we have no doubt was never contemplated by its framers."

And the decision of the Court was arrived at with the clear understanding that the Arrott patent was one of considerable importance to the trade, and the Court did not consider the fact that the articles sold were unpatented, the Arrott patent covering merely a machine for enameling the kind of wares sold by the parties. The Court said (p. 49):

> "The added element of the patent in the case at bar cannot confer immunity from a like condemnation, for the reasons we have stated. This we say without entering into the consideration of the distinction of rights for

> which the Government contends between a patented article and a patented tool used in the manufacture of an unpatented article. Rights conferred by patents are indeed very definite and extensive, but they do not give any more than other rights a universal license against positive prohibitions. The Sherman Law is a limitation of rights—rights which may be pushed to evil consequences and therefore restrained. * * * The law is its own measure of right and wrong, of what it permits, or forbids, and the judgment of the courts cannot be set up against it in a supposed accommodation of its policy with the good intention of parties, and it may be, of some good results. *United States* v. *Trans-Missouri Freight Asso.*, 166 U. S., 290; *Armour Packing Co.* v. *United States,* 209 U. S., 56, 62."

It is clear, therefore, that the Bath Tub Trust decision condemns as violative of the Sherman Law an agreement whereby *the parties fix prices* at which commodities shall be sold, even though each maker is licensed under a patent for a device used by each in the production of the wares sold by them. The reason for the Court's decision is clearly stated to be that the price fixing arrangement "transcended what was necessary to protect the use of the patent or the monopoly which the law conferred upon it."

Commenting upon the general purpose of the Sherman Law, and referring to particular instances of its application, as shown in *Swift & Co* v. *United States,* and *Standard Sanitary Mfg. Co.* v. *United States,* the Supreme Court said in *United States* v. *Pacific & Artic Co.,* 228 U. S., 87, 104:

> "In those cases, as here, the purpose (the means being different) was the *prevention or the destruction of competition* and the agreements here are exactly adapted to the purpose."

In complete harmony with its ruling in the *Bath Tub Trust* case, the Court said in *United States* v. *United Shoe Machinery Co.*, 247 U. S., 32, 57:

> "Of course, there is restraint in a patent. Its strength is in the restraint, the right to exclude others from the use of the invention absolutely or on the terms the patentee chooses to impose. This strength is the compensation which the law grants for the exercise of invention. its exertion *within the field covered by the patent law* is not an offense against the Anti-Trust Act. In other circumstances it may be as in *Standard Sanitary Mfg. Co.* v. *United States,* 226 U. S., 20, to which case that at bar has no resemblance.
>
> "The question then is, *was the patent right lawfully exerted in the lease? Were they anything more than the exercise of the patent monopoly?*"

Any agreement under patents, charged to be prohibited by the Sherman Law, must therefore be tested by the clear and definite rules now laid down by the Supreme Court. Is the agreement "necessary to protect the use of the patent or the monopoly which the law conferred upon it?" Or, "was the patent right lawfully exerted?" Or, was the agreement "anything more than the exercise of the patent monopoly?"

We will now proceed to an examination of the agreements and plan of the parties to this litigation in the light of the tests laid down by the Supreme Court.

**The agreement of the parties to this litigation whereby the patents and applications owned by each individual unit were pooled under the single ownership of the Asbestos Company and the agreement whereby prices were to be fixed by the parties or their representatives on the board of directors of the Asbestos Company and maintained by the individual units, was for the purpose of prevention and destruction of competition, resulted in restraint of trade and is therefore illegal and void.**

Passing for the moment the question of pooling independent competitive patents, which proposition we shall consider *infra,* p. 122, we proceed at once to a consideration of whether the agreements to fix and maintain prices were "necessary to protect the use of" patents owned by the Asbestos Company. The Asbestos Company has never engaged in the manufacture of brake linings embodying the inventions covered by any of the patents or applications which it owns as a result of the agreement in question. It had no manufacturing business to protect against the competition of its own licensees.

Neither the party Hubert nor the party Brake Liners Company were engaged in making brake linings. The only parties to this suit engaged in making brake linings were the Manville and Thermoid Companies. The question then is, whether the agreement *between licensees to fix and maintain prices,* was necessary "to protect the use of the patents." We submit that it was not. On the contrary, it was solely for the purpose of suppressing competitors, and resulted in no lowering prices and in restraint of trade.

We conceive it to be reasonably certain that where one becomes the owner of a patent in a bona fide manner and not as means or cover for a price arrangement, and *is engaged in manufacturing and selling the article covered by the patent*, and purposes to license others to manufacture and sell the patented article, it is proper in order to protect the use of the patent and the monopoly conferred by it, that competition between licensor, *who is manufacturing under the patent,* and licensee be prevented and that the licensee covenant that he will not sell at prices lower than those *fixed by the licensor.* That was the situation in the *Bement* case, which the Supreme Court approved as being a "reasonable and legal condition" to be imposed upon the licensee. But note that this is an agreement between licensor and licensee, and *not between a number of competing licensees.* It cannot reasonably be required that a patent owner, in giving up the monopoly, or a part thereof (that is, his right to exclude all others from the use of the patented invention) must leave himself subject to the competition of those acquiring rights under his patent; in some instances this would be most inequitable and destructive of the fair use of the patents by their owners. Therefore, the Supreme Court has held in the *Bement* case that such a covenant constitutes "reasonable and legal conditions imposed upon the assignee or licensee of a patent by the owner thereof restricting the terms upon which the article may be used and the price to be demanded therefor." The Supreme Court has not, so far as we have been able to discover, at any time approved of a multiplication of such license, as was before it in the *Bement* case. On the contrary it has decided in the *Bath Tub Trust* case, *supra,* pp. 112-115, that an agreement *be-*

*tween a number of licensees* to fix and maintain prices, is illegal and void. It is true that the Seventh Circuit Court of Appeals has approved of a multiplication of license agreements, each containing price restricting clauses. (*Rubber Tire Co.* v. *Milwaukee Rubber Co.*, 154 F. R., 358; *Indiana Mfg. Co.* v. *Case Machine Co.*, 154 F. R., 365; *Goshen Rubber Works* v. *Single Tube Co.*, 166 F. R., 431). All of these cases were decided *long prior* to the decision of the Supreme Court in the *Bath Tub Trust* case. And it is significant that the Supreme Court granted writs of certiorari in *Rubber Co.* v. *Milwaukee Co.* (207 U. S., 589) and in *Indiana Mfg. Co.* v. *Case Machine Co.* (207 U. S., 587) to review the said decisions, but by stipulation they were withdrawn and the cases were never heard by the Supreme Court (210 U. S., 439; 207 U. S., 603).

As we read the decisions in the cases immediately above referred to, all decided by the Seventh Circuit Court of Appeals, we find that the Court has merely approved of a multiplication of such license agreements with price fixing covenants, and in some of those cases, it appeared that the owner of the patents was also a manufacturer and seller of the patented article. Even in situations in which the patent owner is not a manufacturer, but utilizes his patent only through revenue to be obtained from royalties, the owner has a business to protect. For it cannot be expected that royalties will continue to be paid if not earned by the licensees, and the patent owner is therefore directly interested in seeing that destructive competition is avoided and that, on the contrary, profits are made from which his stipulated royalties may continue to be paid. But, in each instance, the ownership of the patent and the business to be protected must be bona fide and not created mere-

ly as a means or excuse for a price arrangement primarily for the benefit of others than the patent owner. In these suggested situations it is the bona fide owner of the patents, the licensor, who, for the protection of his business and patent monopoly, imposes upon his licensee or licensees the covenant that the latter will not sell the patented article at prices lower than those fixed by the licensor. In such arrangement there is an agreement between the licensor and each of his individual licensees, and the covenant is for the protection of the licensor's business and patent monopoly. In such a situation there is *no agreement between the various licensees,* for their own protection in the fixing and maintenance of prices, and the suppression of competition.

Clear it is, therefore, that the agreement in the case at bar by which the parties agreed to fix prices by their representatives and to maintain such prices, was not devised for the protection of the Asbestos Company; the company was formed by agreement of the parties, the patents were transferred to it and the license agreements made solely as a part of the plan to fix and maintain prices, and the licensees agreed to maintain the prices so fixed. The whole situation was an artificially created one, and not a bona fide one, in which the price fixing and maintenance clauses were "necessary to protect the use of the patents;" but such agreements "passed to the purpose and accomplished a restraint of trade," and their purpose was "the prevention or destruction of competition" between those who engineered the whole plan. That agreement was primarily for the benefit of the licensees, and the Asbestos Company was used only in the hope that it would furnish a legal means of reaching that end.

It is the *agreement* between the parties to this suit *to fix the prices,* by concert of and agreement between their individual representatives on the board of directors of the Asbestos Company, *and to maintain those prices,* which is clearly in violation of the provisions of the Sherman Law. We have already shown (*supra,* pp. 107 to 111) that, as to unpatented articles, the Supreme Court has held such agreements to be illegal and void; and the same court has also held (*supra,* pp. 112 to 116) that such an agreement is to be condemned as violative of the Sherman Act, even though the parties were licensed under Letters Patent.

In the *Bement* case the license agreement under consideration provided (186 U. S., 72) that the licensee "would not during the continuance of the license sell its products manufactured under the license at a less price or on more favorable terms of payment and delivery to the purchasers than was set forth in Schedule B," and it was this covenant, among others, which the Court said constituted "reasonable and legal conditions imposed" upon the licensee. And let it be remembered that the Supreme Court has not, as yet, approved of a multiplication of such license agreements, so that all or a large part of a particular trade is affected and the prices of the commodity thus controlled. But we have no such situation in the present litigation. Here the parties, at a time when the inventions in brake linings and the pending applications covering the same, were *adversely* owned by them, and when prices were regulated by open and free competition between themselves and many others, by written agreement covenanted to fix and maintain prices for the sale of such commodity, and in order that the plan might have some semblance of legality they transferred the applications for patents to the Asbestos

Company. The latter did not, however, as did the licensor in the *Bement* case, for the protection of its patents, require each of its licensees to sell at prices not lower than those fixed by the Asbestos Company. On the contrary, the parties to this suit had, in advance of the incorporation of the Asbestos Company, agreed among themselves, and for their own interest and benefit, to fix prices and maintain them when fixed by themselves through their representatives.

**Combinations of independent competitive patents, whereby competition is eliminated are illegal and void.**

But there is another definite and distinct reason for condemnation of the contracts of the parties to this litigation in view of the Sherman Law. The parties, prior to the making of the final contract of March 6, 1911, were the owners of *independent competitive patents,* under which each of the owners might freely manufacture and sell articles covered by their respective patents and freely compete in the open market without anyone infringing the patents owned by either of the others. The disclosures of these patents are clear and will be readily understood by the Court. We refrain, therefore, from burdening the Court with any reference to the testimony of the witnesses, and proceed to a brief discussion of the claims of the various patents.

Three Bonner patents owned by the Brake Liners Company, one of the complainants in this cause, were assigned to the Asbestos Company. Each of these patents covers brake linings composed of *wire cloth only* and neither of the patents contains any reference to asbestos. This fact

is illustrated and made clear by considering the following claims of these patents.

Claim 1 of patent No. 903,049 (Ex. D-7, Record, p. 580 e.) is for "a friction element comprising a series of parallel contacting layers of *wire fabric*, the exposed edges of said layers being trued and forming a friction surface."

Claim 1 of patent No. 931,988 (Ex. D-8, Record, p. 580 k.) is for "a brake comprising a holding member and a plurality of contacting layers of *wire fabric* secured thereto, the face of the outermost layer forming a friction surface."

Claim 1 of patent No. 1,177,774 (Ex. D-14, Record, p. 580 qq.) is for "In a brake, a liner comprising a plurality of layers of *wire fabric* having the wires of the fabric in metallic contact and intervening layer of elastic cement, said layers of wire being faced and united by said layers of elastic cement."

The Coleman patent No. 993,031 (Ex. D-10, Record, p. 580 y.) owned by Hubert, another complainant in this cause, was assigned by him to the Asbestos Company. This patent covers broadly a brake lining of woven asbestos. Claim 16 (Record, p. 580 z.) is for "A band brake lining formed of compressible woven asbestos fibre." Whereas, claim 1 (Record, p. 580 z.) is for "A brake facing comprising asbestos fibres and wires interlaced therewith,"

The Cutting & Jewett application, Serial No. 441,207 (Ex. D-11, Record, p. 506) owned by the Manville Company, one of the defendants in this cause, and assigned by it to the Asbestos Company, covered a brake block or friction member made of asbestos *not woven* but compressed and held together by silicate of soda. The lining contained no wire at all and, as specified in one of the claims allowed, the lining consisted of "a brake block com-

posed of *compressed* layers of asbestos fibre, the layers being arranged concentric to the bearing surface of the block and the mass saturated with silicate of soda."

Here we have three sets of *independent competitive patents,* the original owners of which could have freely, and without interference from either of the others, manufactured and sold brake linings covered by the respective patents. For instance, Hubert could have made and sold brake linings consisting of asbestos cloth covered by the Coleman patent without infringing either of the Bonner patents or any patent which might have issued on the Cutting & Jewett application owned by the Manville Company. The Brake Liners Company could have manufactured and sold the wire fabric brake linings (without asbestos) covered by the three Bonner patents without infringing the Coleman patent, or the patent which might issue on the Cutting & Jewett application. Also, the Manville Company could have freely sold compressed molded asbestos brake linings without interference from either Hubert or the Brake Liners Company. In the absence of agreement between them to the contrary, each of these three parties could have manufactured and sold brake linings in free and open competition with each other. The contract of the parties involved in this litigation attempted, and its very purpose was to effect a combination whereby the public would have been compelled to pay uniform and high prices for each style of brake lining specified in these independent patents and applications.

Each of these parties had a monopoly of the improvement or improvements covered by his own respective patent or patents, but the public has a right to competition between the various monopolies if they are owned by separate persons. *Such*

*would be the natural result apart from illegal contract or combination.* For example, consider the case of typewriters familiar to us all. The broad patents have expired, and there are today perhaps a hundred or a thousand unexpired patents on improvements in typewriters owned by various companies. Each company has a right to the monopoly under its own patents, but should those companies combine to pool together their patents for litigation against outsiders, and agree to maintain prices on all typewriters manufactured by any of them, such agreement would not be justified by the fact that each of the corporations owns patents of its own; such an agreement deprives the public of the benefit of competition among the various typewriter companies just as much as if there were no patents involved. Such an agreement creates substantially *non-competitive conditions,* which, as has been consistently held by the Supreme Court, constitutes the "restraint of trade" and "monopoly" prohibited by the Sherman Law.

It has, therefore, frequently been held by the courts that several owners of patents cannot combine to remove competition between the patent articles and establish fixed prices for an article of commerce, each continuing to manufacture his own style of patented article, even though this be attempted under the guise of conveying the patents to a holding company.

In *National Harrow Co.* v. *Hench,* 76 Fed. Rep., 667, it appeared that a number of distinct manufacturers of float spring-tooth harrows under various patents, assigned to the plaintiff corporation their respective patents and each received back a license to make his own individual style of harrow. Each licensee was obligated to pay a certain royalty and was not to sell at less than certain prices.

This scheme (substantially identical with that in the present suit) effected the result of suppressing competition between manufacturers of rival harrows under different patents, and the Court (Judge ACHESON) held the contract to be invalid, saying that it was evident (p. 669) that the scheme was devised "for the purpose of regulating and enhancing the prices for float spring-tooth harrows," and the Court said:

> "It is true that a patentee has the exclusive control of his invention during the life of the patent. He may practice the invention or not, as he sees fit, and he may grant to others licenses upon his own terms. But where, as was the case here, a *large number of independent manufacturing concerns are engaged in making and selling under different patents and in various forms an extensively used article, competition between them is the natural and inevitable result,* and thereby the public interest is promoted. Therefore, a combination between such manufacturers which imposes a wide-spread restraint upon the trade and destroys competition is as injurious to the community and as obnoxious to sound public policy as if the confederates were dealing in unpatented articles."

The decision was therefore that the license contracts were void as being in "unwarrantable restraint of trade."

The Third Circuit Court of Appeals affirmed this decision in *National Harrow Co.* v. *Hench,* 83 Fed. Rep., 36, 38, saying:

> "It is manifest as well from the contract as from the proofs outside of it, that the purpose of the parties was to form a combination between the various manufacturers of these harrows *to prevent competition in business and enhance prices;* and such is the effect of their agreement. The corporation pro-

vided to hold the legal title of the several patents is merely an instrument to effect this object. *The prior owners are still the beneficial owners with right to continue their business subject only to the restraint in its management imposed by the contract.* The provision for licenses is made necessary by the transfer of title and is simply another part of the scheme for combination and control of the business of the several patentees. The result would be the same in legal contemplation if the corporation and licenses had been dispensed with and the contract had provided simply, as it does, for combination and restraint of competition. That such a contract would be unlawful seems clear."

And again the Court said:

"*The fact that the property involved is covered by Letters Patent is urged as a justification but we do not see how any importance can be attributed to this fact. Patents confer a monopoly as respects the property covered by them but they confer no right upon the owners of several distinct patents to combine for the purpose of restraining competition and trade.* Patented property does not differ in this respect from any other. The fact that one patentee may possess himself of several patents and thus increase his monopoly affords no support for argument in favor of a combination by several distinct owners of such property to restrain manufacture, control sales and enhance prices. Such combinations are conspiracies against the public interests and abuse of patent privileges."

A similar decision was arrived at by Judge Baker in *National Harrow Co.* v. *Quick,* 67 Fed. Rep., 130.

In *Blount Mfg. Co.* v. *Yale & Towne Mfg. Co.,* 166 Fed. Rep., 555, it appeared that three independent manufacturers of liquid door checks en-

tered into contracts fixing the prices at which each should sell its respective devices, and in a suit on the contract for an accounting, it was held that the contracts were void and illegal under the Sherman Law, notwithstanding the fact that the contracts authorized each of the parties to use patented inventions belonging to the others. After a very careful review of the authorities, the opinion meriting very careful consideration, the Court said (p. 562):

> "Combinations between owners *of independent patents,* whereby as part of the plan to monopolize the commercial field *competition is eliminated,* are within the Sherman Act for the reason that the restraint of trade or monopoly *arises from combination and not from the exercise of rights granted by Letters Patent.* As by the terms of the contracts under consideration, the owners of distinct patents each agreed to restrain its own interstate trade, I am of the opinion that the contracts are in these particulars obnoxious to the Sherman Anti-Trust Act."

In *United States* v. *New Departure Mfg. Co.,* 204 Fed. Rep., 107, the indictment charged that manufacturers of coaster brakes had conspired and agreed with each other to fix and maintain prices under the guise of license agreements and the contention was made that the various constituent units in the combination had conveyed patents to the New Departure Company, which patents covered improvements only, and it was held that the contracts and plan constituted a violation of the Sherman Law. The Court, after reviewing the decisions in the *Bath Tub Trust* case, the *Harrow* case and the *Blount* case above referred to, said (p. 114):

> "So here as claimed by the Government the license agreements were resorted to as a sub-

terfuge to aid in stifling competition in trade and commerce and to enhance the value of the respective businesses of the defendant and to create a monopoly in their productions. In *Sanitary Mfg. Co.* v. *United States* (the Bath Tub Trust case), the Supreme Court clearly supports the view that patentee's rights are limited by the Anti-Trust Act, as the following excerpt from the opinion shows:

'Rights conferred by patents are indeed very definite and extensive; but they do not give any more than other rights a universal license against positive prohibitions. The Sherman Law is a limitation of rights—rights which may be pushed to evil consequences and therefore restraint.' "

Nor can it be contended in the case at bar that the combination of patents was made in settlement of litigation, for that applies, if at all, only where there are overlapping patents, that is, where one of the patents covers broadly a basic invention and the others are for improvements or species of that broad invention. So far as concerns the three independent patents and application for patent above considered, there was no possibility of litigation between the parties, and there were no interferences in the Patent Office between these applications and patents. There was therefore no valid reason for the combination of these independent patents under the four party agreement of March 6, 1911, and so far as concerns these three independent patents, that agreement was not made in settlement of any litigation or controversy between the parties.

Applying the tests, therefore, laid down by the Supreme Court in the *Bath Tub Trust* case and the *United Shoe Machinery* case, it is clear that the contracts between the parties to this litigation were not "necessary to protect the use of

the patents or the monopoly which the law conferred" upon them and the patent rights were not "lawfully exerted," but the agreement and plan clearly "passed to the purpose and accomplished a restraint of trade," and were for the avowed purpose of "the prevention or destruction of competition." The contracts are clearly illegal and void under the Sherman Law.

**The agreement between the parties and the license agreements executed in pursuance of the main agreement being illegal and void under the Sherman Law, the defense to this action is complete.**

In *Bement* v. *National Harrow Co.*, 186 U. S., 70, 88, the action was brought to restrain violation of certain contracts and compel their specific performance. The defendant set up the Sherman Act and the Supreme Court held:

> "As the Statute makes the contract in itself illegal, no recovery can be had upon it when the defense of illegality is shown to the Court. The Act provides for the prevention of violation thereof, * * * but that does not prevent a private individual when sued upon a contract which is void as in violation of the Act, from setting it up as a defense, and we think *when proved it is a valid defense to any claim made under the contract thus denounced as illegal.*"

See also *Continental Wall Paper Co.* v. *Voight & Sons,* 212 U. S., 227; *McConnell* v. *Camors,* 152 Fed., 321, 331 (5th Cir. Court of Appeals); *McMullen* v. *Hoffman,* 174 U. S., 639, 656, 660; *Central Transportation Co.* v. *Pullman Co.*, 139 U. S., 24, 54; *Chicago Ry. Co.* v. *Wabash Co.,* 61 Fed. Rep., 993, 998 (8th C. C. A.).

Nor can it be urged in this case that the licenses granted to the Thermoid and Manville Companies are independent and a valid exercise of the monopoly covered by the patents owned by the Asbestos Company. Those agreements were merely in aid of and a part of the illegal contract of March, 1911, between the parties to this litigation, and the complainants cannot properly ask a Court of Equity, as is done by this bill, to aid in the enforcement of the license agreements.

In *McMullen* v. *Hoffman,* 174 U. S., 639, 656, the complainant filed a bill for an accounting under a certain written contract agreeing to share equally the profits of a certain business. It appeared, however, that this contract was part of a larger contract between the parties whereby collusive bidding was made and the business thereby obtained by the defendant.

The Court held that a Court of Equity would not aid to enforce the contract and that the written contract declared on could not be severed from the rest of the transaction, saying (p. 654):

> "In case any action is brought in which it is necessary to prove the illegal contract in order to maintain the action, courts will not enforce it nor will they enforce any alleged rights directly springing from such contract. * * * (p. 655). If the partnership agreement that is contained in the writing above set forth is in truth but part of an entire agreement which contains utterly illegal provisions, then this action cannot be maintained within any of the authorities."

In *Continental Wall Paper Co.* v. *Voight,* 148 Fed. Rep., 939 (affirmed by the Supreme Court), the action was to recover a balance due on wall paper sold and delivered to defendants. The plaintiff, as a matter of fact, had contracts with

all the wholesalers and jobbers which constituted an illegal combination. The Court of Appeals for the Sixth Circuit held (p. 948):

> "The contention is that the contract upon which the action is brought is wholly collateral to any contract between the plaintiff and the other members of the illegal combination, *but if the contract to pay for goods included in the account sued upon is only part of an entire agreement which includes stipulations which are illegal, the case of the plaintiff must fail.* It is elementary law that the courts will not lend assistance in any way in carrying out an illegal agreement, nor can a plaintiff show only such part of an entire agreement as is legal and sue upon that alone."

In the foregoing discussion of the bearing of the Sherman Act on the situation as presented on the *unquestioned facts* we have not overlooked a possible contention by complainants that there is no real commercial competition in fact as between any two of the three groups of patents combined in the formation of the Asbestos Brake Company, as above discussed.

We content ourselves with pointing out to the Court that the wire cloth brake lining patents of the Brake Liners Corporation, the woven asbestos brake lining patent application of Coleman (belonging to Hubert), and the brake block application of Cutting & Jewett (belonging to the Johns-Manville Co.), were and are *upon their faces* competitive. What any one of these might amount to commercially in the future was then uncertain what any one of them respectively did accomplish commercially in subsequent years is immaterial so far as the Sherman Act is concerned. The pertinent and material fact is that the parties in 1911 combined these potentially competitive monopolies in the Asbestos Brake Company with intent to unlawfully restrain interstate commerce.

**The Opinion of the Vice Chancellor.**

The Vice Chancellor stated in his opinion (Record, p. 600):

> "Of course it is perfectly clear and undisputed that the Asbestos Brake Company is simply the Manville Company, the Thermoid Company, the Brake Liners Company and Hubert in another—a corporate—form, *so that in essence the price fixing by the Asbestos Brake Company is price fixing by the four companies.* It is also true that these *four companies* by their pre corporate contract *agreed together in advance as to the fixing and maintaining of their prices at which the manufactured articles should be sold.* In a sense therefore, it may be said to be true that *there is here a price fixing agreement between licensees,* because the Manville Company and the Thermoid Company are licensees from the Asbestos Brake Company."

We submit, that in view of this definite finding of facts, the Vice Chancellor erred in not deciding that the agreement in this suit was illegal and void under the decision of the Supreme Court in the *Bath Tub Trust* case (*supra,* pp. 112 to 115). The Court should have so held, irrespective of our contention that the agreement is void, for the additional and different reason that the parties sought to combine independent patents (*supra,* pp. 122 to 130). An agreement *between licensees* under patents to fix and maintain prices is void under the Sherman Law, wholly irrespective of the character and nature of the patents (*supra,* pp. 117 to 122).

The Vice Chancellor in support of his conclusion that the agreement in this suit is not in contravention of the Sherman Law cites the supposed case of "four persons who had collaborated in an invention and had had a patent therefor issued to

themselves" and states that it would be quite proper to form a corporation, asign the patent to it, grant licenses, and that prices should be fixed by the corporation—"namely the four joint owners themselves."

That situation is vastly different from the situation presented in this case. The four individuals referred to by the Court are *joint* inventors, and as such are tenants in common, each owning an undivided part of the patent granted on their joint invention. The Court overlooked the fact that the great weight of authority establishes the proposition that one part owner of a patent may make, use and sell the patented device without the consent of his co-owner or co-owners and without accounting to him. (*Blackledge* v. *Weir & Craig Mfg. Co.*, 108 F. R., 71; *Lalance & Grosjean Mfg. Co.* v. *National Enamelling Co.*, 108 F. R., 77).

Under such circumstances it might well be that the four co-owners, each acting separately as is their undoubted right, would grant licenses upon different terms and conditions, and such of them as manufactured might sell at different prices. This would create an intolerable situation and the courts might approve, as suggested by the Vice Chancellor, the assignment by each co-owner of his interest to a corporation, but that would be because it was a *bona fide* plan to manage the patent monopoly by placing under one ownership the outstanding and conflicting separate and undivided interests. In the Court's supposed case there are individual interests in *one invention and patent,* whereas in the suit now before this Court the parties, prior to the corporate agreement, each owned the whole right in a number of separate and distinct patents.

The Vice Chancellor, for all the reasons stated above, was clearly in error in deciding that the

"provisions as to price fixing were simply incidental" and that the agreement was "not unlawful under the statute mentioned." The motive, purpose and intent of the parties is not controlling. The *necessary effect* of the agreement *between the licensees* is to enhance prices and restrain trade.

### *Conclusion.*

The contract of March, 1911, between the parties to this cause, and the license agreements made in pursaunce to that contract with the defendants Thermoid and Manville Companies, are clearly illegal and void under the Sherman Law and cannot be enforced against the defendants in this action.

## V.

## As to Cross Appeal.

The complainants have appealed from paragraph 9 of the decree in this case (Record, p. 608) denying complainants' prayer for injunction enjoining or restraining the defendants from further manufacturing and selling brake linings, brake band linings and brake blocks as shown, described and claimed in any of said patents or applications for patents in said decree referred to and included in said license agreements, unless they, the said defendants, do account for and pay monthly the royalties prescribed for and required to be paid by the said license agreements upon all of said brake linings, brake band linings and brake blocks hereafter sold by them or either of them respectively.

If the complainants are entitled to the decree for accounting, as advised by the Vice Chancellor, it does not follow that they are also entitled to enjoin the defendants as prayed for.

(1) The license agreements are sued upon as the basis of a pecuniary recovery accurately defined therein, and the remedy of specific performance is not available to the complainants.

Assuming the validity and existence of the agreements during the period of accrual of the royalty payments, there is at all times a complete remedy at law, and also in equity on the *legal right.*

In the course of his opinion, in discussing the question of laches, the Vice Chancellor said (Record, p. 595, l. 30):

> "It will be borne in mind that complainants are in this court suing on a legal right—their right to an accounting on an express covenant in a sealed contract. Equity has concurrent jurisdiction in the enforcement of such right and in the present case was the necessary or appropriate forum since complainants must needs sue in the corporate right."

While not agreeing with the Vice Chancellor in his finding against laches on the part of the complainants in this case, his statement of the *legal* origin of the right asserted cannot be questioned.

The *ordinary* jurisdiction of the court affords complete opportunity for effective remedy. There is no occasion to appeal to the *extraordinary* jurisdiction of specific performance.

*Brown* v. *Brown,* 33 N. J. Eq., 650, 654-5.

The enforcement of the license royalties, liability to pay being established, involves nothing

more than the collection of money accruing on a basis fixed by the contract. The pecuniary result of liability is accurately, almost automatically, established, and there is not even a suggestion of insolvency.

(2) The complainants delayed eight years in filing their bill of complaint.

The Vice Chancellor correctly held that a prayer for specific performance was addressed to the discretion of the court, and that such relief ought not to be awarded except to those who seek it promptly.

If authority, additional to that cited by the Vice Chancellor, is thought desirable, the statement of the rule by Chancellor McGill in *Young* v. *Young*, 45 N. J. Eq., 27, may well be quoted:

> "The remedy by specific performance is discretionary. *Johnson* v. *Somerville,* 6 Stew. Eq., 152; *Blake* v. *Flatley,* 17 Stew. Eq., 228. In *Eads* v. *Williams,* 4 De G., M. & G., 674, 691, *Lord Cransworth* said: 'Specific performance is relief which this court will not give, unless in cases where the parties seeking it come promptly, and as soon as the nature of the case will permit.' The courts of this State have invariably been guided by the rule thus stated. *Van Doren* v. *Robinson,* 1 C. E. Gr., 256; *Haughwout* v. *Murphy,* 6 C. E. Gr., 118; *Lawrence* v. *Lawrence,* 6 C. E. Gr., 317; *Merit* v. *Brown,* 6 C. E. Gr., 401, 406; *Reddish* v. *Miller,* 12 C. E. Gr., 514, 521. See, also, *Fry Spec. Perf.* (3d Am. ed.), 526, and note, where many cases are collected."

## VI.

**The decree of the Court of Chancery should be reversed and the bill dismissed.**

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