

N. J. Court of Errors & Appeals

FEBRUARY TERM, 1907. No. 67.

Between

ISAAC SELIGMAN,

Appellee (Complainant),

AND

VICTOR TALKING MACHINE COMPANY,

Appellant (Defendant).

EXHIBITS.

GREY & ARCHER,
Of Counsel.

STATE OF NEW JERSEY, }
COUNTY OF CAMDEN, } ss.

ISAAC SELIGMAN, being duly sworn, on his oath says he is the complainant mentioned in the foregoing bill; that he has occupied premises 117 Market street, in the city of Camden, New Jersey, as a residence since eighteen hundred and seventy-eight, and has owned the same since June, eighteen hundred and eighty-eight. That residing with him on said premises is his family consisting of his wife, Nathalie, daughter, Esther L., and son, Joseph A. That said premises consists of a three-story brick dwelling with a front room on the first floor used as a tobacco and cigar store and post office. That said premises is in about the middle of the block, between Front and Second streets, having a front on Market street of twenty feet and a depth northwardly at right angles to Market street of one hundred feet, and is known as 117 Market street. That the block including said premises is bounded on the south by Market street, west by Front street, on the north by Cooper street and the east by Second street, and is about three hundred and sixty-four feet in length north and south and three hundred and forty feet in width east and west. Deponent is informed and believes that the Victor Talking Machine Company or some person in its interest has acquired title to the northerly half or nearly all of the northerly half of said block between Front and Second streets fronting on Cooper street. That at the time deponent purchased his said dwelling house, in eighteen hundred and eighty-eight, the Market street front of said block was occupied by private residences and offices and deponent's store, with the exception of the

West Jersey Press building, at the northeast corner of Front and Market streets, and the National State Bank, at the northwest corner of Second and Market streets, deponent's store being the only store other than those in the West Jersey Press building in the square on Market street. That the only manufacturing plant in the block was the wheelwright and carriage manufactory and blacksmith shop of Collings, now known as Collings Carriage Company, which is on Front street, north of the West Jersey Press Building. That about the year nineteen hundred and one, one Eldridge R. Johnson acquired title to the property on Front street, one hundred and eighty feet north from Market street, and erected thereon a factory for making talking machines and thereafter, in his name or in the name of the Victor Talking Machine Company, or some other person, acquired, as deponent is informed, the entire northern half of the said block bounded by Front, Second, Market and Cooper streets for the Victor Talking Machine Company and the factory buildings have been gradually increased. That prior to the year nineteen hundred and five the factory of the Victor Talking Machine Company was run without jar or vibration or unusual noise and without annoyance to this deponent or damage to deponent's property. That in the year nineteen hundred and five the Victor Talking Machine Company erected a large power house on its land about eighty-two feet north of the northerly line of deponent's said lot in the said block and installed therein very large engines, dynamos and generators for the purpose of supplying electric power to run machinery in the buildings of the Victor Talking Machine Company, which then extended from that point

north to Cooper street and west to Front street and had been very largely increased in size. That after said engines, dynamos and generators had been installed and commenced running they made unusual noises and caused the buildings in the neighborhood, including said dwelling of deponent, to vibrate with the running of the engines, the vibration being felt at a very considerable distance from the power house. At that time the plant and said engines were only run during the day time. That about Christmas of the year nineteen hundred and five the said Victor Talking Machine Company began operating said plant at night, at first until about ten o'clock, afterwards until about two o'clock in the morning about the first of March until four o'clock in the morning, and since the first of March has operated it continually on week-days from seven o'clock in the morning of the day until four o'clock in the morning of the following day, excepting one-half hour at noon and excepting Saturday night, Sunday and Sunday night.

Deponent further says that while said engines, dynamos or generators are running there is continuous noise and vibration in the house of deponent, the floor quiver and vibrate while you stand on them, the chairs vibrate while you sit in them, the windows of said house rattle, while you sit in them, the windows of said house rattles, the lamp in the store if allowed to be near wire screen jingles against screen. Deponent sitting in his chair in the store is perceptibly jarred. Deponent further says that the continuous vibration caused by said machinery, if continued, will render his dwelling house unsafe and uninhabitable. That at night upon going to bed the noise and rumble of the machinery sound of falling metal as dies or plates are struck, being unusual, keeps deponent

and his family awake and with the rattle of the windows and vibration of the bed renders it impossible for him or his family to sleep. That deponent's wife has become so nervous that she is unable to sleep at home while said engines and dynamos are running. That on the night of the first of May, nineteen hundred and six, deponent and his wife were compelled to go to the house of a friend and spend the night there in order to get sleep. That the daughter and son of deponent during the running of said machinery at night are unable to sleep and by reason of the loss of sleep deponent, his wife and children are becoming seriously ill.

ISAAC SELIGMAN.

Sworn and subscribed before me this fifth day of May,
A. D. 1906.

REBA A. EVANS,
Notary Public.

STATE OF NEW JERSEY, }
COUNTY OF CAMDEN, } ss.

NATHALIE SELIGMAN, being duly sworn, on her oath says, that she is the wife of complainant, Isaac Seligman. That they have lived in the building 117 Market street since the year eighteen hundred and seventy-eight, occupying it as a residence and store. That prior to the installation of the machinery in the power house of the Victor Talking Machine Company, just north of the property of complainant, the plant of the Victor Talking Machine Company was operated without any noticeable jar or vibration in the house in which the deponent resides and without any unusual noise at night. That after

the installation of the machinery in the new power house, when said machinery was in operation, the house occupied by deponent vibrated, windows rattled and the noise was annoying. That in the year nineteen hundred and five the Victor Talking Machine Company began operating said machinery at night. The vibration of the house increased and the noise being unusual at night was irritating and annoying. That since about the first of March, nineteen hundred and six, the Victor Talking Machine Company has continued the operation of said plant until about four o'clock in each morning, excepting Sunday and Monday morning. That since about March first, nineteen hundred and six, deponent has not been able to sleep because of the noise and jar and vibration of the house, windows and beds caused by the running of the engines and machinery of the Victor Talking Machine Company in the new power house. That deponent has become so nervous from the annoyance so caused that she is compelled to go away from home to sleep excepting Saturday and Sunday nights.

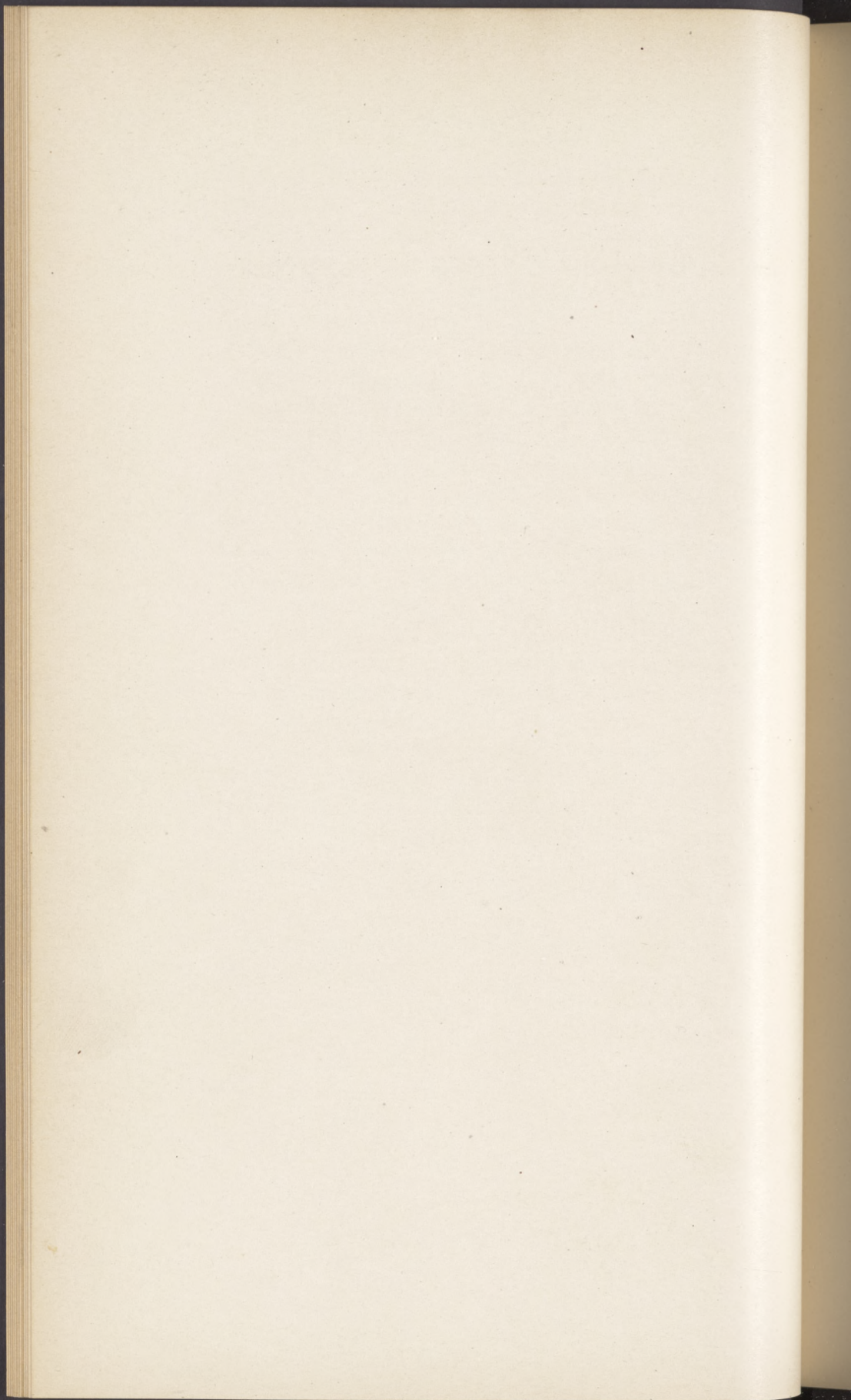
Deponent while she is at home with her family is compelled to sit up every night said machinery is running and wait until four o'clock in the morning for said machinery to stop running, so that they can go to bed and sleep.

MRS. NATHALIE SELIGMAN.

Sworn and subscribed to before me this fifth day of May, A. D. 1906.

REBA A. EVANS,
Notary Public.





NEW JERSEY
Court of Errors and Appeals

March Term, 1907.

No. 67.

ISAAC SELIGMAN, (Complainant) Respondent, vs. VICTOR TALKING MACHINE COMPANY, (Defendant) Appellant.	}	Appeal.
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Brief for Respondent.

The complainant occupies, with his family, consisting of his wife, a son and a daughter, a three-story brick dwelling, No. 117 Market street, in the city of Camden. The lot is twenty feet in front by a depth northward of one hundred feet. The property is on the north side of Market street, between Front and Second streets, about the middle of the block. The same block in which formerly lived the late James B. Dayton, Peter L. Voorhees and Abraham Browning. (Case, p. 55.) The front room of the ground floor is used as a cigar store and branch post-office. The balance of the house as a dwelling.

In 1900 Eldridge R. Johnson erected a new machine shop at 120 North Front street (p. 145) ; a steam engine

and boiler were installed at the eastern end of the building, which was nearly due north from complainant's property. In 1901 The Victor Talking Machine Company was incorporated. It made additions to the building and finally acquired title to the north half of the block bounded on the north by Cooper street, east by Second street, south by Market street and west by Front street. It tore down the houses on Cooper street and erected thereon a building for manufacturing records and installed machinery. This was in the summer of 1905 (p. 149). Plans were prepared for a new power plant and it was erected immediately to the east of the first factories, on the side of 114 to 120 North Front street (p. 149). In the new power house was put boilers on the first floor aggregating some 600 horse-power, and on the second floor engines and dynamos direct connected two engines and dynamos aggregating 350 horse-power (p. 150).

"The Victor Talking Machine records are flat discs "of approximately one-eighth of an inch thickness, varying in diameter from eight inches to twelve—eights, tens and twelves—having thereon the various reproductions, such as band music, voices of grand opera artists and such records incident to the talking machine "business" (p. 153).

These records are made under hydraulic pressure, in hydraulic presses (p. 175). The material for making these records is placed between two steel dies weighing 40 lbs. each, heated, placed in the press; after pressure dies are taken out and dropped about six inches on a small table with a cast iron top, to loosen the dies. It takes two or three minutes for a completed operation, there are probably 120 to 125 presses in operation, seventy of which are operated by dropping the steel dies on the iron table (pp. 176-177 and 178).

About Christmas, 1905, the Victor Talking Machine Company began operating at night, until about ten o'clock, at the beginning of February until two in the morning and between the first and fifteenth of March

they continued the operation until four o'clock in the morning (pp. 39, 41, 116, 126, 127, 363).

The treasurer, at page 167, says the night shift goes on at five in the afternoon, working until four in the morning. The answer, bottom of page 8, admits the facts.

On May 7, 1906, the running of this plant at night, the vibration and noises of the engines and dynamos and the noise of the machinery preventing complainant and his family from sleeping and causing illness, the complainant filed the bill in this cause praying, among other things, an injunction restraining the defendant from so operating its manufacturing establishment as to create disturbing noises at night.

The answer denies that the running of the engines, dynamos and machinery created noises that are unusual and ill-timed, and avers (p. 9) "that if the said complainant and his wife and children are prevented from obtaining needed rest and sleep at night it is not due to and does not result from the operation by the defendant of its plant and said engines, dynamos and generators, or if the said complainant and his family are so disturbed at night by said operation, by this defendant of its said plant, it is because the said complainant and his said family are unduly nervous and are disturbed without sufficient cause.

At the hearing there was clear proof of the noise and vibration from the defendant's plant at night.

Defendant's letter, *Exhibit C. 2*, was as follows:

"CAMDEN, N. J., April 12, 1906.

Mr. Isaac Seligman,

117 Market Street, Camden, N. J.

DEAR SIR: Your favor of the 10th inst. is at hand and we have noted its contents. We are now erecting a new building to which we expect to remove the generators which you claim are

causing you annoyance. We shall do this as soon as practicable.

Very truly yours,

VICTOR TALKING MACHINE COMPANY,

ALBERT C. MIDDLETON,

B/A. C. M.

Secretary."

The defendant's experts all testified to the noise of the machinery and the vibrations.

It appears from *Whitman's testimony* (p. 276) that the engines on the second floor of the power house were so constructed that the centre lines of the cylinders of the engines were north and south and the centre lines of the generators and engine shafts were east and west at right angles, one engine turning at 195 to 200 revolutions a minute, the other at 210 revolutions per minute; that at a test made May 31, 1906, the vibrations in the Prettyman house, 121 Market street, were five one-thousandths of an inch (pp. 296-303). And the vibration and noise of the machinery is only such as is incident to all engines and dynamos of that class (p. 305). He was unwilling to say whether the vibration would be greater because the engines and dynamos were on second floor; his judgment was that it would not, but he had not thought much about it (p. 309).

Hart (p. 320) says the vibrations in the Prettyman house were of an average of one one-thousandths of an inch, two hundred per minute (p. 320), that the vibrations in Lambert & Todd's machine shop at night were twice as great as in the Prettyman house (p. 330).

On June 1, between 5.30 and 6.30 P. M., the vibrations in the Prettyman house were only one-half of what they were at 2 A. M. At page 339, witness concludes that about one-half the vibration at night was caused by the Victor plant.

The vibrations measured by the instrument might be the difference between two different vibrations, or the sum of two (p. 351).

The complainant says the vibrations were felt just as soon as the machinery went in motion on the second floor of the power house and the vibrations stopped just as soon as the machinery stopped (p. 377).

Mr. Smith, who made experiments in complainant's house, says (p. 401) :

"Ques. Did you observe vibrations in the Seligman home by vibrations in the body?

Ans. I noticed a very slight vibration which was very continuous, but under the exact circumstances when I took it, I was not there long enough for it to become unpleasant; but I could easily see how it would be unpleasant as any continued vibration no matter how slight, has an effect upon the nerves that sort of unstrings one; that is the only expression I know to use. In addition to that question I would simply say what I observed myself what caused the trouble was the sound vibration, which was most annoying to me personally."

He says (p. 395) that he could tell by the sound, the hum of the dynamos and the exhaust from the exhaust pipe when the Victor Talking Machine Plant was in operation, and the sound disappeared when the plant shut down, and, at page 400, that when the Victor plant stopped operating there was apparently no movement of the light beam except under some unusual circumstances as a trolley passing or something of the kind.

He says (pp. 382, 383 and 384) the vibrations were one twenty-two-hundredths of an inch, the amount increasing and decreasing slightly in different periods, indicating that there were two engines running of a little different speed, 190 vibrations a minute, at times a little above 200, the vibrations were long and short, indicating two engines.

At pages 392 and 393 this witness expresses the opinion that the engines, being in the second story, might make considerable greater vibrations than if on a concrete base; it is possible that there might be no difference, but that there could not be less vibration.

The complainant, at pages 40, 41, 43, 47, 65 to 69, his wife, at pages 100-101, his daughter, at page 115, and his son, at pages 123, 125 and 127, testify as to these noises and vibration and its effect upon them.

Melvin M. Garrison, living at No. 115 Market street, adjoining complainant on the west, at page 97 testifies as to the noises and vibrations and their effect upon him and his family, and their testimony is practically to the same effect as is the testimony of Joseph Hoey (pp. 79 and 80) and Mary Fitzgerald (p. 88), who live on Second street, near the middle of that block. And also the testimony of Richard M. Pancoast (p. 121), A. Edith Rogers (p. 81) and John B. Adams (pp. 83-85), who live in adjoining block towards the east.

Of the defendant's witnesses:

Florence H. Savage, 127 Market street (pp. 200-201), says she has not observed anything of any annoyances to her, and her sleep has not been disturbed; that she told Mrs. Seligman she noticed it, but that it did not bother her; that her business takes her away most of the day and very often in the evening during the busy season from September to July.

Joshua E. Borton, 113 Market street (p. 205), that he is there only in the daytime; busy half of the time at bank, of which he is the president; hears a little of what seems to him to be a whirring sound.

Lewis Starr, No. 111 Market street (p. 209), busy lawyer; only there in daytime; when the windows are open there is a sort of rumbling noise and a sort of whirring noise.

John G. Horner, 111 Market street (p. 211), busy lawyer; only there in the daytime; noticed at times a noise, rather a puffing noise, sounding like the exhaust of a steam pipe, and also a rumbling noise something like the noise incident to the running of machinery.

Henry E. Morgan, 123 Market street (p. 215), electrician; does work for defendant. "I hear the exhaust, a kind of concussion of the exhaust steam as you would from any engine, and (p. 219) the noises observed

were only what you would hear from any ordinary dynamo or engine." He explains this as "Why, a kind of concussion from all exhausts; you can hear it in the air, and it kinds of jars on the ear a little; then there is a commutator on the dynamos that makes a kind of a little roar. That is about the only way I can describe it." He says (at p. 222) he can tell from the noise when the Victor plant is in operation.

John F. Joline, 109 Market street (p. 223), a lawyer; busy; only there in daytime; hears noises when doors are open that do not disturb him in his business.

Charles P. Lippott (p. 230), lives in Morgan house, No. 123 Market street; works for Morgan; has never been disturbed; sleeps there Sunday nights and some of the other nights.

Mary Prettyman, 121 Market street (p. 233), has observed neither vibrations or noises.

Leon Miller, 121 Market street (p. 236), has noticed neither vibrations nor disturbing noises; formerly lived at 125; did not notice them there; is a teamster; works all day in open air, and sleeps well at night.

Joseph Matlock, 125 Market street (p. 238), has not noticed vibrations; is not disturbed by noises; hears a sort of whizzing sound if he is particularly looking for it; brother works for defendant.

Frank Sage, 125 Market street (p. 240), has not been disturbed by noise or vibrations.

William Patterson, 121 Market street (p. 242), is not disturbed by noise or vibration; is a railroad conductor; works at night; sleeps in daytime.

Margie Chandler, 111 Market street (p. 249), has not observed vibrations nor been disturbed by noise.

John A. Riggins, 127 Market street (p. 252), lawyer; heard no noises and has not noticed vibrations.

M. Leon Berry, 127 Market street (p. 260), lawyer; noticed no vibrations and observed no noise from the Victor plant.

Martin H. Noll, 128 Cooper street, electrician; tenant

of defendant; observed no vibration; not disturbed by noises.

Henry G. Miles, 101 North Second street (p. 247), has not been disturbed by any noises from the Victor plant.

Ida Hires, southwest corner Second and Cooper streets (p. 259), tenants of defendant; has not been disturbed by any noises from the Victor plant.

There is no question but that complainant and his family, in 117 Market street, and Garrison and his family, in 115 Market street, adjoining on the west, are disturbed by noises and vibrations at night.

That is equally true of Joseph J. Hoey, at 105 North Second street, and Mary Fitzgerald, at 107 North Second street, adjoining on the north. These two houses, 105 and 107 North Second street, are built together, as are also 115 and 117 Market street. These vibrations are noticed in the building 106 Market street, diagonally across from 115 and 117 Market street, on a line with engines in question. (Wolverton, p. 134.)

Mr. Meirs, at page 104, and *Mr. Read*, at page 108, both counselors of this Court, testify to vibrations in complainant's store.

The power plant vibrates; the building inspector of the city of Camden found there was a vibration above the first floor, and notified the defendant to brace that portion of the wall that they had cut loose from the stack (p. 376).

Dr. Hart says (p. 343) if the foundation of the engine vibrates, the vibrations in the adjacent earth depend upon the character of the earth—might vibrate three or four times as rapidly—possibly half as fast—possibly one hundred times as fast as the engine. Consequently, there must be some quality of the earth or mode of construction of the buildings that causes these vibrations and noises at 115 and 117 Market street and 105 and 107 North Second street to be more noticeable and annoying than in the other buildings. By the testimony they appear to decrease from these centres. *Bor-*

ton (at 113) hears them. *Starr*, in front of 111, hears them when window is open. *Homer*, back of 111, hears them. *Joline*, at 109, back, hears them when door is open. *Archer*, at 105 (p. 256), does not notice them. *Tomlinson*, at 119 Market street (p. 139), the old office of Peter L. Voorhees, felt the vibration and heard the noises, but they were not annoying. *Mary Prettyman*, *Leon Miller* and *William Patterson*, at 121 Market street, have either not noticed or been disturbed by the vibrations or noise.

Harvey E. Morgan and *Charles L. Lippott*, 123 Market street. Morgan can tell from the exhaust when the plant is in operation, and neither have been disturbed.

Joseph Matlock and *Frank Sage*, 125 Market street. Matlock hears sounds if he is particularly looking for it; neither are disturbed by vibration or noise.

John A. Riggins and *M. Leon Berry*, 127 Market street, noticed no vibrations; heard no noises.

Judge Hare says, in his opinion in the case of *Harri-son v. St. Mark's Church*, "The truth is that a casual or uninterested observer can no more predict or account for the seemingly wayward course of the vibrations that constitute sound than he can tell where the undertow renders it dangerous to venture into the surf or than the mariner can anticipate which of the coming seas will rise above the rest and break on board his vessel.

There was a wrong installment of engines and dynamos—they were parallel. An arrangement one in one way, and one in another would have balanced the vibrations in a measure. *Hart* (p. 344).

The defendant made no proof to sustain the averment of the answer that complainant and his family are unduly nervous.

In the absence of proof, the presumption is that all citizens enjoy a normal condition of mind and body.

Board of Health vs. Lederer, 52 N. J. Eq. 678.

It is, no doubt, true that the complainant and his family, having suffered loss of sleep five nights in the week until four o'clock in the morning, because of the

continuous vibration of the house and furniture and the noise from the operation of defendant's plant, are nervous; any person confined to such a house, enduring such an annoyance, would be; but that the effects described were mental or imaginary we cannot agree with the Vice-Chancellor. To the persons, they were physical and real.

The injury is to complainant's home, dwelling and family. He and his family are entitled to rest and sleep. They are entitled to protection against the greed of complainant, in its work in hours of the night usually devoted to sleep in order to produce enough toys to meet the demand of a market created by passing fancy and expert advertising methods.

The right of the citizen to enjoy the whole of his house as a dwelling, uninterrupted and without nuisance, is illustrated by some of the English cases.

Crumph vs. Lambert, *L. R. Eq.* 409, in which an injunction was granted to restrain the issuing of smoke and effluvia from a factory chimney and the making of noise in the factory, although it was situated in a manufacturing town, it being proved that such smoke, effluvia and noise were a material addition to previously existing nuisances.

Walker vs. Brewster, *5 L. R. Eq.* 25, in which an injunction was allowed against holding public exhibitions whereby a nuisance may be occasioned to the annoyance and injury of the plaintiff. The things complained of were bands of music and confusion incident to fetes Monday and Friday evenings.

Broder vs. Saillard, *2 Chancery Division* 692, in which Sir George Jessel says: "I take it the law is this, that a man is entitled to the comfortable enjoyment of his own dwelling-house. If his neighbor makes such a noise as to interfere with the ordinary use and enjoyment of his dwelling-house so as to cause serious annoyance and disturbance the occupier of the dwelling-house

is entitled to be protected from it." In this case an injunction was allowed to prevent the defendant from keeping horses in a stable connected with his own dwelling-house.

Sturges vs. Bridgeman, L. R., 11 Chancery Div. 852. A confectioner had, for more than twenty years, used a pestle and mortar in his back premises, which abutted on the garden of a physician, and the noise and vibration were not felt as a nuisance and were not complained of. But in 1873 the physician erected a consultation room at the end of his garden, and then the noise and vibration became a nuisance to him. He accordingly brought an action for an injunction. Held (affirming the decision of Jessel, M. R.), that the defendant has not acquired a right to easement of making a noise and vibration, and the injunction was granted.

Reinhardt vs. Mantasti, 42 Chancery Div. 685, in which the defendant, who kept a hotel in London, put up a stove—part of a kitchen—in the cellar, the heat from which rendered the cellar of an adjoining house unfit for storing wine. Judge Kewitch stated: "The principle applied is that a man must not use his own so as to injure his neighbor's." The stove was of ordinary character and well constructed and divers precautions taken to prevent its being obnoxious. "It has injured the cellar so that plaintiff cannot any longer store wine there, although he might keep there what is required for daily use. One ordinary use of a cellar in a private dwelling house is gone." The judge further states that judgments containing passages among others: "The unwillingness of the Court to interfere at the instance of a plaintiff, who, from ill-health, or from other cause engendering fastidiousness, complains of that to which his neighbors, however, reluctantly find themselves compelled to submit, must be read in connection with the particular case under consideration and as adhering to those principles

and rules of law which the judge must be credited with bearing in mind, although not repeated and referred to."

The application of the principle governing the jurisdiction of the court in case of nuisance does not depend upon the question whether a defendant is using his own reasonably or otherwise; the real question is: "Does he injure his neighbor?"

In *Braender vs. Harlem Lighting Co.*, 2 N. Y. Sup. 245, Supreme Court, special term, New York county, defendant operated light station before plaintiff purchased house, but subsequently erected an addition and placed therein a 400 horse-power engine and a 16-foot cog-wheel. The large engine and wheel caused a jar and an annoying noise after night without causing permanent injury to the building. Defendant, under contract, was lighting part of the city. Held, that while defendant's business was a nuisance to plaintiff and, as such, should be restrained, in view of the fact that compensation in damages could be made and loss to defendant and inconvenience to the public would result from its immediate suspension, time should be given to defendant to remove its plant before the judgment should take effect.

THE NOISE OF A BUSINESS WHICH IS LAWFUL AND USEFUL, AND EVEN NECESSARY, MAY BE A NUISANCE WHEN THE NOISE IS PRODUCED DURING UNREASONABLE HOURS.

Amer. & Eng. Ency. of Law, 2d Ed., Vol. 21, page 696.

In *Feehey vs. Bostoldi*, 30 Atlantic Reporter 1101, V. C. Bird allowed an injunction restraining the use of a piano after 9 P. M. He states "that the defendant has a right to the ordinary and proper use of a piano in his saloon, and his customers have a right to dance to the music as expressed by such instrument there can be no doubt. There is no distinction between citizens in this respect; every citizen is permitted to possess himself of

the instrument and also to enjoy a dance, but it is clearly well settled that every citizen, in exercising his individual rights in the use of his property, is limited to such use as will not interfere with the reasonable rights of others in the enjoyment of their property.

In *McDonald vs. Newark*, 15 *Stew.* 136, Chancellor Runyon enjoined the city from using or authorizing the use of streets in front of or in the vicinity of complainant's houses as a market place or stand for the sale of goods. The noise from the market place disturbed the sleep of the complainant and his family.

In *Thompson vs. Behrman*, 10 *Stew.* 346, Chancellor Runyon allowed an injunction restraining the defendant for so using a shooting gallery as in any way to annoy complainants or their families by the noise of the shooting, or the smoke therefrom.

In *Force and others vs. Dahn*, 10 *N. J. Law Journal* 252. A butcher owned a dog which had been annoying the neighbors by his nightly barking. On an application for restraint an order to show cause was allowed.

The injunctions against Sunday ball playing allowed in New Jersey are all on the ground that it is doing a lawful thing at a time when neighbors are entitled to rest.

Cronin vs. Bloemcke, 13 *Dick.* 313, 1899, *V. C. Emery*.

Gilbough vs. West Side Amusement Co., 19 *Dick.* 27, 1902, *V. C. Pitney*.

Seastream vs. N. J. Exhibition Co., 1 *Robbins* 78, 1904, *V. C. Pitney*.

And an examination of *Rogers vs. Elliott*, 146 *Mass.* 349, cited by the defendant below will show that in that case the plaintiff by reason of a sunstroke was peculiarly susceptible to the noise caused by the ringing of

a church bell, and the plaintiff's claim rested upon the injury done to him on account of his peculiar condition.

In *McCaffrey's appeal*, 105 *Penna.* 253, cited by defendant below, the cause was referred successively to an examiner, to a master and to a commission of three experts, the latter appointed by the court of its own motion. The evidence was so conflicting that the court, while refusing immediate relief by injunction, retained the bill with leave to the complainant to apply for a further order should circumstances render it expedient. Each party to pay his own costs and one-half of the costs of the commission of experts.

An examination of such of the cases cited in the note to statement, quoted above from 21 *Am. & Eng. Ency. of Law*, p. 696, as were accessible, resulted as follows:

Hill vs. McBurney Oil & Fertilizer Co., 112 *Georgia*, p. 789; 38 *South Eastern*, p. 42.

In that case Chief Justice Simmons refers to an opinion in a Georgia case, by Judge Lumpkin, in which the judge says: "That we know of no noise, however discordant, that may not by habit be converted into a lullaby, except the braying of an ass or the tongue of a scold," and follows: "With this statement we cannot profess that we entirely agree, but if we did so, we would still think that lullabys are usually not desirable after one is wrapt in slumber, and might become a nuisance at 4 or 5 o'clock in the morning.

Peacock vs. Spitzelberger, *Court of Errors of Kentucky*, March 6, 1895, 29 *South Western* 877.

A judgment of the lower court was reversed and the cause remanded with instructions to the court below to perpetually enjoin the defendants from doing any work in a blacksmith shop between 8 P. M. and 6 A. M. that will make a noise or sound sufficient to disturb any persons in plaintiff's houses or either of them.

Shaw vs. Forging Co., 10 Ohio Decisions 107, decided, in 1900, against a manufacturer of carriage hardware and forgings, the judge said at page 110:

"As to the entire operation of this plant there can be no great dispute about that. There is a time for work and a time for rest, and where one seeks to work all the time to the discomfort and disquietude of his neighbor and to a deprivation of that natural rest to which the neighbor is entitled, there is a material interference with the neighbor's rights for which he is entitled to a remedy."

In this case an injunction was granted to stop the plant between the hours of 8 P. M. and 6 A. M.

In *Harrison et al. vs. St. Mark's Church*, 3 Weekly Notes of Cases, pp. 384-389, Philadelphia. The ringing of church bells was restrained. The Court said, "As the atmosphere cannot rightfully be infected with noxious smells and exhalations, so it should not be caused to vibrate in a way that will wound the sense of hearing, and held it was its duty to protect the aged and infirm, because the aged and infirm are always with us.

In *McKeon vs. Sec*, 51 N. Y. 300, an injunction was allowed restraining the defendant from sawing and manufacturing marble and carrying on the business thereof in the building and premises last above mentioned and adjoining the plaintiff's premises on the north, by means of the propulsion of machinery therein as mentioned in the complaint, by force by steam, in the manner in which and with the effect with which such machinery has heretofore been propelled by steam as set forth in the complaint; and also from carrying on any other kind of business in such building and premises by means of the propulsion of such machinery by the force of steam applied and used in the manner set out in the complaint so as to interfere with the use and enjoyment by the plaintiff of her aforesaid premises or

injure the same or produce the injurious effect set forth in the complaint, and found by this Court in its decision at special term as facts."

In *Durman and Berger vs. Repp*, 50 Md. 516, defendants, brewers, changed the manner of conducting their business, and introduced into their building adjoining that occupied by complainant steam machinery of a formidable character, and placed the same with its pipes and attachments alongside and in the direct contact with the wall of the building of the complainant. The complaint was of the noise of the operation of the machinery, which became so disagreeable and offensive to the complainant and his family residing in the house that with due regard to their health and comfort it will be impossible for them to remain in the house; complaint was also made of the vibrations and jarring caused by the operation of the machinery. An order granting an injunction was affirmed.

In *Robinson vs. Baugh*, 31 Mich. 290, an injunction restraining the operation of a forge, because of the smoke and soot, noise and jar, was affirmed.

The decree brought up by this appeal should be affirmed.

March term, 1907.

FRENCH & RICHARDS,

Solicitors for and of Counsel with Respondent.

NEW JERSEY COURT OF ERRORS AND APPEALS.

Between
ISAAC SELIGMAN,
Appellee (Complainant),
and
VICTOR TALKING MACHINE COM-
PANY,
Appellant (Defendant).

BRIEF FOR APPEL-
LANT.

STATEMENT OF THE CASE.

I.

THE PLEADINGS.

This case was tried June 25 and 26, 1906, at Camden Chancery Chambers, before Vice Chancellor Garrison, on bill, answer, replication and proofs.

The bill alleged that the defendant's operation of certain engines, dynamos and generators caused the com-

plainant's house and its contents to vibrate, and created unusual and ill-timed noises, and was a nuisance. That prior to the installation of the certain engines, dynamos and generators in the certain power house described in the bill, the defendant had operated its plant in an unobjectionable manner and without the jar, vibrations and noise complained of. (Page 4.) It prayed that the defendant might be restrained from so operating its said manufacturing plant and said engines, dynamos and generators, as to jar complainant's dwelling house and its contents and as to create disturbing noises at night. (Pages 4-5.)

The answer denied that the operation of the said engines, dynamos and generators created noises that were unusual and ill-timed, and denied that such operation caused the dwelling house of the complainant and its contents to vibrate, and that the operation of the said machinery constituted a nuisance. The answer alleged that the defendant operated its plant in a proper and legal manner, and that if the complainant and his family were disturbed, as alleged in the bill, it was because they were unduly nervous, and were disturbed without cause, so far as defendant's plant was concerned. (Pages 8-9.)

Decree for complainant was entered July 25, 1906, and enjoined the defendant from operating the machinery complained of after the hour of 10.30 P. M. and prior to 6.30 A. M. (Page 20.)

From that decree this appeal was taken.

II.

THE FACTS.

The complainant is the owner of a dwelling house located at No. 117 Market street, Camden, N. J., in the block bounded by Market street on the south, Front street on the west towards the Delaware River, Cooper street on the north, and Second street on the east. On the northwesterly half of this block, and fronting on Cooper and Front streets, is located the manufacturing establishment of the Victor Talking Machine Company. The relation of the complainant's property to the defendant's property is indicated on the map marked "Exhibit D1." The machinery, the operation of which is complained of, is located northwestwardly of the complainant's property, on the second floor of a brick building indicated on the map (D1) by the words "power house" and an X in lead pencil.

The physical situation surrounding this block is this:

On Market street, running from the ferry station on the river eastwardly are two lines of street car tracks on which cars are run to Trenton, Moorestown, Mount Holly and Merchantville. (Page 70.) Cars were operated on these tracks from about five o'clock in the morning until 1.30 the next morning, passing every few minutes. Heavy wagons continually pass up and down Market street, going to and from the ferry. Directly across the street, southward from the Seligman property, is a garage for two automobiles.

On Second street two lines of trolley tracks are also operated.

In the neighboring blocks to the westward, towards the Delaware River and southward, are large manufacturing plants described in the testimony and exhibited on map "Exhibit D3." Some of these plants have been run at night. (Pages 51, 271, 272.)

North of this block is an open public square.

The complainant moved into his property in 1878 and purchased it in 1888. In 1878 the neighborhood was partly residential and partly manufacturing. (Pages 31, 48.) At that time there was in this block, besides residences and offices, Chew's printing establishment, Collings Brothers' carriage factory and a blacksmith shop at the back of complainant's lot. (See his testimony, pages 31, 32, 33.) The general character of the neighborhood, and the number and kind of manufacturing plants there located at the time of the trial is indicated on the map "Exhibit 53." (Pages 48 to 61.) The complainant has used a part of his house for manufacturing and selling cigars, and for a sub-post-office. (Pages 60, 61.)

The Victor Talking Machine factory was commenced in a small way by E. R. Johnson, prior to 1899. (Page 157.) He first began to manufacture his machines in a small one-story building which was then the blacksmith shop above mentioned. He there also carried on a general repair machine shop. He had a fifteen horse-power steam engine and employed about twenty-five hands. This building is indicated on the map "Exhibit D1" (page 151) by a lead pencil parallelogram and the letter H (page 181) in the center of it, and was located directly to the north and not more than eighty feet from the rear of the complainant's house (page 144), and between it and the power house complained of in this

suit. This plant was frequently operated at night, and about the year 1899-1900 was operated that winter day and night continuously by a double force of men. (Page 156.) By the year 1900 the business had so increased that this plant was inadequate, and ground was purchased on Front street and machinery installed there.

The Victor Talking Machine Company was incorporated in 1901. Additional property was purchased, and a much larger manufacturing plant was erected, and from that time on more property was purchased and additional machinery installed and operated, until by June, 1906, upwards of a million and a half dollars had been invested in this block, and the business had acquired immense proportions; the payroll was upwards of \$13,000 a week, and over 1,200 hands were employed. (Pages 168-169.) The Victor Company sold its products to more than 10,000 different merchants throughout North and South America, the Philippines and China. (Pages 168 and 265.)

In 1904 it was found necessary to further increase the capacity of the plant. Theretofore a 125 horse-power engine had been sufficient; in 1905 the power house marked X on "Exhibit D1" was completed, and in the fall of that year two boilers aggregating 600 horse-power were installed on the ground floor, and two engines and dynamos aggregating 350 horse-power were set up on the second floor. (Page 150.) This power plant began to be operated in the day-time in the latter part of August, 1905. (Page 155.) In October, 1905, the defendant commenced operating the plant at night until ten o'clock. On January 22, 1906, the night operation was extended to twelve o'clock, and after that to still

later hours until April, when the night operation was kept up as late as four o'clock in the morning.

The product of the company's factory is a talking machine consisting of a wooden box, in which is fixed a clockwork motor for the turning of a circular table upon the top of the box. They also make sound boxes and records and the accessories necessary to constitute a complete talking machine. (Page 153.) The records are flat, circular discs. (Page 153.)

By the cheapening of the cost of the records, and a clever system of their simultaneous distribution, inaugurated in December, 1905, the demand for the records was enormously increased and necessitated the operation of the plant at night to fill the contracts and obligations of the company. (Pages 163, 265 and 266.)

The night operation was solely for the production of records. (Page 165.) The machinery used was only that producing records; the other machinery in the plant, useful in making the other products of the company, was not operated at night. The night operation of the plant was, therefore, much less noisy than its day operation. (Page 166.) Out of more than 1,200 hands, only 150 were employed in the night work. (Page 167.)

The character of the business is such that the demand for records has always fallen off in the months of June, July and August of each year, and this period is a slack time in the operation of the factory. The night operation of the plant is to the disadvantage of the defendant in economy. (Page 267.) By June, 1906, it became unnecessary to operate the plant at night in order to fill the contracts of the company, and the night operation ceased on June 2d.

By the fall of 1905, although the machinery located in the power house X had only been operated for a short time, it was determined that the power there supplied was inadequate to the business, and plans and preparations were made for the erection of a new and larger power house on Cooper street. The location and dimensions of the new power house are indicated on map "Exhibit D1" by the wording "new power house." It fronts on Cooper street, about midway between Second street and Front street. To this new power house the defendant was arranging to move all of the engines and dynamos and machinery on the second floor of the power house X on map "Exhibit D1;" that is, all the machinery of which Mr. Seligman complained. (Pages 153, 193 and 194.)

To ascertain with exactness the amount of vibration to which complainant's house was subjected, tests were made by scientific men called by both sides. They used two sets of instruments for ascertaining vibration of the earth and buildings—one known as an optical lever and the other as a seismograph.

Defendant's witnesses had to make their tests outside of the Seligman house. Tests were made on the second floor of premises No. 121 Market street, being the first building of more than one story to the eastward of complainant's property and directly south of the power house complained of; this was the Prettyman house. Vibrations in this house, in a north and south direction, in the day-time, when the Victor and other manufacturing plants in the neighborhood were in full operation, averaged one one-thousandth (1-1,000) of an inch, with a maximum double that; at night, between nine P. M. and two A. M., when the Victor plant was running, the vibrations averaged thirty-five one-hundred thousandths

of an inch, with a maximum double that; between 5.30 and 6.30 A. M., with the Victor plant not running, the vibrations averaged twenty one-hundred-thousandths (20-100,000) of an inch; the difference, or fifteen one-hundred-thousandths (15-100,000) of an inch, was the vibration due to the running of the Victor plant. (Pages 338, 339.) The largest of these vibrations was not perceptible to the senses, and could not be observed by ordinary physical sensations. (Pages 297, 298.)

The moving parts of the machines in the power house complained of had their action in a north and south direction, and all the experts testified that vibrations would be in the line of the force causing them. (Pages 231, 232.) Tests were made in the Prettyman house for vibrations in an east and west direction, and resulted in showing these vibrations to be slightly larger than those in a north and south direction. (See page 322.) The maximum effect in a north and south direction was two one-thousandths (2-1,000) of an inch; in an east and west direction, the maximum effect was three one-thousandths (3-1,000) of an inch (page 322), indicating that the vibration in an east and west direction, and against the line of the force exerted by the machinery in the power house, were larger than those emanating from the power house. (Pages 322, 357.)

The complainant's scientific expert used similar instruments on the second floor back in the complainant's house. There the vibration in the afternoon, in a north and south direction, when all business activities were in operation, was one twenty-two-hundredths (1-2,200 of an inch. (Page 382, lines 30-35.) When trolley cars were passing there was a very material increase in the vibration (page 384, line 8); the instrument registered a

vibration during the passage of a trolley car four times as great as when the car was not passing. (Page 385, lines 21-32.) There was no test made by the complainant's expert inside his house at night nor when the Victor plant was operated alone.

From these tests, it was demonstrated that there was more vibration in the Prettyman house, 121 Market street (which was nearer the power plant) than there was in the premises of the complainant, 117 Market street. As will afterwards appear, no residents of the Prettyman house, which was used for a boarding house, ever observed any vibrations there.

The occupants of almost every building in immediate proximity to the defendant's plant were called as witnesses. Some of these persons were in these buildings only in the day-time; others of them both day-time and night, and other of them only at night.

The complainant's witnesses who said they were seriously affected by the operation of the plant were his own family, residents of No. 117 Market street, and a resident of 115 Market street. Complainant's family consisted of himself, his wife Natalie, his daughter Esther, about twenty-five years of age, and his son Joseph, about nineteen. They were greatly disturbed by the vibration and the noise, which they said emanated from the operation of the machinery in the power house X. Although the day operation of this plant commenced in August, 1905, and the night operation in October, 1905 (page 155), they did not notice any vibration or noise from it until about Christmas, 1905. (Page 39.) Their house was vibrated so that lamp chimneys cracked, although the lamp was not lighted at the time; windows rattled; beds shook; chairs moved around the floor, etc. The effect

upon all the family was to make them sick at their stomachs and to greatly disturb them in the day-time and prevent them from sleeping in the night-time.

The witness from No. 115 Market street testified that he and his family were considerably disturbed. A witness residing at No. 107 North Second street was much disturbed, and a witness from No. 105 North Second street was somewhat disturbed. Two others on Cooper street were disturbed to a less extent.

On the other hand, thirteen witnesses residing at Nos. 111, 121, 123, 125 and 127 Market street, and 101 North Second street, and 128 and 134 Cooper street, testified that they were not disturbed by the operation of the plant, day-time or night-time; nine other witnesses, who were occupants of these and other buildings in the block only in the day-time, testified that there was no vibration observable, and that the noise was slight and not noticeable unless special attention was called to it, and that they were not disturbed at all by the operation of the plant. Nineteen witnesses testified they never noticed any vibrations in these buildings.

The Vice Chancellor found as a fact that the machinery complained of was properly installed and carefully operated, and did not cause any more noise or vibration than was necessary in the operation of such machinery. He further found that the day operation of the plant did not warrant a subjection of the defendant to restraint upon the proofs.

He found, in effect, that the night operation of the plant was, as to the complainant, a nuisance, and decreed a perpetual injunction against the defendant from operating the said portion of its plant, being the machinery

in the power house H. "Exhibit D1," from 10.30 at night until 6.30 in the morning.

BRIEF OF THE ARGUMENT.

1. The noise and vibration complained of were temporary in character pending the completion of the final power house to which the machinery complained of was to be removed, and therefore the Court of Chancery had no jurisdiction.

2. The noise and vibration caused by the operation of the plant at night did not amount to a nuisance.

3. The complainant and the three members of his family are not persons of ordinary susceptibilities, but are over-sensitive. Their stories are highly improbable. The annoyances they describe are not related to the operation of the defendant's plant.

ARGUMENT.

I.

The nuisance complained of, if established, was nevertheless temporary in character and the complainant had a complete remedy at law, and equity had no jurisdiction.

It was proven in the case that prior to the commencement of this suit the defendant had commenced erecting a new power house, being a one-story building fronting on Cooper street between Front and Second. To that new power house, so indicated on map "Exhibit D1," they were preparing to remove and install all the en-

gines, dynamos and machinery in the second story of the power house marked X, which was the machinery complained of. (See pages 193-194, also page 44.)

It was further proven that night operation of the plant had ceased some weeks prior to the trial, and that the exigencies of the business would not require the operation of the machinery complained of before September, 1906. The trial occurred June 25 and 26, 1906. (Page 28.)

It was further shown that the defendant company was under no necessity, in order to fill orders on hand, at the time of the trial, to operate the plant again at night, and further, that there was a possibility, if the defendant succeeded in installing machinery in its new power house as rapidly as they hoped, it would not ever be necessary to operate the machinery complained of at night again. (Pages 267-268.)

Under these circumstances there was no occasion for the intervention of a court of equity. A suit at law for all previous damages occasioned by the night operation of the plant would be open to the complainant. Should the company have thereafter operated the machinery complained of at night it would have been but a temporary operation and it was unnecessary for a court of equity to invoke its power to prevent irreparable mischief and vexatious litigation.

In *Lester vs. Mayor, &c., of New York*, 29 *New York Supplement*, page 1,000, the *Supreme Court of New York*, suit was brought by a land owner who was annoyed and whose property was reduced in rental value under the following circumstances: Contractors erecting an aqueduct entered upon a lot adjoining or near the plaintiff's and erected blacksmith forges, steam engines

and various kinds of machinery for the purpose of sinking a shaft in constructing the aqueduct. During the years 1886, 1887 and part of 1888 this machinery was run day and night, Sundays included, causing loud and disagreeable noises, creating smoke, dust and disagreeable odors, to the severe annoyance of plaintiff and his family, reducing the rental value of the property more than one thousand dollars a year. The Court, on appeal, affirmed the judgment below, dismissing the complaint. Judge Follett said:

"Temporary annoyances are almost invariably caused to the owners of lots adjoining one on which new buildings are being erected or extensive improvements made, and in case no trespass is committed and the work is prosecuted with diligence and care, the owners of adjoining lots suffering temporary inconveniences have no legal cause for complaint," &c.

In *Hennessey vs. Carmony*, 50 N. J. Equity, 620, at the bottom, Vice Chancellor Pitney had this to say on the question of the jurisdiction of the Court of Chancery in cases of nuisance:

"The familiar ground on which the extraordinary power of the Court is invoked in such cases is that it is inequitable and unjust that the injured party should be compelled to resort to repeated actions at law to recover damages for his injury. * * * This ground of equitable action is of itself sufficient in those cases where the injury, though not irreparable, promises to be repeated for an indefinite period, and so is continuous in the sense that it will be persevered in indefinitely."

The noise and vibration caused by the operation of the plant at night did not amount to a nuisance.

The annoyance complained of by Mr. Seligman was caused by vibration and noise emanating from power house X when the machinery on the second floor was in operation. The fact to be determined, then, is whether that noise and vibration amounted to a nuisance. Some of the other witnesses, none of whom were members of the complainant's family, testified to the noise made by other portions of the plant, especially by the dropping of heavy metal presses a distance of some inches upon a metal-top table, which is referred to by the Vice Chancellor in his opinion (page 16); *but the noise so made was not mentioned in the complainant's bill, nor referred to in his testimony nor in that of any of his family, and was therefore not a nuisance as to him and cannot form a basis for the decree entered and the injunction allowed.*

SO, THE FACT TO BE ASCERTAINED IS THE AMOUNT AND CHARACTER OF THE VIBRATION AND THE NOISE IN AND AT COMPLAINANT'S PREMISES, NO. 117 MARKET STREET, EMANATING FROM THE OPERATION OF THE MACHINERY ON THE SECOND FLOOR OF POWER HOUSE X.

As to the vibration, the testimony of witnesses who observed it by the senses, without the aid of instruments, is briefly this:

Of complainant's witnesses, Meirs, who has an office at No. 106 Market street, testified that he had been al-

most daily in Mr. Seligman's store. On one occasion, about May 1, 1906, he was in the store where the post-office is, and also went back where cigars used to be made and he then noticed a very appreciable vibration. Mr. Seligman had asked him to make observations. When asked if he had noticed any vibration there prior to that time, he answered, "Well, I noticed there was a vibration there." He seems to have confused vibration with noise, for he says (page 107), "The vibration and throb would not be noticeable at the time a trolley car was going by; the noise of the car would drown it."

Read, who also has an office at No. 106 Market street, testified that when in Seligman's store in April, 1906, Seligman took him in the back building to a little glass-enclosed place back of the store and opened a door there and made an observation. Read then noticed a very perceptible vibration. He described it as the little quiver as of the vibration of a heavy engine or something (page 109). On cross-examination he testified (page 114) that the vibration and jar of a passing trolley car exceeded the vibration when a car was not passing.

Boardman (page 136), who also has an office at No. 106 Market street, says he had often been in Seligman's store, and once he went in there to buy a cigar and sat down on a chair and felt a vibration while sitting in the chair. (Page 137.)

Tomlinson, who has an office in the one-story building, No. 119 Market street, immediately next the complainant's on the east, says he noticed some vibrations and assumed they came from the Victor plant. He says: "The main time that I recall noticing any vibration was

when a representative of the Victor plant called at our office some six weeks ago and was asked to be admitted to the rear office to see if there was any vibration, and I went there and allowed him to go with me, and I then placed my fingers on the window and could feel a vibration there quite perceptible." (Page 139.) This was the office occupied by Judge Peter V. Voorhees. On cross-examination, the witness testified that he didn't remember noticing the vibration at any particular time before the occasion noted, and then only because his particular attention was called to it. This room is nearer the power plant than Seligman's property. (See "Exhibit D3.")

Complainant's witness, Garrison, who occupies 115 Market street, testified as to the vibration as follows (page 92):

"The building seems to vibrate continually."

He then describes the effects upon him. On page 96, on cross-examination, he testified that the vibration was a continual jar.

"Ques. Do the walls vibrate?

Ans. Yes; the whole building vibrates.

Ques. How do the walls vibrate?

Ans. By leaning back you can feel it very plainly."

This house has a party wall with the Seligman house and is itself further to the westward and therefore further away from the power house X (page 395, line 20). Still to the westward of this house are premises 113 Market street. There is the testimony by Mr. Seligman that the walls of his house, No. 117, do not vibrate, and there

is testimony by Mr. Borton, No. 113 Market street, that he never observed any vibrations. We then have the remarkable occurrence of No. 115 Market street between the two with all the walls vibrating and the whole house vibrating. The passing of wagons and trolley cars caused no vibrations, this witness said, so far as he could notice. (Page 97, line 25.)

The testimony of the complainant and the three members of his family is, in effect, that the vibration commenced about Christmas, 1905, in the day-time. Complainant was asked (page 40) what was the vibration that happened in the day-time; he answered, that the lamp chimneys seemed to crack, although the lamp was not lighted at the time (page 75-76), and other things in the house moved to a small extent. He felt the vibration all over his body; the windows rattled; the lamp shade jingled against the grating (page 45); he says that when the south windows of the power house are closed there is not as much vibration (page 46); the vibrations were greater at night than in the day-time; he did not notice any effect upon the dishes in his house (page 47); the walls did not vibrate, although he had tested them with his hand (page 76); the floors vibrated; the window frames vibrated (page 76).

Mrs. Seligman says she noticed a certain vibration when the engines in the power house began to operate in December or January, 1905 (page 99); the vibrations were most terrible at night (page 100); when the Victor plant stopped operating from 12 to 12.30 the vibrations were not then so much (page 100, lines 23 and 29); three lamp chimneys broke in one week; she didn't no-

tice anything about the dishes, because she did not watch the dishes, she only watched their bodies to see how they were feeling (page 101). (The complainant had alleged in the bill that dishes rattled by reason of the vibration. Page 3.)

Esther Seligman says (page 117) that when she was lying on the couch it was as if something was under it, going this way all the time (indicating), just a continual wobble and thumping. This lady sleeps in a room on the second floor front of the house, with windows on Market street. Although her father, when he put his hand on the wall, could not feel any vibration, when she put her hand on the wall she felt a continual throbbing.

Joseph Seligman (page 125) fails to give any description of the vibration in premises No. 117 Market street, although he is lavish in stating the effect upon him and the other members of the family.

Complainant's vibration expert, Smith, said (page 401) that he observed in the Seligman house a very slight vibration.

Of defendant's witnesses, Jay M. Witham, consulting mechanical engineer and the defendant's expert on vibrations (page 298) testified that he had been in complainant's premises eight or ten times. He was there May 31, 1906, and twice earlier in that month; each of those three times he endeavored to see if there were any vibrations in the front room; while standing there, he made his legs rigid with an effort to detect, if possible, any vibration, and did not notice any whatever. Each of these three times was in the afternoon, about two or three o'clock. (Pages 298, 299.)

The complainant's witness, Read, was afterwards called by the defendant. He testified that he had, at the request of defendant's counsel, made observations just before testifying, in premises No. 127 Market street, the rear end of which building is much nearer the power house. He says:

"I did not notice any vibration in the building, but when we opened the door and walked back further in the yard there seemed to be a slight vibration." * * *

He was asked:

"How would you compare the effect upon the premises 127 Market street of the operation of the Victor plant as you observed it this morning with the effect upon the premises of Mr. Seligman that you described yesterday?"

Answer: "About the same."

This testimony was not in any way impeached or weakened. It is but reasonable to conclude, therefore, that observations of persons residing at 127 Market street, as to vibrations, have a direct bearing as to the amount and character of vibrations of 117 Market street.

Berry testifies that he never has noticed any vibration, either on the second floor of 127 Market street, where his offices then were, or on the first floor back, where he studied law for years (pages 262, 263); nor could he observe any change in that respect in the spring of 1906 from what the situation had been theretofore.

Riggins, a law partner of Berry, and whose occupation of offices was concurrent both on the second and the first floor, also testifies that he has never noticed any vibration. (Page 253.)

Other witnesses were called who inhabited the properties fronting on Market street, Second street, and Cooper street—three sides of the block—and these witnesses testified as to vibrations in the respective premises. The testimony of these witnesses indicated that in their respective buildings there was no vibration noticeable at all. The testimony of these witnesses on this point may be found as follows:

From 105 Market street, Archer, page 257;

107 Market street, Joline, page 223;

111 Market street, Lewis Starr, page 209;

111 Market street, John G. Horner, page 211;

111 Market street, Mrs. Chandler, page 251;

113 Market street, Joshua Borton, page 205;

121 Market street, Mrs. Prettyman, page 233.

This lady keeps a boarding house, and her business has not been interfered with nor have any of her boarders complained.

123 Market street, Lippott, page 231;

123 Market street, Morgan, pages 215, 216, 219, 221. This witness runs an electrical apparatus store, and has in stock and sells all sorts of delicate electrical apparatus, porcelain things, bells, glassware, battery jars, shades, etc. Never observed any vibrations. He hangs his alarm clock on the key of the chandelier at night, but it never wobbles or vibrates.

125 Market street, Miller, pages 236, 237;

125 Market street, Matlack, page 239;

125 Market street, Sage, page 241;

125 Market street, Patterson, page 243;

127 Market street, Savidge, page 200;

129 Market street, Lippincott, page 198.

From 101 North Second street, Miles, page 246. This witness became sick with pneumonia May 3, 1906, and was in bed in the rear of his house for several weeks. He testified the house did not vibrate or shake at all.

From 105 North Second street comes Hoey, complainant's witness, who resided there at night. This place is about forty feet from the power house. He says:

"I noticed vibration caused by the Victor Talking Machine plant." (Page 78, line 30.)

Page 79, line 21, he says he was stopped from sleeping by this vibration. "It caused the bed to rock and everything in the room to shake."

Page 80, line 10, he says, "It is customary for me to pin my watch in the bureau there—stick a pin through the top of the watch—and it would shake like a pendulum all night."

"Ques. Would that shake when this machinery was not in operation?"

Ans. No; not when it wasn't in operation it wouldn't."

Page 81, lines 1, 2 and 3, on cross-examination, he was asked: "Did you ever notice your watch when the plant was not running, Mr. Hoey?"

Ans. No; I never took notice of that."

From 107 North Second street, the complainant's witness, Mrs. Fitzgerald. (Page 87.) She lives 25 feet from the Victor Talking Machine place. She says (page 88, lines 2 and 3):

"For a long time the windows and the doors shook, all last night, used to shake all day, in a rattle; and then that stopped; they don't rattle now."

Mrs. Fitzgerald (p. 88, line 3) says that "the windows and doors shook all last night;" but the Victor plant

was not in operation all the night before this witness was testifying. A part of it did operate for a temporary purpose, but stopped at ten o'clock. (Page 170.)

Again, this witness says (p. 90, line 25), in answer to this question:

"Ques. Do the passing trolley cars affect your rest in any way at all?

Ans. Well, it shakes the front windows, but not during the day; it is only late at nights that we hear the windows rattle on the front."

All possibility of doubt as to the amount of vibration in the Seligman house was resolved by the testimony of complainant's expert Smith and defendant's experts Witham and Hart. Using instruments of the same character, and without concurring in the tests, complainant's witness and defendant's witnesses reached conclusions so close as to indicate the accuracy of the experiments. The complainant's witness, however, made out the vibrations from his tests made inside the Seligman house to be even less than the defendant's witnesses made it from tests taken outside and in the premises adjoining on the east. Relying upon the evidence produced by complainant, when all plants were in operation, and without the passing of trolley cars, the floors of the Seligman house vibrated one twenty-two-hundredths of an inch (1-2,200) (page 382); when trolley cars passed, this was increased four times, to one four-hundred-and-sixty-sevenths of an inch (1-467) (page 385). The uncontradicted testimony of defendant's experts was that the vibration of the Seligman house, due to the opera-

tion of the engines, etc., in power house X, was fifteen one-hundred-thousandths of an inch (15-100,000). (Page 339.)

What was the effect of this vibration upon the witnesses residing and sleeping in the neighborhood at night?

The only witnesses on the Market street side of the block who were in any way affected by the vibration day or night were the four Seligmans and Garrison. The testimony of these witnesses as to the occurrences in the premises 115 and 117 Market street is so improbable as to be unbelievable. The extent of the vibration in complainant's house having been mathematically ascertained by his own expert to be one twenty-two-hundredths (1-2200) of an inch, it is incredible that his family should have been affected in the manner and to the extent testified to by him. They were all four sick at their stomachs day-time and night-time, although they did not vomit excepting on one occasion. (See testimony of Joseph Seligman.) The Vice Chancellor found their testimony to be greatly exaggerated and did not rest his finding upon it. The unreliability of the testimony of these witnesses is hereafter discussed. (See page of this brief.)

Nine other witnesses residing and sleeping in this neighborhood, from premises 111, 121, 123, 125 and 127 Market street, all testified that they were absolutely undisturbed by any vibration at night; that they had not observed any, excepting a few who observed slight vibration when trolley cars were passing. (See the testimony of Mrs. Chandler, Mrs. Prettyman, Patterson, Morgan, Lippott, Matlack, Sage, Miller and Miss Savidge.)

On the Cooper street side of the block are the two witnesses for the complainant—Hoey and Mrs. Fitzgerald.

Hoey was somewhat disturbed in his sleep; sometimes he could sleep and other times he could not; he had to get good and tired in order to sleep.

Mrs. Fitzgerald says that they couldn't sleep at her house in the back of the house at all. (Page 88.)

“Ques. Why?”

Ans. Because of the noise of them working at night so much.”

She nowhere says that the vibration kept anybody in her house awake or disturbed their sleep. So, as to Mrs. Fitzgerald, vibration did not disturb her at all.

The only witness on Second street who was disturbed by the vibration at night was Hoey, and how is his testimony useful to the complainant? 105 North Second street, where Hoey sleeps, was within forty feet of the power house. The rear of the Seligman house is more than 100 feet from the nearest point of the power house and still farther away from the engines in the power house, which engines are nearer the Second street end of the power house than they are the Front street end. The vibrations at 105 North Second street might well be greater than those at the Seligman property; but even so, Hoey was not disturbed even remotely as much as the complainant, nor, I submit, was he seriously disturbed by the vibration.

Miles, 101 North Second street, testified that there was no vibration at his house; so, of course, he was not disturbed by any. (Page 246.)

As above indicated, complainant's witness, Mrs. Fitzgerald, does not testify as to being disturbed by any vi-

brations at night. No other witnesses on Second street mentioned vibrations at all.

But after all, the question must come back to the vibrations in the Seligman property. The amount of these vibrations was absolutely ascertained by two sets of experts—for the complainant and the defendant. The amount of vibration at the Seligman property due to the operation of the Victor plant (and any vibration from any other sources, of course, the defendant was not responsible for) was fifteen one-hundred-thousandths (15-100,000) of an inch. I submit that amount of vibration is trivial and could disturb no one at all at night or at any other time.

The vibration caused by the operation of the Victor plant was very much too slight to be observed by the human body without the aid of scientific instruments. So far as vibration is concerned, the defendant committed no nuisance in that respect, and the vibration is no basis for an injunction.

The leading vibration case in New Jersey is *Demarest vs. Hardham*, 34 N. J. Equity, 469, Van Fleet, V. C. The parties occupied adjoining premises, each building standing as close to the line as the walls could be built, the west line of the complainant's building in some places adjoining the east line of the defendant's building. The defendant had a 12 horse-power engine with boiler attached, and six printing presses—four operated by steam and two by hand—all on the third floor. The power of the machinery was exerted east and west across the building so that the west line of the complainant's building received whatever shock was produced by the force.

The Vice Chancellor said:

"The defendant's business is a lawful one, carried on in a part of the city of Newark devoted almost exclusively to manufacturing and business purposes. No objection can be made to it on the ground that the location is not a fit one * * * It should not, therefore, be enjoined except under a stern necessity."

On page 475, the Vice Chancellor goes on to say:

"The Court should always, in cases of this kind, consider the customs of the people, the nature and character of their employments, the uses to which they generally devote their property and the circumstances and surroundings of the business which is alleged to be a nuisance. What would constitute a nuisance in one place would be perfectly legitimate in another. The rights and comfort of the complainant must not be looked at alone. The rights and interests of his neighbors must also be regarded."

The Vice Chancellor found as a fact that the vibration complained of caused everything pendent about the building to oscillate like the pendulum of a clock. The actual deflection of the walls was one-eighth to three-sixteenths of an inch. He remarks:

"I confess I find it difficult to believe that so much disturbance can be produced by so slight a deflection."

The Vice Chancellor found the trouble to have been caused by reason of the force of the machinery being expended across the building instead of longitudinally with it, and decreed that the defendant change the position of the machinery in this regard or that an injunction would issue.

The above was evidently an extreme case.

In *Hennessy vs. Carmony*, 50 N. J. Equity, 616, Pitney, V. C., complainant's dwelling house, in Camden, adjoined the dye works of the defendant, who, close to the line, placed two machines called "Whizzers," which were revolved with great speed and were driven by two small engines, attached without intermediate gearing. The serious and troublesome question in the case was as to whether the vibration established was of such a degree as to entitle the complainant to the aid of the Court. A discussion of the evidence is omitted in the opinion. (Page 617.) The Vice Chancellor held the question to be whether the complainant's land and dwelling was sensibly and injuriously affected by the vibration. (Page 620.) At page 630 he says:

"The injury, to be actionable, must be sensible and appreciable, as distinguished from one merely fanciful. * * * Now, it seems to me that a vibration that causes the windows and doors of a house to rattle in their casings, and dishes on the shelves to rattle and move on one another, and the walls to crack * * * is actionable." * * *

Referring to the *Demarest vs. Hardham* case (*supra*), the Vice Chancellor says:

"Looking at the instances in which a Court of Equity has granted relief in cases like the present, we have in this State the case of *Demarest vs. Hardham*, *supra*, in which the report shows a vibration probably somewhat greater than that shown by the evidence in this case. There the parties occupied adjoining buildings whose walls touched, and complainant manufactured harness and defendant operated steam printing presses. The vibratory force was not, as here, transmitted many feet through the earth, but

I think the right of action at law is quite as clear in the case in hand as it was in *Demarest vs. Hardham*."

Evidently in each of the above cases the vibration was very much greater than in the case at bar. In each of the above cases the evidence as to the great amount of the vibrations was apparently uncontradicted.

In the case of *Shaw vs. Queen City Forging Company*, 10 Ohio, Dec., page 107, the facts were quite similar to those in the case at bar. The question was whether or not the defendant should be enjoined from operation of their plant at night by reason of the noise and vibration said to be disturbing to complainant. It was held that the vibration was so slight that no injunction should be allowed, but an injunction was granted on account of the noise.

WHAT WAS THE NOISE OR WHAT WERE THE NOISES CAUSED BY THE OPERATION OF THE ENGINES ON THE SECOND FLOOR OF THE POWER HOUSE X WHICH WERE SO ANNOYING TO THE COMPLAINANT AND TO THE MEMBERS OF HIS FAMILY, AS HE SAYS AMOUNT TO A NUISANCE?

The complainant says in his direct examination that the operation of this plant caused a great deal of annoyance. He was asked, "What was the noise that annoyed you?" Answer, "It was a rumbling noise." (Page 40, line 7.) Page 41, at the bottom, he says:

"Yes; there was lots of noise—a humming noise all night or up until four o'clock."

When recalled on cross-examination (page 378, line 7), he says the way he knew when this power plant start-

ed and when it stopped was by the vibrations. He does not describe the noises anywhere else in his testimony that I can find.

Mrs. Seligman, whose testimony commences on page 99 and concludes on page 103, was evidently not disturbed day or night by any noises from the plant, for she never mentions any. Neither the word "noise" nor any synonym of it, nor any reference to it occurs in her testimony.

Miss Seligman, whose testimony begins on page 115, does not complain of any noises. All she says is, on cross-examination, when asked in reference to the parlor, which is the middle room on the second floor of their house:

"In the parlor, it seems to be as bad as in the rear rooms."

"Ques. And what was the effect?"

Ans. Just a continual throbbing and thumping, a rumbling noise; and there was just as much noise in the parlor as in the rear room."

She does not complain of the noise at all, and does not say it kept her awake. She testifies that when sleeping in the front room with the windows on Market street, the passing of trolley cars and wagons on Market street never bothered her. (Pages 119, 120.)

Joseph Seligman, whose testimony begins on page 122, describes the noise (page 125, commencing line 20) as a humming, buzzing, throbbing sound.

Other witnesses testified to the character and extent of the noise observable at the Seligman house, as follows:

The complainant's witness Meirs, referring to the time when he was in Seligman's, on the occasion above referred to, and his attention was called to the power plant by the complainant and he was taken to the back of the house:

"Ques. Well, did you hear any noise emanating from that power house?

Ans. Nothing except the usual noises accompanying the operation of heavy machinery." (Page 105, line 10.)

The complainant's witness Read, referring to the occasion when he was taken to the back of Seligman's house and made an observation, says: "I also noticed a very perceptible buzzing noise and a beating sound as of the chug of an engine." (Page 109, line 11.)

The complainant's witness Boardman, (page 137), also referring to his visit at the Seligman house when he was taken to the back of the building, was asked (page 137, line 9):

"Ques. Did you hear any noise?

Ans. Well, the noise I assume was from the exhaust, the sound there, the muffled exhaust there, which gave a pulsation."

The complainant's witness Garrison, who lives at 115 Market street, next door to complainant, says (page 92, line 8) that the noises consisted of a continuous thumping.

Complainant produced no other witnesses testifying as to the noise on the Market street side of this block, excepting one or two, who testified that occasionally from the front rooms of No. 106 Market street, when the windows were open, a slight puffing noise could be heard.

On the Second street front of the block, complainant's witness Hoey, 105 North Second street, was asked (page 79):

"Ques. Did you hear any noises?

Ans. Oh, yes; there was noises all night since February 2d." (Page 79, lines 14 and 23.)

He described it (page 79, line 28):

"It seemed like exhaust steam there sometimes, and often a pounding; it seemed like metal and the grinding of this machinery."

He had been twice asked what, in the operation of the machinery, interfered with his sleep, and each time he had said the vibration, and he does not mention noise until it is suggested to him, as above indicated. (See page 78, lines 25 to 30, and page 79, lines 21 and 22.)

Complainant's witness Mrs. Fitzgerald, 107 North Second street, says (page 88, line 10) that they couldn't sleep but very little because of the noise; but she does not describe it, excepting that she describes one occurrence when some accident happened at the plant.

Complainant's witness Miss Rodgers, residing at 200 Cooper street, which is at the corner of Second and Cooper streets, described the noise thus (page 82, line 10): "A great beating of steam; a great puffing on the air."

Complainant's witness Adams, 214 Cooper street, half way between Second and Third streets, describes the noise coming from the power house, if what he says can be related to the machinery in the power house, thus: "The exhaust pipes from the steam like tug boats on the

river." (Page 83, line 18.) The river is more than four blocks from Mr. Adams' house (see map, Exhibit D3), so this noise must be very faint at his premises.

The foregoing is the complainant's case as to noise, so far as his witnesses describe it. The defendant's witnesses describe the character and extent of this noise as follows:

111 Market street, Starr, page 209, line 8, says:

"When the windows are open there is a rumbling noise and a sort of a whirring noise."

Judge Horner, in the same building, says, page 211, line 21:

"I have noticed at times a noise, rather a puffing noise, sounding something like the exhaust of a steam pipe, and also a rumbling noise, something like the noise incident to the running of machinery."

113 Market street, Borton, testifies, page 205, lines 28 to 30:

"While I have heard a little of what seems to me like a sort of a whirring sound, it don't seem to me to be very loud."

121 Market street, Mrs. Prettyman, page 233, says she has not observed any noises coming from the Victor plant.

123 Market street, Morgan, page 215, at the bottom, says:

"I hear the exhaust, a kind of a concussion of the exhaust steam, as you would from any engine."

127 Market street, Miss Savidge, page 201, line 29, says:

"Oh, I hear a noise when I direct my attention to it."

Complainant's witness Read, when called by the defendant, testifies as to 127 Market street that he could not hear any noise from inside the building, "but when he opened the door at the rear of the house the noise was perceptible (p. 203, lines 19 to 31). * * * The pulsations were very noticeable there."

Whether or not this noise amounted to a nuisance at night must be determined by the way it affected normal persons sojourning and residing in the neighborhood.

A great number of persons are occupied during the day in buildings in this block in business, who are not there at night. Leaving out of the discussion for the moment, the Seligman family and Garrison at 115 Market street, persons occupied in the daytime in every house on Market street front, from 105 to and including the bank at the corner of Second and Market streets, testified that the noise did not disturb them in any way whatsoever. On this front of the block are several lawyers, a boarding-house keeper with ten to fifteen boarders, an electrical supply shop and a bank. On the Second street front no one testifying for either side was disturbed in the daytime. The same situation is true as to the Cooper street side of the block.

But the Seligman family and Garrison are nearly as much disturbed in the daytime as they are at night; that is, those of them who hear the noises at all are. Mrs. Seligman made no reference at all to the noise, either day or night, and Miss Seligman only referred to it at night.

The Vice Chancellor found that there was no nuisance in the daytime, but held that the operation of the plant at night was sufficient annoyance to justify an injunction.

As to the night operation of the plant, what effect, then, did the noise have upon the night residents of the block? Outside of the Seligman family and Garrison, there was no one disturbed at all on the Market street front.

The night residents on Market street in this block occupy the following buildings: 111, 115, 117, 121, 123, 125 and 127 Market street. Mrs. Chandler and her little girl have slept for several months on the third floor back of 111 Market street. They are not at all disturbed (p. 251, lines 26 to 30). Mrs. Prettyman, 121 Market street, who sleeps in the second story back (p. 233) has not been disturbed at night, nor has she had complaint from any of her boarders (p. 234). Patterson, in the same house, occupies the rear bedroom on the second floor (p. 242). This man works all night and sleeps in the daytime. Nevertheless, his rest is not disturbed by the day noises from the Victor plant (p. 243), only by trolley cars. Miller, who had been living in this house for five weeks previous to the trial, occupied the second story middle room. His sleep was not disturbed (p. 236). Morgan, 123 Market street, who sleeps in a rear room with a window looking out towards the Victor plant, about 100 feet away, says his sleep is not disturbed at night, "except when some of these trolley cars are coming down and banging their bell" (p. 216). Lippott, also in 123 Market street, who occupies a room at the extreme rear of the building (p. 230), has never been disturbed (p. 231). Matlack, 125 Market street, has not had his rest disturbed by the noises of the Talking Machine plant,

only by wagons and cars going by. Sage, in the same house, sleeps on the second floor back. He has not been disturbed by noises from the Victor plant, nor has his rest been interfered with (p. 241). In the same building, Miller formerly occupied the farthest room back on the second floor; that is, the room nearest the Victor plant (he says about 40 feet from the power house X), and while there his sleep was not disturbed by noises from the Victor plant (p. 237).

Miss Savidge, 127 Market street, occupies as a bedroom the rearmost room on the second floor; that is, the room nearest the Victor Talking Machine plant, where she has slept for the last six years. This room is about fifty feet from the plant. She says her sleep has not been disturbed at all (pp. 200, 201).

On Second street—

Mrs. Hartman, 101 North Second street, occupies as a bedroom the second story middle room. She has not been disturbed by any noises from the Victor plant at night (p. 255). In the same building, Miles was taken sick with pneumonia the third of May, 1906, and was laid up for six weeks; four weeks were spent in a room in the front part of this house, and two weeks in the extreme back on the second floor. In this latter room there were two windows opening westward towards the Talking Machine Company's plant. While occupying this room, he was not in any way at all disturbed day or night by noises from the Victor plant (pp. 247, 248, 249).

Complainant called two witnesses—Hoey, from 105 North Second street; Mrs. Fitzgerald, from 107 North

Second street. These are the two witnesses referred to in the Vice Chancellor's opinion as being disturbed on the Second street side of the block. The complainant also produced Miss Rodgers, S. E. corner of Second and Cooper street; Adams, 214 Cooper street, and Pancoast on the other side of Cooper street above Second street, being No. 205 Cooper street. These three are the witnesses referred to by the Vice Chancellor as those produced by the complainant who dwelt in adjoining blocks and were annoyed by the night operation of the plant.

But I submit, as before indicated, so far as each one of these witnesses was disturbed at night, he was disturbed by the noises caused by the dropping of the presses upon metal-top tables, causing a clanking and banging sound which is no part of the complainant's case and is not a noise emanating from the second floor of power house X. These noises which disturbed these five witnesses are only heard on the Cooper street side of the plant. Not a single witness on either side, not even the complainant, testified to hearing any such sounds on the Market street side of the block. It is upon the testimony of these witnesses, and of the complainant's witness Garrison (which I will discuss later on), that the opinion of the Vice Chancellor was based. He says (p. 16, line 10):

"These witnesses are not open to the charge of exaggeration."

As before indicated, the clanging noise of iron was proven to have been caused by the operation of the presses in the record plant being dropped upon metal-top tables. This operation did not occur in power house X and was not incident to the running there, was never complained

of by the complainant or any member of his family, either in his bill or in any of their testimony, and is therefore no part whatever of the complainant's case. This operation was carried on in the building looking towards Cooper street, marked "E" on the map, and those witnesses who referred to this noise at all, all spoke as hearing it from the Cooper street side.

This noise was not due to the installation and operation of the machinery on the second floor of power house X. This press mechanism had been operated long before the power house was erected (see pp. 175, 176, 177, 178, 179). See complainant's testimony (pp. 35, 36).

Complainant's witness Pancoast, whose residence is at 205 Cooper street, describes this noise as a clanking and rattling of metal and some jarring (see p. 121, line 30). On page 122, line 3, he says: "The clanking metal sound is the most disturbing to us there."

Complainant's witness Adams, whose residence is 214 Cooper street, nearly half way between Second and Third streets on Cooper, describes this clanking noise (p. 83, line 15) "as of machinery when they are making the records, a terrible sound of iron plates coming bang, bang, every minute."

(See also testimony of Miss Rodgers, p. 82, lines 7 and 8, and Meirs, p. 105, lines 13 and 14).

Miss Rodgers describes this noise thus:

"A great clanging noise of iron; of iron clanging together; and it was continuous all night long."

But the machinery in power house X never ran after four o'clock, and the complainant and his family have

several times said that the thing which disturbed them stopped at four o'clock.

As none of the complainants themselves refer to this noise, and as none of the witnesses in the case described it as being perceptible on the Market street side of the plant, it is evident enough that this noise is no part of the nuisance complained of, is no part of complainant's case, and the Vice Chancellor erred in basing his decree in part thereon (p. 16, lines 13 to 19).

Page 18, at the top, he says again:

"There was nothing in the proofs or in the appearance of the complainant's witnesses to show to the Court that they were persons having tastes or nerves of the fastidious," &c.

Again, line 15, he says:

"The charge of exaggeration, which properly lies against the complainant's family, in this respect does not at all apply to the other witnesses produced by the complainant, each of whom was affected, at night so seriously as to disturb his rest," &c.

The Vice Chancellor failed to analyze the testimony sufficiently to perceive the very apparent fact that these witnesses were disturbed by the noises which they could hear on the Cooper street side of the plant and which were not mentioned by either the complainant or any of his family or any of the witnesses as being observable on the Market street side of the plant.

Unless, then, the complainant has established his case on the testimony of himself and the three members of his family and Garrison, the decree below should be reversed.

This brings the argument to the third point.

The complainant and the three members of his family are not persons of ordinary susceptibilities, but are oversensitive. Their stories are highly improbable. The annoyances they described are not related to the operation of the defendant's plant.

The Vice Chancellor would not rest the complainant's right to an injunction upon that testimony. He found the complainant and the three members of his family to be "undoubtedly guilty of exaggeration" (page 16, line 5).

In examining the testimony of these witnesses, regard must be had to its probability as tested by facts established by other witnesses. Garrison's testimony is open to the same criticism above indicated.

The machinery on the second floor of power house X was completed and commenced to operate in the summer of 1905 (p. 149, line 15; p. 150, line 16). The defendant began to operate the machinery in that power house in the latter part of August, 1905 (p. 155, line 8). In October, 1905, the defendant commenced to run that plant at night until ten o'clock. On January 22, 1906, they ran this part of the plant at night until twelve o'clock (p. 155, lines 23 to 33), and after that to still later hours.

Although each member of the complainant's family described the effects of the operation of this machinery as most distressing and exhausting, the complainant and his wife fixed the earliest time that they observed any effects from the plant whatever as December, 1905. The daughter fixes it as December or January, 1906, and the

son as November or December, 1905. The complainant (p. 39, line 15) says he noticed as a result of the running of the engines and generators, a vibration and a rumbling noise.

"Ques. When did it commence?

Ans. Somewhere about Christmas.

Ques. In the daytime or night?

Ans. Daytime at that time, and I think they worked until nine o'clock at that time. * * *

Ques. And what was the result of their running all day, so far as you were concerned?" * * *

Page 40, line 2:

"It caused a great deal of annoyance. The only time that we could take our mid-day lunch was between 12 and 12.30, because the noise and vibration made us sick; it gave us spasms of the stomach."

On page 377, the complainant being recalled for himself, says that just as soon as the machinery went in motion on the second floor of the power house he felt the vibrations, and just as soon as the machinery stopped the vibrations stopped.

Yet, although this machinery had been in operation in the daytime since August, 1905, and at night time up to ten o'clock since October, 1905, this witness did not observe it until December, 1905.

At the bottom of page 75 and top of page 76, he was asked:

"Ques. What do you think was the cause of the cracking of the lamp chimney?

Ans. Well, I couldn't say; I imagine the vibration.

Ques. Was the lamp lighted when it broke?

Ans. Don't think it was.

Ques. Do the walls of your house vibrate?

Ans. If they do, it is very little.

Ques. Do the floors vibrate?

Ans. Yes, sir.

Ques. Did you ever observe the walls to see if they vibrated?

Ans. I have had my hand against it."

Is it not wonderful that in a house in which this sensitive person could not detect that the walls vibrated, lamp chimneys on lamps unlighted should be cracked by vibration?

Page 65, on cross-examination, complainant was asked if the sickness at the stomach occurred to anybody but himself, and he said yes, to the rest of his family.

"Ques. All of them?

Ans. Yes, sir.

Ques. All four of them?

Ans. Yes, sir. * * *

Ques. When you laid down in bed it made you sick?

Ans. Yes, sir; we felt it during the day, too, but not as much.

Ques. Did you feel it at any other time during the day?

Ans. All the time, more or less.

Ques. You were sick all day?

Ans. Yes, sir; but at night it was worse.

Ques. Did you call in any doctor about it?

Ans. There was not any use.

Ques. No; but did you?

Ans. No, sir.

Ques. Did you consult any doctor about it?

Ans. I did not.

Ques. Did any of your family consult any doctor about it?

Ans. No, sir."

Would any sane man, whose family was troubled like this, go without the services of a physician? Is it not plain enough that he desired to attribute all of these difficulties to the operation of the factory plant? A physician might have found some other cause, or as the Vice Chancellor says, it was imaginary.

On page 69, on cross-examination, he was asked:

"Ques. Did you consider this sick stomach and nausea which all of your family continually suffered from to have been of any importance? Did it make much difference to you in your daily life?

Ans. Yes, sir."

Ques. Did you say anything about that in your affidavit which you made in this cause some time in the early part of May?

Ans. I don't know whether I did or not."

The complainant's affidavit annexed to his bill, on which application was made for a preliminary injunction, was then shown the witness. In that affidavit he makes no mention whatever of sickness of the stomach.

Referring now to the testimony of Mrs. Seligman (p. 99, l. 13), on her direct examination:

"Ques. What was your general condition of health prior to December, 1905?

Ans. My general condition of health was good."

So, although the plant had then been operated more than three months, it had not affected her health.

"Ques. When did they commence to operate the machinery in the power house just back of your house?

Ans. I believe it was the beginning of January or end of December.

Ques. That is, December, 1905?

Ans. 1905; yes, sir.

Ques. When they began to operate the engines in the new power house, what did you notice about your house?

Ans. I felt a certain vibration."

Although this plant began to be operated in August, 1905, in the daytime, and in October, 1905, at night, she did not notice it until December, 1905.

"Ques. Did these vibrations exist when they stopped from 12 to 12.30 in the day?

Ans. It was not then so much——

Ques. I am talking about this half hour in the daytime. There was a time when they stopped, wasn't there, from twelve to half-past twelve?

Ans. Then we didn't feel it so much." (Page 100.)

This testimony means, if it means anything—and the witness was made by her own counsel to repeat it—that when the machinery in power house X was not in operation from 12 to 12.30, at the lunch hour, the vibrations were not so great; but nevertheless this witness felt the vibrations. Therefore they were not caused by the Victor plant.

A brief examination of her testimony will disclose the tremendous effect upon her health and nervous system, entirely from the vibration. She does not mention noise. It will not be forgotten that it is fixed in the case that the vibrations on the second floor of the Seligman house amounted to one twenty-two-hundredths (1-2200) of an inch, and that the vibrations actually caused by the operations of the Victor plant amounted to fifteen one-hundred-thousandths (15-100,000) of an inch.

At page 103, on cross-examination:

"Ques. Did you suffer much?

Ans. I would rather die than suffer it again.

Ques. You made an affidavit in this case?

Ans. I guess I did; yes, sir."

The affidavit was shown her. It was her affidavit annexed to the original bill, on which application for preliminary injunction had been made. It makes no mention whatever of her sickness of the stomach.

Referring to the testimony of the daughter, Miss Seligman (p. 115, line 18):

"Ques. What was the condition of your mother's and brother's health prior to December, 1905?

Ans. Oh, why, nothing ever seemed to bother them at all. Everything was perfectly quiet in the neighborhood.

Ques. What happened in the latter part of December, 1905, with respect to the plant of the Victor Talking Machine Company?

Ans. Well, nothing happened until the operating of the new power house," &c.

This is direct testimony from the complainant's own family that until December, 1905, they had not observed or been disturbed by the operation of the plant.

Sometimes she slept in a front bedroom on the second floor, with two windows on Market street:

"Ques. When sleeping in the front bedroom, did you ever notice trolley cars or wagons passing on Market street?

Ans. They never bothered me."

Although complainant's other witnesses testified that the noise of the passing cars was so great as to drown

all other noises for the time being, and although complainant's expert testified that the passing of a trolley car increased the vibration in the Seligman house four times, yet this witness was never bothered by those occurrences (p. 120.)

As to the effect upon her by the night operation of the plant, observe this testimony on cross-examination:

"Ques. When did you begin to have sleepless nights on this account, Miss Seligman?

Ans. Just as soon as they began operating the power house.

Ques. When was that?

Ans. About the beginning of January.

Ques. Then for some time in January or February until the 31st of May you never slept at nights; is that it?

Ans. Except Saturdays and Sundays."

Referring to the testimony of Joseph Seligman, the son, on his direct examination (p. 125, line 20):

"Ques. Did you know, in your home, when they first began to operate the new power house?

Ans. Yes, sir.

Ques. How did you know it?

Ans. Why, by a humming, buzzing, throbbing sound.

Ques. When they first began to operate, how did you know—how did you know when they first began to operate in the new power house; what called to your attention the fact that they were operating?

Ans. Why, the vibrations and the noise caused by these generators." (P. 125, lines 20 to 30.)

On page 126, line 18, speaking of when the power house first began to be operated, and ran only from 7 in the morning until 5.15 P. M., he was asked to fix that

time, and he fixes it at November or December, 1905. Evidently this witness did not observe the operation of the plant until November or December, although it had been in operation since August, 1905.

Page 127, line 16, he says the night operation of the plant increased his nervousness to a great extent. So he was nervous already.

It happened that the night before Joseph testified, the machinery complained of was run for a short time prior to ten o'clock, to make repairs on one of the generators (see page 170, line 5, and the testimony of Seligman). Some hours later in the night Joseph was sick, so his father testifies, and vomited; and the next day at the trial Joseph had to leave the room because he was sick. They both attribute this occurrence to that slight operation of the plant hours before.

It is apparent, in reading the testimony of these four witnesses, that everything that happened in their house of a disagreeable character they attribute to the operation of the Victor plant.

As already indicated, the Vice Chancellor found their statements to be greatly exaggerated as to the effect produced upon them; but as to what they personally suffered they are the only witnesses, and their statements are of no weight because of their extreme improbability. When their testimony of the occurrences in the neighborhood and the effect upon them is compared with the testimony of the other witnesses residing and sleeping in the neighborhood, the improbability of the stories of the Seligmans is greatly increased.

If, however, it be thought that their stories are not improbable and that everything they stated actually happened in fact and not in imagination, then they are so oversensitive, their feelings are of such a delicate character, that the night operation of the Victor plant should not be controlled thereby. The complete proof of their over-sensitiveness is that in the day-time, when they said they were so disturbed they could not eat, eighteen other persons, their neighbors, were not disturbed at all. The principle of law is well established that any nuisance complained of must be of sufficient magnitude to disturb persons of ordinary sensibilities. (See cases hereinafter cited.)

But there is the testimony of Garrison still to be considered, and one other witness for the complainant (Adams), which naturally falls in the same category.

Garrison's statements are as improbable as the complainant's (or he is as oversensitive), and as to the occurrences in the neighborhood, are as greatly in contrast with the statements of the other witnesses. The improbability of his statements as to vibrations at 115 Market street has already been discussed; they could hardly be as great as at the Seligman house, where they were but one twenty-two-hundredths ($\frac{1}{2200}$) of an inch. Mr. Borden, in the adjoining property to the west, observed no vibrations at all.

But the chief exaggeration in this witness' testimony was this: This witness undertook to show that his child died on account of the operation of the plant (see pp. 93 and 94). The Vice Chancellor, on motion, struck out his testimony in regard to the death of the child, because no physician was called to connect the death of the child with the operation of the defendant's machinery (see pp.

94 and 142, line 30). As, however, all of the testimony is in the record, and may be misunderstood without the reference to the Vice Chancellor's action on page 142, I have introduced the subject in this brief.

Of like character with Garrison's effort to attribute his family difficulties and annoyances to the operation of the Victor plant is the effort of Captain Adams, who resides at 214 Cooper street. He says (p. 83, line 20), after having described the clanging of the machinery in dropping the presses upon the tables, already adverted to in this brief as not annoying complainant at all:

"And now I am reduced to a wreck; you can see here my arm is nearly paralyzed; my family is in the same condition."

This is simply beautiful; although further away than any other witnesses, he and his family are nearly paralyzed because of the defendant's plant. Surely this testimony needs no further comment.

The complainant's case, then, must rest upon the testimony of the four members of the Seligman family and Garrison, to the effect that the night operation of this plant was a nuisance. The inherent difficulties in that testimony I believe are insurmountable. As to vibrations, the complainant has proven the minuteness of their character. The defendant, by its experts, has proven that the Victor plant is only responsible for a small portion of even that minute vibration—fifteen one-hundred-thousandths (15-100,000) of an inch.

As to the noise, Mrs. Seligman, the member of the family most affected in health, if her story be true, never complains of the noise at all.

Nine other witnesses on the Market street side of the block contradict the complainant's case as to the night operation of the plant being disturbing. From witnesses on the Second street side of the block I believe I have shown there is no testimony to help the complainant's case. At least three witnesses help the defendants.

The Vice Chancellor refused to base a decree upon the testimony of complainant and his family. In this he was perfectly right; but there is no other evidence in the case upon which the decree of the Court of Chancery can be sustained.

It has been well said that in cases of nuisance in Chancery each case must be judged of by itself and that no more than general rules can be laid down as to when an injunction should be allowed and when not.

Having regard to all the testimony in this case on both sides, and to the physical circumstances surrounding the complainant's and defendant's properties, and the locality, and the number of other business enterprises there carried on, and the necessity upon the defendant of night operation to meet its obligations (pages 163, 265, 266), the Court is respectfully referred to the following citations:

Chancellor Zabriskie, in *Ross vs. Butler*, 19 N. J. Equity, 306, remarks:

"But the question remains, what degree or amount of discomfort is necessary to constitute a nuisance. * * *

"The word 'uncomfortable' is not precise, nor does the phrase of Vice Chancellor Bruce, 'according to plain and

sober and simple notions among the English people,' add much to making it definite. In fact, no precise definition can be given; each case has to be judged of by itself."

In the great case of *St. Helen's Smelting Co. vs. Tipping*, 11 H. L. Cases, 642, the law was settled in England. In that case the following remarks were approved by the House of Lords as the expression of the law:

"But the law does not regard trifling inconveniences; everything must be looked at from a reasonable point of view; and, therefore, in an action for nuisance to a property, the injury must be, to be actionable, such as visibly to diminish the value of the property, and the comfort and enjoyment of it.

"In determining whether a nuisance exists or not, the time, locality and all the circumstances should be taken into consideration. In counties where great works have been erected and carried on, which are the means of developing the national wealth, persons must not stand on extreme rights and bring actions in respect of every matter of annoyance," &c.

See also *Demarest vs. Hardham*, 34 N. J. Equity, 473.

Hennessy vs. Carmony, 50 N. J. Equity, 616.

In *Gilbough vs. Amusement Co.*, 64 N. J. Equity, 28, Vice Chancellor Pitney has some interesting remarks by way of dictum on the question of noise:

"Mere noise may be so great at certain times and under certain circumstances as to amount to an actionable nuisance and to entitle the parties subjected to it to relief; the jurisdiction of a Court of Equity in such a case is thoroughly established. * * * Noise is one of the necessary accompaniments of modern civilization and modern

society. The ordinary hum of machinery, the noise of vehicles propelled along the public highways, are examples of this noise; and in considering whether a noise amounts to a nuisance, the question whether or not it is made for a necessary or useful purpose is always taken into consideration. * * * So the time when a noise is made is also to be taken into consideration," &c.

Then follow the remarks quoted by Vice Chancellor Garrison in the case at bar (p. 15 of the book).

In the case of *Rogers vs. Elliott*, 146 Mass., 349, the application to the Court was for an injunction to restrain the ringing of a bell; and the question discussed was the right of a person to make a noise in the use of his property for a proper purpose:

"Upon the question of whether one can lawfully ring his factory bell, or run his noisy machinery, or whether the noise will be a private nuisance to the occupant of a house nearby, it is necessary to ascertain the natural and probable effect of the sound upon ordinary persons. * * *

"When an act is of such a nature as to extend its influence to those in the vicinity, and its legal quality depends upon the effect of that influence, it is as important that the rightfulness of it should be tried by the experience of ordinary people, as it is in determining a question as to negligence, that the test should be the common case of persons of ordinary prudence without regard to the peculiarities of him whose conduct is on trial."

In *McCaffrey's Appeal*, 105 Pa. State Reports, 253, the bill was filed to enjoin the operation of printing presses at night. The printing establishment was in a residence section, Ninth and Spruce streets, Philadelphia. The complainant claimed that the noise and vibration of the

running of the presses disturbed the quiet of his adjoining dwelling day and night and decreased its value. The Court dismissed the bill. Judge Hare says:

"In this instance, the testimony is conflicting, but the weight of the evidence appears to be that the noise which the bill describes as 'overpowering, intolerable, crashing,' and attended with a vibration which shakes the doors and windows, amounts to little more than the sound of the breakers on a distant beach, and that there is no vibration except that arising from the passing of vehicles through the street."

This decision was affirmed on appeal by the Supreme Court of Pennsylvania.

Justice Mercur, for the Supreme Court:

"A person who resides in the center of a large city must not expect to be surrounded by the stillness which prevails in a rural district. He must necessarily hear some of the noise, and occasionally feel slight vibrations, produced by the movement and labor of its people, and by the hum of its mechanical industries. The aid of a Court of Equity may be invoked to keep annoying sounds within reasonable limits. Every noise, however, is not a nuisance, nor, when produced in the exercise of a lawful occupation, should the strong arm of a Chancellor necessarily be extended to suppress it."

In *Butterfield vs. Klaber*, 52 *Howard's Practice Reports*, p. 255, the Superior Court of New York considered and decided a case involving whether or not vibration and noise constituted a nuisance. The complainants

were the owners of an apartment house on Broadway and Fifty-first street, known as the "Albany." The defendants owned and operated a factory for cutting stone, located upon adjacent premises, and there used a steam engine and machinery. Judge Sandford says:

"Witnesses for the plaintiff who speak of 'some jarring' after the alteration had been perfected, pronounced it very slight. One, who occupied the third floor immediately adjacent to the defendant's premises, failed to observe any vibration or shaking of the walls whatever. Another speaks of a vibration similar to the tremulous motion caused by passing vehicles, but not so heavy. * * * At least the preponderance of evidence against perceptible jarring or vibration is such as to render inevitable a finding of fact adverse to the claims in this regard," &c.

As to noises, he says:

"They are scarcely audible in the private residences nearby and abutting upon or in close proximity to defendant's property in its rear. No inconvenience is experienced from them by the occupants of such residences. * * * They cannot, I think, be said to interfere materially with the comfortable existence of ordinary people, in good health, who live sufficiently near the premises to hear them." * * *

Page 265, he says:

"But impressed as I am with the conviction that the operation of the defendants' machinery causes no perceptible jarring or vibration of the plaintiffs' building, and no appreciable injury thereto, that the noise proceeding from such machinery, other than the blast of their

steam whistle, is not such as to render the plaintiffs' apartments, or any of them, unfit for habitation, or to materially impair the comfortable existence of ordinary people occupying such apartments, I must hold that the defendants cannot be restrained from using their steam engine and machinery in the manner and for the uses in which they have heretofore been employed."

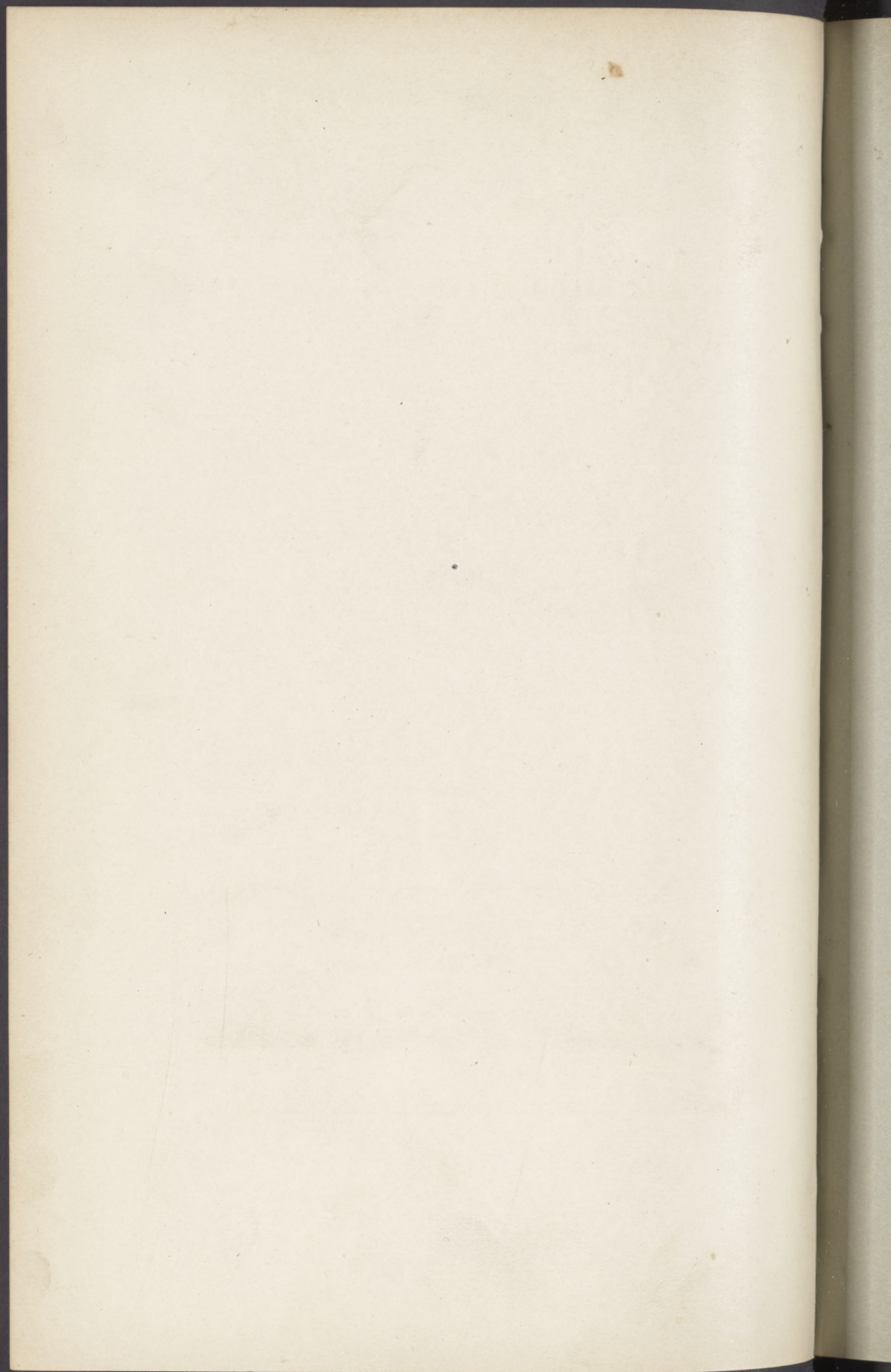
As to night operation of a manufacturing plant, in a locality such the *locus in quo*, where buildings are used indiscriminately for habitation and for the various avocations of commerce and manufacture, and where factories have, in the immediate neighborhood, frequently run all night, I believe the true rule to be that the plant of the defendant should not be enjoined from night operation necessary to its business, unless noise and vibration of the night operation are such as to disturb persons of ordinary sensibilities residing in the neighborhood.

Applying this rule to the facts in this case, the decree below should be reversed.

Respectfully submitted,

GREY & ARCHER,
Of Counsel with Appellant.





N. J. Court of Errors & Appeals

NOVEMBER TERM, 1906. No. .

ISAAC SELIGMAN,

(Complainant) Appellee,

vs.

VICTOR TALKING MACHINE COMPANY,

(Defendant) Appellant.

STATE OF THE CASE.

ON APPEAL.

GREY & ARCHER,
Of Counsel for Appellant.

FRENCH & RICHARDS,
Of Counsel for Appellee.

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IN CHANCERY OF NEW JERSEY.

To his Honor William J. Magie, Chancellor of the State of New Jersey:

1. Complaining shows unto your Honor, your orator, Isaac Seligman, of the city and county of Camden and State of New Jersey, that about the year eighteen hundred and seventy-eight he rented a property in the city of Camden, New Jersey, on the north side of Market street, between Front and Second streets, about the middle of the block, having a front on Market street of twenty feet and a depth northwardly, at right angles to Market street, of one hundred feet, known as property No. 117 Market street, which he occupied as a dwelling for himself and family and the front room on the ground floor as a store for the sale of tobacco and cigars. 10

2. That afterwards, in the year eighteen hundred and eighty-eight, he acquired title to the said property by deed from the owners, which deed is dated June eighteenth, eighteen hundred and eighty-eight, recorded at Camden, in the office of the Register of Deeds, in Book 138, page 103. 20

3. That since eighteen hundred and seventy-eight, your orator has occupied said property with his family as a dwelling house and since June, eighteen hundred and eighty-eight, has owned the same in fee. 30

4. That at the time your orator purchased said property, the square or block, including said property of your orator, bounded on the south by Market street, on the west by Front street, on the east by Second street, and on the north by Cooper street, was largely occupied by residences and offices, the only exceptions being the

printing house of the West Jersey Press at the north-east corner of Front and Market street, and the wheelwright and carriage manufactory and blacksmith shop of the Collings Carriage Company, on Front street, adjoining the property of the West Jersey Press, and the bank building of the National State Bank, at the north-west corner of Second and Market streets. That said block is about three hundred and sixty feet in depth, north and south, and three hundred and forty feet in length, east and west.

- 10 5. That in the year nineteen hundred and one, one Eldredge R. Johnson acquired title to the property on Front street north of the Collings Carriage Company, and caused to be erected thereon a building for manufacturing talking machines. The said property being in said block one hundred and eighty feet north of Market. That subsequently the said Eldredge R. Johnson, or the Victor Talking Machine Company, or some person in their interest as your orator has been informed,
20 acquired title to the balance of the property in said block, north of a line one hundred and eighty feet north of Market street extending from Front to Second streets, being the north half of the whole block.

6. That on August fourteenth, nineteen hundred and three, the Victor Talking Machine Company acquired title to a part of said property about eighty feet north of the north line of your orator's lot and thereafter, during the year nineteen hundred and five, erected on said lot a large building or power house, for the purpose of generating power for the machinery in its buildings,
30 which then extended from a point one hundred and eighty feet north of Market street on Front street to Cooper street, and thence eastward approximately one hundred and fifty feet; that on the second floor of said power house are erected large engines, dynamos or generators of electricity to supply the current operating the machinery in said buildings.

7. That during the latter part of the year nineteen hundred and five, The Victor Talking Machine Company, in running the said engines, dynamos or generators so recently erected, caused the dwelling of your orator to vibrate and shake, the windows of said dwelling to rattle and make annoying noises. That then the said engines and dynamos or generators were only operated during the day.

8. That about the twenty-fifth of December, nineteen hundred and five, the Victor Talking Machine Company, operating said plant, began to run said engine and dynamos or generators until as late as ten o'clock at night; that in the month of January, nineteen hundred and six, they extended the time of running to two o'clock in the morning, and about the first of March, nineteen hundred and six, they extended the time until four o'clock in the morning, so that now the said engines and dynamos or generators are run continuously from about seven o'clock in the morning of one day to four o'clock in the morning of the next day, except a half hour at noon and except Saturday night, Sunday and Sunday night; that the running of said engines, dynamos and machinery at night creates noises that are unusual and ill-timed, causes the dwelling of your orator to vibrate, causes the windows, dishes, lamps and glassware to rattle day and night, and the lamp chimneys to crack and break, prevents your orator and his family, consisting of your orator's wife and his son and his daughter, from obtaining needed rest and sleep at night; and that the vibration of the beds, the jar of the windows, the noise of the operation of the machinery and the vibration of the house caused by the running of said engines, dynamos and machinery at night, render it impossible for your orator or his family to sleep until about four o'clock in the morning; that this happens every night in the week excepting Saturday and Sunday nights. On those nights the engines are not run.

9. That your orator and his wife, in order to get any sleep while said engines, dynamos and generators are running, are compelled to leave their said dwelling and go to the house of a friend to spend the night to get sleep and rest.

10. Your orator further shows, that the Victor Talking Machine Company, by operating said plant in the manner also set forth, is destroying your orator's property as a place of residence for himself and his family and rendering said dwelling house of your orator uninhabitable.

11. That the business of said Victor Talking Machine Company is the manufacture of talking machines, as articles of amusement.

12. Your orator further shows, that prior to the installation of the said engines, dynamos or generators in the power house, eighty feet from your orator's said lot, the said Victor Talking Machine Company operated its plant in an unobjectionable manner and without the jar, vibration and noise now resulting.

20 In tender consideration whereof and for as much as your orator is without remedy except in this Honorable Court, where matters of this nature are particularly cognizable and relievable:

To the end, therefore, that the said Victor Talking Machine Company may but without oath, answer under oath being hereby waived, full, true and perfect answer make to all and singular the matters above stated as fully and particularly as if the same were hereafter repeated, paragraph by paragraph, and they thereto particularly interrogated, that the operation of said engines, dynamos or generators so as to cause the house of your orator and its contents to vibrate, and the creation by said operation of unusual and ill-timed noises is a nuisance, and especially to your orator, and that the Victor Talking Machine Company and its servants and agents be restrained from so operating its said manu-

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facturing establishment and the said engines, dynamos or generators as to jar the dwelling house of your orator and its contents, or to cause the dwelling house of your orator or its contents to vibrate, and from so operating said manufacturing establishment as to create disturbing noises at night, and that your orator may have such other and further relief in the premises as the nature of the case may require and as shall be agreeable to equity and good conscience.

May it please your Honor to grant unto your orator, not only the State's writ of injunction issuing out of and under the seal of this Honorable Court, to be directed to the said The Victor Talking Machine Company, its servants and agents, restraining them and every of them from so operating its manufacturing establishment and the said engines, dynamos or generators, as to jar the dwelling house of your orator and its contents or to cause the dwelling house of your orator or its contents to vibrate, and from so operating said manufacturing establishment as to create disturbing noises at night, but also the State's writ of subpoena, to be directed to the said Victor Talking Machine Company, therein and thereby commanding it, by a certain day and under a certain penalty therein to be expressed, to be and appear in manner and form required by law, before your Honor, in this Honorable Court, then and there to answer the premises and to stand to, abide by and perform such decree therein as to your Honor shall seem meet and as shall be agreeable to equity and good conscience.

FRENCH & RICHARDS,

Solicitors for and of Counsel with Complainant.

[ENDORSED.]

IN CHANCERY OF NEW JERSEY.

Between

ISAAC SELIGMAN,

10

Complainant.

and

VICTOR TALKING MACHINE COMPANY,

Defendant.

20

BILL FOR INJUNCTION.

FRENCH & RICHARDS,

Solicitors,

106 Market St., Camden, N. J.

Filed May 7, 1906. L. M. G., V. C.

30

IN CHANCERY OF NEW JERSEY.

Between

ISAAC SELIGMAN,

Complainant,

and

VICTOR TALKING MACHINE

COMPANY,

Defendant.

ON BILL &C.

ANSWER.

10

The answer of the Victor Talking Machine Company to the bill of complaint of the complainant in the above cause, or to so much thereof as this defendant deems it necessary to answer. 20

This defendant, answering, says:

As to the allegations in paragraphs one and two of the said bill, this defendant neither admits nor denies the truth thereof, but leaves the complainant to make such proof thereof as he may be able; but this defendant admits that it is informed and believes that the said complainant is now the owner of premises No. 117 Market street, Camden, N. J., of about twenty feet front and one hundred feet deep, and that the front room on the ground floor thereof is used for a store for the purpose of selling cigars, and for other purposes, and that the said complainant occupies a portion of said premises as a dwelling for himself and family. 30

As to the allegations in the third paragraph of said bill, this defendant, further answering, says that it does

not admit the contents thereof, but leaves the complainant to make such proof thereof as he may be able; but this defendant charges that the said complainant does not occupy the said property with his family as a dwelling house exclusively; that the said complainant uses the same for a cigar store, for a branch post office, and for the making of cigars.

10 As to the allegations in the fourth paragraph of said bill, this defendant, further answering, says that it neither admits nor denies the truth thereof, but leaves the complainant to make such proof thereof as he may be able; except that this defendant admits the measurements of the block therein referred to to be about the dimensions therein set forth.

As to the allegations in the fifth and sixth paragraphs of said bill, this defendant, further answering, says that it admits the allegations set forth to be substantially correct.

20 As to the allegations in the seventh paragraph of said bill, this defendant, further answering, says that it does not believe that the operation by it of the engines, dynamos and generators referred to in said paragraph as being operated in the latter part of 1905, cause the dwelling of the complainant to vibrate and shake and the windows of his dwelling to rattle and make annoying noises, and this defendant, therefore, denies such allegation and requires the complainant to make such proof thereof as he may be able.

30 As to the allegations in the eighth paragraph of said bill, this defendant, further answering, admits the truth thereof as to the times when this defendant operates the engines and dynamos therein referred to; but this defendant expressly denies that the running of the said engines, dynamos and machinery in the manner therein described creates noises that are unusual and ill-timed, and denies that such operation causes the dwelling of complainant to vibrate, and the windows, dishes, lamps,

glass ware and the like to rattle day and night, and the lamp chimneys to crack and break; and this defendant says that if the said complainant and his wife and children are prevented from obtaining needed rest and sleep at night, it is not due to and does not result from the operation by the defendant of its plant and said engines, dynamos and generators, or, if the said complainant and his family are so disturbed at night by said operation by this defendant of its said plant, it is because the said complainant and his family are unduly nervous and are disturbed without sufficient cause, and the effect of the operation of said machinery upon the said complainant and his family, as described in his said bill, is not the fault of this defendant and of the manner in which it operates its said plant, and is not due to any improper or unlawful operation by this defendant of its said plant.

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As to the allegations in the ninth paragraph of said bill, this defendant, further answering, says that it neither admits nor denies the truth thereof, but requires the complainant to make such proof thereof as he may be able; but this defendant shows that if it be true that the said complainant and his wife are compelled to leave his dwelling to get rest and sleep, it is not the fault of this defendant, and is not due to any improper or unlawful operation by this defendant of its said plant.

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As to the allegations in the tenth paragraph of said bill, this defendant, further answering, says that it denies that it operates its said plant in any manner which destroys the complainant's property as a place of residence for him and his family, and denies that the operation by this defendant of its said plant renders the dwelling house of the said complainant uninhabitable; and this defendant shows and asserts the truth to be that its said plant, consisting of said engines, dynamos and generators, is not a nuisance, and that this defendant operates the said plant in a proper and legal manner, and that this defendant, in the construction, maintenance and

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operation of said plant in the manner this defendant has operated the same, and is operating the same, does not tend to destroy, and does not destroy, the complainant's property as a place of residence, and does not render, and does not tend to render, his dwelling house uninhabitable.

As to the allegations in the eleventh paragraph of said bill, this defendant, further answering, says that it admits that its business is the manufacture of talking machines, but shows that it also makes parts for such machines, and records, etc.

As to the allegations in the twelfth paragraph of said bill, this defendant admits it to be true that prior to the installation of its said engines and dynamos described in the said bill, it operated its plant in an unobjectionable manner and without jar, vibration and noise, and this defendant denies that since the installation of its said engines, dynamos and generators in its said power house, the said engines, dynamos and generators have been jarring or vibrating the complainant's premises to any appreciable or accountable extent, and denies that the said plant is operated with any noise such as should be annoying to the complainant or to any healthy person residing in his said property.

And this defendant, further answering, shows that its said plant in the city of Camden is located in the midst of a portion of said city which is chiefly devoted to manufacturing and business enterprises; that this defendant has frequently operated its machinery at night, for weeks at a time, prior to the year 1906; that other manufacturing plants in the immediate vicinity of the complainant's property have been in operation both day and night for many years. And this defendant charges that in the operation of its said engines and dynamos, it is not, either by noise or by vibration, doing any injury to the said complainant or to his property, and that the said complainant has no legal cause of complaint against this

defendant, growing out of the operation by this defendant of its said plant.

And this defendant further shows, that by reason of the de'ay of the complainant in applying to this Court for relief, this defendant expended large sums of money and entered into contractual obligations under the belief that it could operate its said plant in the manner above indicated; that if defendant be now restrained from operating said plant it will result in great financial loss and continuing and irreparable damage to this defendant.

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And this defendant humbly prays to be hence dismissed with its reasonable costs and charges in this behalf most wrongfully sustained.

GREY & ARCHER,
Solicitors for Defendant.

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IN CHANCERY OF NEW JERSEY.

Between

ISAAC SELIGMAN,

Complainant,

and

10

VICTOR TALKING MACHINE

COMPANY,

Defendant.

CONCLUSIONS.

(Decided July 12, 1906).

20 Heard on bill, answer, replication and proofs in open Court.

FRENCH & RICHARDS,
For Complainant.
GREY & ARCHER,
For Defendant.

GARRISON, V. C.:

30 This is a bill filed by Isaac Seligman against the Victor Talking Machine Company, complaining of an alleged nuisance. The plant of the defendant company and the dwelling house of the complainant are each in a block of land in the city of Camden, practically square, bounded on the west by Front street, on the east by Second street, on the north by Cooper street and on the south by Market street. The dwelling of the complainant, No. 117 Market street, abuts on the west a line drawn north and south through the centre of the block.

The defendant now owns all the land north from a line drawn east and west through the centre of the block.

Market street is one of the principal streets of the city, and on it, in this block at the time complainant came there to live, in 1878, there dwelt some of the most prominent and influential men of the city, among them Abraham Browning, Peter L. Voorhees and James B. Dayton. There were at that time nothing but residences in the block, with two exceptions—there was a blacksmith shop almost immediately north of and in the rear of complainant's lot, and there was a carriage factory on the Front street side of the block a little to the south of the middle thereof. The entrance to the blacksmith shop was from Front street, but the shop itself stood far back from the street, as above described. Subsequently this building was used as a machine shop, and about ten years ago was used by the originator of the Victor Talking Machine as a place in which to manufacture his machines. 10

The Victor Talking Machine Company was incorporated in 1901. It has erected many large buildings on the lands owned by it, and at first operated the machinery therein from a 125 horse power engine, located in a building on the north side of the block about 165 feet northwest from the north end of complainant's house. In August of 1905, the defendant completed a building the nearest point of which is about 120 feet from the complainant's house, and is so located that if the east line of complainant's lot was projected it would form the west line of the building. In this building, which is of two stories, there was installed upon the ground floor two boilers capable of generating steam of a combined capacity of 600 horse-power. On the second floor were installed two engines and dynamos or generators of a combined capacity of 375 horse-power. The balance of the horse-power of the steam was utilized for heating tables to heat the metal records used in 20 30

the talking machines and also to furnish electric lighting for the plant, to run pumps and other machinery.

Some time in the winter of 1905, the defendant company inaugurated a new method of distributing to their customers the records used in the talking machines, and, by reason of such new method of distribution, were compelled at certain times to operate their machinery continuously from six o'clock in the morning until late hours at night, and finally until four o'clock in the morning. This machinery, so operated, was located in the building last described, and it is the noise and vibrations therefrom of which complaint is made.

The vibrations are shown to be about of the same character and intensity as those occasioned in the same building by the passage of trolley cars or of heavily loaded trucks, the only difference being that those occasioned by the machinery were continuous.

I am satisfied from the proofs that, so far as the making of noise or the causing of vibrations are concerned, the machinery in this factory is properly installed and carefully operated and does not cause any more noise and vibrations than usually accompany or are incident to the operation of any considerable amount of machinery using steam. In other words, I think that the situation is that of an ordinary manufacturing plant producing the ordinary noises of such an establishment, and if it were operated only during the hours of the day, when such plants are customarily operated, it would not be subject to restraint upon the proofs in this suit.

The complainant—although the prayer of his bill is broad enough to cover such restraint—does not, as a fact, ask for it. He limits his application to a prayer that the defendant be restrained from operating during such hours of the night as are necessarily devoted by him and his family to rest.

This raises the question whether a manufacturing establishment, which has come into a city block there-

tofore free from annoying noises and vibrations, may operate its machinery with the usual noise and vibration accompanying the same during the hours of the night usually devoted to rest, if the effect of such customary noise or vibration at the unusual hour is to keep awake those dwelling adjacent to the plant?

There is, of course, no reason in law why a manufacturing establishment may not operate throughout the entire twenty-four hours if it causes no actionable or legal wrong to others. It is well recognized, however, in cases of nuisance, that the things to be taken into account include not only the degree and character of the annoyance and the circumstances under which it occurs, but also the time of its occurrence. As is well said by Vice Chancellor Pitney in *Gilbough vs. West Side Amusement Company*, 64 N. J. Eq., at p. 28 (1902): "So the time when a noise is made is also to be taken into account. Mankind needs sleep for a succession of several hours once in every twenty-hours hours, and nature has provided a time for that purpose, to wit, the night time, and by common consent of civilized man the night is devoted to rest and sleep, and noises which would not be adjudged nuisances, under the circumstances, if made in the daytime, will be declared to be nuisances if made at night and during the hours which are usually devoted by the inhabitants of that neighborhood to sleep."

Many other authorities are to the same effect.

Kerr on Injunctions, star p. 216, note 37;

Wood's Law of Nuisances, 2 Ed., Sec. 613;

21 Am. & Eng. Ency. of Law, 2 Ed., p. 697, note 3.

It is not disputed in the case at bar that the noises and vibrations complained of exist and that when the plant was in operation at night they seriously affected some of those in the neighborhood. The gravamen of the defense is that those who were thus affected were

persons of extraordinary sensibility and were not such as the law would protect by injunction by reason thereof.

- 10 The complainant and the three other members of his family were undoubtedly guilty of exaggeration, more, however, in describing the effects upon them of the annoyances than with respect to the character or degree of the annoyances. The other witnesses for the complainant are not, however, open to any such charge, and the undisputed facts are that there was the hum or whirr of this heavy machinery, the pounding or pulsating thereof, the noise of the exhaust of the steam, and the continuous vibration conveyed through the earth to the walls of the adjacent houses. In addition to that which emanated from the machinery itself, there were the noises occasioned by removing the metal discs from the presses, which operation required the dropping of heavy masses of metal a distance of several inches upon a metal-topped table.

- 20 The standard to guide the Court is well stated by Chancellor Zabriskie in *Ross vs. Butler*, 19 N. J. Eq., 294, at p. 298 (1868): "The law takes care that lawful and "useful business shall not be put a stop to on account of "every trifling or imaginary annoyance such as may "offend the taste or disturb the nerves of a fastidious or "over-refined person. But, on the other hand, it does "not allow anyone, whatever his circumstances or condition may be, to be driven from his home, or to be "compelled to live in it in positive discomfort, although "caused by a lawful and useful business carried on in his
- 30 "vicinity. The maxim *sic utere tuo ut alienum non laedas*, expresses the well established doctrine of the "law. It is not necessary to constitute a nuisance, that "the matter complained of should affect the health or "do injury to material property. It is sufficient, in the "language of Sir Knight Bruce, if it is 'an inconvenience " 'materially interfering with the ordinary comfort,

“‘physically, of human existence, not merely according
 “‘to elegant and dainty modes and habits of living, but
 “‘according to plain and sober and simple notions
 “‘among the English people.”’

Cleveland vs. Citizens' Gas Light Co., 20 Eq., 205,
 (Zabriskie, Chan., 1869).

Mcigs vs. Lister, 23 N. J. Eq., at p. 204, (Zabriskie,
 Chan., 1872).

It has been observed that where witnesses are alleged 10
 to be of other than normal condition of mind and body,
 it must appear by the proofs that they are such, as the
 presumption, in the absence of proof, is that all citizens
 enjoy a normal condition of mind and body.

Board of Health vs. Lederer, 52 N. J. Eq., at p.
 678, (bird, V. C., 1894).

Confining the investigations solely to the witnesses
 who dwelt in the vicinity and who were therefore sub-
 ject to annoyance at night, there were produced by the 20
 complainant, five witnesses, including the four members
 of his own family, who dwelt upon the Market street
 side of the block, and who were each seriously affected
 by the noises and vibrations at night and were kept
 awake thereby. The defendant produced nine witnesses
 from the Market street front of the block who testified
 that they were not annoyed or disturbed by the night
 operations. From the Second street side of the block
 the complainant and defendant each produced two wit-
 nesses, those for the complainant testifying that they 30
 were seriously annoyed and kept awake, those for the
 defendant testifying that they were not. Three wit-
 nesses were produced by the complainant who dwelt in
 adjoining blocks and who testified to the annoyances
 occasioned to them by the noises resulting from the
 night operation of the plant.

There was nothing in the proofs, or in the appearance of the complainant's witnesses, to show to the Court that they were persons having tastes or the nerves of the fastidious or the over-refined; they each appeared to be persons accustomed to plain, sober and simple existence, such as is lived by the average person in an American community. As before pointed out, the complainant and his family described effects produced upon them by the annoyance which I cannot help but believe were largely mental or imaginary. But this does not in any way militate against the proven fact that the annoyances did exist and did keep them from obtaining rest and did render their dwelling practically unfitted as a place for rest; and, as previously said, the charge of over-exaggeration which properly lies against the complainant's family in this respect does not at all apply to the other witnesses produced by the complainant, each of whom was effected at night so seriously as to disturb his rest. The fact that others, either because they were differently situated with respect to the plant, or differently constituted physically, did not suffer a similar annoyance does not deprive the complainant of his right to relief. As the Court said in *Citizens' Gas Light Co., ads. Cleveland*, 20 N. J. Eq., at page 205 (Zabriskie, Chan., 1869): "The discomforts must be physical, not such as depend upon taste or imagination. But whatever is offensive physically to the senses, and by such offensiveness makes life uncomfortable, is a nuisance; and it is not the less so because there may be persons whose habits and occupations have brought them to endure the same annoyances without discomfort. Other persons or classes of persons whose senses have not been so hardened and who, by their education and habits of life, retain the sensitiveness of their natural organizations, are entitled to enjoy life and comfort as they are constituted."

See also *Harrison vs. St. Mark's Ch.*, 3 W. N. C. (Pa.), 384.

In view of the authorities and the undisputed facts in this case, it seems to me that the complainant is entitled to have this plant restrained from operating after a reasonable hour at night, and until a reasonable hour in the morning. He has suggested that the restraint should be from ten P. M. until six A. M.; I will, however, settle the hours upon the settling of the decree, which may be done upon notice.

I will advise a decree in accordance with the above views.

10

IN CHANCERY OF NEW JERSEY.

Between

ISAAC SELIGMAN,

Complainant,

and

VICTOR TALKING MACHINE

COMPANY,

Defendant.

ON BILL, &C.,

FINAL DECREE.

20

This cause coming on regularly to be heard at the Chancery Chambers, in Camden, on Tuesday, the twenty-sixth day of June, nineteen hundred and six, on the bill. answer, replication and proofs then taken, in the presence of French & Richards, solicitors for complainant, and Grey & Archer, solicitors for defendant, and the Court having heard the evidence and considered the same, to-

30

gether with the pleadings and arguments of counsel thereon, and being of opinion that the complainant is entitled to a decree restraining the defendant from continuing the operation of certain machinery located in the power house of defendant, erected in the year nineteen hundred and five, north and east of complainant's property in the square bounded by Market, Front, Cooper and Second streets, in the city of Camden, New Jersey, after the hour of ten thirty o'clock, P. M., and from commencing the operation of the same prior to six thirty o'clock A. M.

It is, on this twenty-fifth day of July, nineteen hundred and six, by the Honorable William J. Magie, Chancellor of the State of New Jersey, ordered, adjudged and decreed, and the said Chancellor doth, by virtue of the power and authority of this Court, hereby order, adjudge and decree that the defendant and its servants and agents be perpetually enjoined from operating said machinery located in the power house of defendant erected in the year nineteen hundred and five, north and east of the complainant's property in the square bounded by Market, Front, Cooper and Second streets, in the city of Camden, New Jersey, after the hour of ten thirty o'clock P. M., and from commencing the operation of the same prior to six thirty o'clock A. M., and that a permanent injunction issue out of and under the seal of this Court, to be directed to the said defendant, its servants and agents, restraining them and every of them from operating said machinery located in the power house of defendant, erected in the year nineteen hundred and five, north and east of complainant's property in the square bounded by Market, Front, Cooper and Second streets, in the city of Camden, New Jersey, after the hour of ten thirty o'clock P. M., and from commencing the operation of the same prior to six thirty o'clock A. M.

It is further ordered, adjudged and decreed that the defendant pay to the complainant his costs of this suit to

be taxed, together with fourteen dollars and ten cents paid the stenographer for one-half of the expense of a copy of the testimony furnished the Court by its direction.

Respectfully advised:

LINDLEY M. GARRISON,

V. C.

IN CHANCERY OF NEW JERSEY.

10

Between

ISAAC SELIGMAN,

Complainant,

and

VICTOR TALKING MACHINE

COMPANY,

Defendant.

ON BILL.

NOTICE OF APPEAL.

20

To Isaac Seligman and French & Richards, Solicitors.

Take notice, that the above defendant hereby appeals from the final decree and from each and every part thereof, entered in the above cause on the twenty-fifth day of July, nineteen hundred and six, to the Court of Errors and Appeals of the State of New Jersey. 30

GREY & ARCHER,

Solicitors for Defendant.

We conceive that there is good cause for appeal in the above cause.

GREY & ARCHER,

Of Counsel with Defendant.

NEW JERSEY COURT OF ERRORS AND
APPEALS.

	ISAAC SELIGMAN,	}	
	Complainant and Appellee,		
	and		ON APPEAL.
10	VICTOR TALKING MACHINE		PETITION OF APPEAL.
	COMPANY,		
	Defendant and Appellant.		

*To the Honorable the Court of Errors and Appeals in the
last resort in all causes:*

20 The petition of the Victor Talking Machine Company,
the appellant in the above stated cause, respectfully shows
that your petitioner finds itself aggrieved by a final de-
cree made in the Court of Chancery of the State of New
Jersey, in a cause wherein the said Victor Talking Ma-
chine Company was defendant and the said Isaac Selig-
man was complainant, in these respects, to wit: That the
said decree adjudged and decreed that your petitioner,
the said Victor Talking Machine Company, and its ser-
vants and agents, be perpetually enjoined from operating
certain machinery located in the power house of your
30 petitioner, erected in the year nineteen hundred and five,
north and east of said Isaac Seligman's property, in the
square bounded by Market, Front, Cooper and Second
streets, in the city of Camden, New Jersey, after the
hour of 10.30 P. M., and from commencing the opera-
tion of the same prior to 6.30 A. M., and that a permanent
injunction should issue out of and under the seal of said
Court, directed to your petitioner, its servants and

agents, restraining them and every of them from operating said machinery as aforesaid; and that the said decree further adjudged that your petitioner pay to the said Isaac Seligman, complainant, his costs in said suit to be taxed, together with fourteen dollars and ten cents paid stenographer for one-half of the expense of a copy of the testimony furnished the said Court of Chancery.

And your petitioner humbly appeals from the said decree and from each and every part thereof, on the ground that your said petitioner ought not to be restrained in manner and form from operating said machinery, and at the time specified in said decree, for that the said decree is erroneous in that respect, and on the ground that your petitioner ought not to be required to pay the complainant his costs of said suit, to be taxed, together with fourteen dollars and ten cents, paid for stenographer's fees, aforesaid, for that the same is contrary to law. 10

Your petitioner, therefore, prays that the said decree of the said Chancellor may in all respects be reversed, set aside and for nothing holden, and that your petitioner may have such other relief in the premises as to this Honorable Court shall seem meet. 20

Solicitors for Defendant and Appellant.

10

ANSWER IN USUAL FORM.

20

30

IN CHANCERY OF NEW JERSEY.

Between

ISAAC SELIGMAN,

Complainant,

and

VICTOR TALKING MACHINE

COMPANY,

Defendant.

ON BILL, &C.

HEARING AND 10

PROOFS.

Appearances :

For the complainant, FRENCH & RICHARDS. 20

For the defendant, GREY & ARCHER.

Before HON. LINDLEY M. GARRISON, Vice Chancellor.

Chancery Chambers, Camden, N. J., June 25, 1906.

Mr. Grey: I move that this case be adjourned, for this reason: Mr. Johnson, the president of the defendant corporation, since the case was set down for this date, has been compelled to accompany his wife to Europe, his wife being ill and going abroad by the direction and command of her physician, who stated to me that it was impossible that Mrs. Johnson should go without her hus-

30

band accompanying her on account of the peculiar disease that she has, which is one of some nervous disorder. They left last Wednesday. Mr. Johnson is an essential witness for the defendant in this case if there is any proof by the complainant as to conversations, admissions, &c., made by Mr. Johnson. As there is, in one of the affidavits of the defendant, a statement of a conversation and an admission made by the defendant, it seems to me the defendant is in danger in going to trial without the presence of Mr. Johnson. I offer to stipulate that if the

10 cause is adjourned there shall not be any operation of the plant at night from eleven o'clock until seven in the morning until the cause is finally heard, and to pay the complainant the costs that will be incurred by reason of the motion being allowed—with this further suggestion, that there should be in the order leave to either party to apply to the Court in the meanwhile for any action which might be necessary or which might arise from circumstances occurring after this date, so that the Court

20 could control and dispose of the situation—for instance, if there should be any sudden emergency whereby the plant should need to be operated at night, we would have the right to apply to the Court and have the Court fix the circumstances under which that should be permitted, or refuse it altogether, so that the complainant's rights will be entirely protected, as well as the defendant's. Since the absence of Mr. Johnson, last Wednesday, I learned on Saturday that the vice-president, Mr. Douglass, upon whom we relied as a witness, is so ill that he will not be able to attend the trial at any time this week.

30 He is confined to his room, with a trained nurse in attendance, and cannot be seen by the doctor's orders. He has some stomach trouble and is now at some seashore resort. His testimony is essential in this, that he, in the absence of the president, was in charge of the corporate affairs, and he is the best witness we have left as to the general operation of the plant, its necessities,

why it has to run, and why it has run at night, and the circumstances and character of the business, and the contracts which made it necessary for the plant to operate at night.

The Vice Chancellor: That can all be supplied by other witnesses?

Mr. Grey: That can not be so well supplied by a number of other witnesses rather than by Mr. Douglass. Those are the grounds on which the application for postponement is made. 10

The Vice Chancellor: What is the complainant's attitude on this motion?

Mr. French: The complainant's attitude is that he must oppose the adjournment, because the gravamen of the bill is the noise and vibration caused by this machinery at night. It may be very firmly fixed in the recollection of the witnesses as to what happened in April and May of this year; now, if the case is postponed until the fall, and the plant is not operated at night, they may have a very dim recollection, and consequently the complainant feels that the case ought to go on. I would be glad to accommodate Mr. Grey, if I could. 20

The Vice Chancellor: It is not your contention, Mr. Grey, is it, that Mr. Johnson's absence under these circumstances, he being in perfectly good health himself and having had ample notice of the date upon which this case was to be tried, and there being no reason apparent to the Court why you could not have taken his testimony *de bene esse*, that you have offered a legal excuse for not going on with the trial? 30

Mr. Grey: No, I do not say so. I do not say that I am here as a matter of absolute right; I say I am here as

a matter of equity to state the situation to the Court, and, in fairness, urge that our circumstances are such that it endangers our situation to go to trial now. The extreme difficulty of taking the testimony *de bene esse* was that we did not yet have a situation to meet, and that situation would be most unsatisfactory to the defendant.

The Vice Chancellor: Well, while, of course, every man of proper feeling sympathizes with Mr. Johnson in the illness of his wife and in his desire to accompany her, it must be apparent that his duty in this case required that his deposition be taken *de bene esse*, if it was necessary to use it for the defense, because Mr. Seligman had sworn in the preliminary application to the alleged conversations with Mr. Johnson, and you, at least, had a guide to that extent to lead you with respect to the matters which Mr. Johnson could properly testify about. The difficulty with any postponement is the great number of witnesses that are to be produced in this suit, there having been, I am informed, over forty affidavits on file on the preliminary application; the inability of the Court, by reason of the contradictory facts in those affidavits, to arrive at any proper or well-grounded decision in the meantime; the fact that the case will take a long time to try, and that my calendar is so crowded that it would be many months before you could be reached. And the fact that both sides, otherwise than as now indicated by defendant's counsel, are now ready, leads me to deny his application for a postponement. I will, however, do this: If it should appear to me, upon the conclusion of the case, that the complainant's case to any material extent rests upon oral admissions alleged to have been made by Mr. Johnson, I will then listen to an application from the defendant with respect to proper rebuttal of such statements. I will say (not, of course, with any positiveness, because I only have such information as I gathered from the initial consideration of this case on

preliminary application), that the gravamen of the suit being whether or not certain machinery in a certain location causes certain disturbances, both as to noise and as to vibration, I do not really see how what either Mr. Seligman might say to Mr. Johnson, or what Mr. Johnson might say to Mr. Seligman, could have any controlling effect on the mind of an equity judge. Nothing that they could say could make the matter either more or less a fact. It is a fact. It either exists, or does not exist. And even in the face of an absolute statement by Mr. Johnson that, in his judgment, it did exist, if that was not sustained by the complainant by sufficient proof to convince the Court that the vibration and noise complained of proceeded from the defendant's plant, I personally would give very little weight to what the complainant might say about it. You may proceed with the trial with that understanding. 10

ISAAC SELIGMAN, SWORN. 20

By Mr. French:

Ques. Mr. Seligman, where do you reside?

Ans. 117 Market street, Camden, N. J.

Ques. How long have you lived there?

Ans. Twenty-eight years.

Ques. Do you own the property?

Ans. I do. 30

Ques. When did you acquire the title to it?

Ans. In July, 1888, or some time prior to that. I bought it in February, and it was turned over to me in July.

Ques. The witness being shown a deed, dated the 18th day of June, 1888, from Joseph Augustus Hull, and others, to Isaac Seligman, acknowledged the same

day, and recorded in the office of the Register of Deeds for the county of Camden, June 16, 1888, in Book No. 138 of Deeds, page 103, &c., is asked: Is that the deed by which you acquired the title to the property?

Ans. It is.

(Said deed is offered in evidence, admitted without objection, and is marked Exhibit C1.)

10 Ques. Since you acquired title have you continuously lived in this property?

Ans. I have lived nowhere else.

Ques. Of what does that property consist?

Ans. Of an ordinary building lot and a house on it.

Ques. Describe the house.

Ans. It is a three story dwelling—with a store on the first floor, and a lot 20x100—a three story brick front, with a two story back building.

Ques. What sort of business is carried on in that store?

20 Ans. Cigar and tobacco.

Ques. And is there any part of the Postal Service there?

Ans. The sub post-office is there, which occupies just a small desk.

Ques. Have you a family?

Ans. I have.

Ques. Of whom does it consist?

Ans. My wife and my daughter and my son.

Ques. What are their names?

30 Ans. Nathalie is my wife's first name; Esther L. is my daughter's name; and Joseph A. is the son's name.

Ques. How old are the children?

Ans. Well, I really don't remember how old they are.

Ques. Oh, about?

Ans. I think my daughter is about 23 or 24, maybe 25; I cannot say positively.

Ques. And how old is the son?

Ans. He was nineteen last April.

Ques. In what position in the block is this store and dwelling—at one end, or in the middle?

Ans. About the centre, nearly the centre.

By the Vice Chancellor:

Ques. Between what streets?

Ans. Between Front and Second, on the north side of Market street. **10**

By Mr. French:

Ques. How is that block bounded?

Ans. By Front street on the west, Second street on the east, Cooper on the north, and Market on the south.

Ques. When you first resided there were there any manufacturing establishments on Market street?

Ans. Not any.

Ques. Was Chew & Sons' printing establishment there? **20**

Ans. That was there.

Ques. On Second street, were there any business houses or manufacturing establishments at that time?

Ans. It is not any different now from what it was thirty years ago.

Ques. And on the corner of Second and Market, what was there?

Ans. A bank.

Ques. What bank?

Ans. National State Bank. **30**

Ques. When you first went there, what was there on Front street in the way of manufacturing establishments.

Ans. Collings' carriage factory; it was Collings Brothers at that time.

Ques. And was there any other manufacturing establishment on Front street?

Ans. On that block?

Ques. Yes.

Ans. Not any; nothing but dwelling houses.

Ques. Now, what was on Cooper street?

Ans. There was one dwelling house on Front street, right next to Collings', and there was a lot alongside of that that belonged to Joe Collings; then there was a double lot, which was vacant, that belonged to Joe Collings, and on that double lot the Victor Company put up their first building.

10 Ques. But I want to get the condition when you first went there? Now, what was on Cooper street?

Ans. There was originally an empty lot at the corner of Front and Cooper, and then the late E. N. Cohn built three marble front, porch front houses there on that lot. Then there was an empty lot next to that belonging to William H. Allen; that is No. 108. No. 110 was John Farrell's property. Then there were three or four frame porch front houses.

20 Ques. Well, they were all dwelling houses, were they?
Ans. All dwelling houses.

Ques. Except what? Wasn't there a house there that was not a dwelling house, a building that stood back?

Ans. Originally there was a dwelling house there, but at one time it was used by the Sparks Medicine Company, to put up medicines.

Ques. And so far as the Cooper street side of the block was concerned, the rest were all dwelling houses, were they?

30 Ans. All dwelling houses; and Mr. John N. Ake built two small brick houses back on the lot where the power house stands now.

Ques. They were built comparatively recently, weren't they?

Ans. Yes; a few years ago.

Ques. Now, thirty years ago, or after 1878, what was the first manufacturing establishment that was built in that block?

The Vice Chancellor: Do you mean on Cooper street?

Mr. French: No; anywhere on the block.

Ans. There was a building that Johnson put up on a double lot which he purchased from Joe Collings.

Ques. This was on Front street?

Ans. On Front street, right back of the original empty lot, back of the three houses that E. N. Cohn put up. 10

Ques. The Collings carriage factory extended the north line of it, about one hundred and eighty feet north of Market street, did it not?

Ans. The north end of it?

Ques. The north end of the Collings carriage factory was about one hundred and eighty feet north of Market street?

Ans. Yes; I think about that.

Ques. Then, as I understand you, there was a dwelling house? 20

Ans. Yes.

Ques. Then a vacant lot?

Ans. Yes, sir; there was a house and twenty foot lot alongside of it, and next to that was a double lot.

Ques. Now, on this double lot is where Mr. Johnson built first?

Ans. Where Mr. Johnson put up the first building.

Ques. Now, when was that, about?

Ans. I should judge eight or nine years ago, probably not that long, or maybe a little longer; I couldn't say; but he originally started in a little blacksmith shop that was back of my lot. 30

Ques. Now, what is that blacksmith shop; when was that put there?

Ans. That has been there before I came here. It was not occupied for a number of years when I moved into

that house, and afterwards a man by the name of Scull, I believe, put a machine shop in there.

Ques. Is it a large or small building?

Ans. It is a one-story, tumble-down shop.

Ques. Is it large or small ?

Ans. Well, I should judge it is probably thirty feet wide, about thirty feet wide, and probably sixty feet long.

10 By the Vice Chancellor:

Ques. Is it still there?

Ans. Still there.

By Mr. French:

Ques. A one-story building?

Ans. A one-story concern.

20 By the Vice Chancellor:

Ques. And that adjoins your property on the north?

Ans. Yes, sir; that is right on the end of my lot.

Ques. I say that adjoins your property on the north?

Ans. Yes, sir.

By Mr. French:

Ques. Is your point of the compass right? Does it adjoin your property on the north?

30 Ans. Yes; I believe, when I bought that property, I had it surveyed, and it stands back about twelve or fourteen inches from the line.

Ques. Yes; but is it north of your property, or west of your property?

Ans. North.

Ques. Immediately north—your property goes up against it?

Ans. Yes.

Ques. Now, you say, Mr. Johnson erected this building on Front street?

Ans. Yes, sir. I don't know whether it was Mr. Johnson, or whether it was already incorporated as a company; I cannot say that.

Ques. But it was practically under the same management, so far as you understood?

Ans. Yes, sir; as far as I know.

Ques. Then, what was the next building erected in that block? **10**

Ans. Then they bought the next house alongside of Collings' carriage shop, and the lot.

Ques. That was south of the new building?

Ans. South of the new building.

Ques. And built another building?

Ans. And built another building.

Ques. What was the next building that was put there?

Ans. The next building was the one on the Cooper street end. **20**

Ques. What happened, when they built the second building, with the house there; did they tear that down?

Ans. Yes, sir; tore it down, and made the party by the name of Wright move out of it. They had lived there for a number of years.

Ques. They tore that down and built another factory there?

Ans. Yes, sir.

Ques. Now what was done with the dwelling houses on Cooper street? **30**

Ans. They tore them down.

Ques. And what was built in their place?

Ans. A factory.

Ques. What sort of a factory is it, so far as you know and can say?

Ans. Well, what they call the pressing plant.

Ques. What sort of a building is it, frame or brick?

Ans. Oh, it is brick and concrete.

Ques. And how high?

Ans. I think it is four stories.

Ques. About how wide is it on Front street?

Ans. Why, probably, it seems to me, forty or sixty feet wide, something like that.

Ques. And about how long is it on Cooper street?

Ans. On Cooper street? Well, now, I will tell you
10 in a minute—about one hundred feet, I should think.

Ques. One hundred feet?

Ans. One hundred to one hundred and twenty feet.

Ques. Now, what were these manufacturing plants used for, so far as you know?

Ans. Part of it was made into offices, and the upper part of it was put into the press plant to press their records.

Ques. And what were the old buildings used for, the buildings first erected?

Ans. For their machinery, to build the talking machines.
20

Ques. What sort of power, if you know, did they have two or three years ago, to operate their plant?

Ans. They had regular steam power.

Ques. Where was the power house, or the power plant?

Ans. The power plant was in one of the original buildings. It was a steam boiler or boilers, I don't know which, and just an ordinary steam engine. At
30 first they had a gas engine, and then afterwards they had a regular steam engine.

Ques. Now, in the latter part of nineteen hundred and five, or in nineteen hundred and five, did they make any improvements back of your house that you know of?

Ans. Yes, sir.

Ques. What did they do then?

Ans. They tore down Mr. Ake's stable and two dwelling houses, and built a power house there, into which they installed two high speed engines with generators attached.

Ques. What was on the first floor of the power house?

Ans. The boilers.

Ques. Where were the engines with the generators attached?

Ans. On the second floor.

Ques. Of the power house?

10

Ans. Of the power house.

Ques. And in what direction from the back end of your lot was this power house?

Ans. It was just about—let me see—about sixty feet back of my lot.

Ques. In what direction?

Ans. North of my lot; that is, to the right, north and to the right.

Ques. Then it is a little northeast?

Ans. Yes, sir.

20

By the Vice Chancellor:

Ques. Well, where was this original plant in which they had the gas engine first and subsequently the steam engine, with reference to the old blacksmith shop of which you have testified?

Ans. The blacksmith shop was vacated then. They put the gas engine in the new building.

(Question repeated.)

30

Ans. Oh, the gas engine and the other engine that they installed were north of the blacksmith shop.

Ques. Then the blacksmith shop was between your lot and the building in which the gas engine stood?

Ans. Yes, sir.

By Mr. French :

Ques. Where was the stack at the new power house, at what corner of the power house?

Ans. On the southeast corner.

Ques. Southeast?

Ans. Hold on—on the southwest corner of the power house.

10 Ques. Was it built into the power house, connected with it, originally?

Ans. It was built on to it, and they had to disconnect it on account—

Ques. Never mind. That is the way it was?

Ans. Yes.

By the Vice Chancellor :

Ques. It was originally part of the house, and what did they do subsequently with it?

20 Ans. They disconnected it by cutting it loose.

By Mr. French :

Ques. What sort of a street is Cooper street; is it a business street or a residence street?

Ans. A residence street.

Ques. A fine residence street, or an ordinary residence street?

Ans. Well, it is a very respectable neighborhood, or it was from Front to Second street.

30 Ques. Yes, but the upper part of Cooper street?

Ans. Further up the more richer people live—further up.

Ques. Now, on Cooper street, between Front and Second, on the north side, what is there now?

Ans. The Cooper Park.

Ques. And is there any building on the Cooper Park?

Ans. The original mansion is still standing there, occupied now as a library.

By the Vice Chancellor :

Ques. Is the Cooper Park a private enterprise or a public enterprise?

Ans. It belongs to the city.

By Mr. French :

10

Ques. Now, after the power plant had been erected, and engines and dynamos or generators installed on the second floor, what did you notice as a result of running those engines and generators?

Ans. A vibration and a rumbling noise.

Ques. When did it commence?

Ans. Somewheres about Christmas.

Ques. In the daytime or at night?

Ans. Daytime, at that time; and I think they worked until nine o'clock at that time. 20

The Vice Chancellor: "Christmas" doesn't mean anything, Mr. French.

Ques. Christmas of what year?

Ans. Nineteen hundred and five.

Ques. Sometime in December, nineteen hundred and five.

Ans. December, nineteen hundred and five.

Ques. You say about that time they began to run until nine o'clock at night? 30

Ans. I think they did. I know they ran all day.

Ques. And what was the result of their running all day, so far as you were concerned? Did it cause any annoyance to you and your family; if so, what?

Ans. It did.

Ques. Well, what was it?

Ans. It caused a great deal of annoyance. The only time we could take our mid-day lunch was between the hours of twelve and half-past twelve, because the noise and vibration made us sick; it gave us spasms of the stomach.

Ques. What was the noise that annoyed you?

Ans. It was a rumbling noise; I can hardly describe it.

10 Ques. Now, you say there were engines on this second floor; how many engines and how many generators?

Ans. Two of each.

Ques. And what was the vibration that happened in the daytime?

Ans. The chimneys seemed to crack in the house.

Ques. By "chimneys" do you mean house chimneys or the lamp chimneys?

Ans. The lamp chimneys; and other things in the house moved to a small extent.

Ques. And what happened to you, what did you feel?

20 Ans. I felt the vibration all over my body. It made me sick.

Ques. When you were standing up or when you were sitting down?

Ans. Anyway; no matter where I was, it affected me.

Ques. Did it have any effect upon the windows of the house in any way?

Ans. They rattled, and at nights worse than in the daytime.

30 Ques. Now, as to articles of furniture in the house, a chair when you were sitting on it, did you notice anything about that?

Ans. Yes, sir.

Ques. Well, what did you notice?

Ans. We felt the vibration, felt the movement.

Ques. Anything else about the house that you noticed—in the daytime I am speaking of now, and at first?

Ans. Well, a shade, which I have on my lamp over my post office desk, if I got it close to the grating, would jingle.

Ques. Jingle against the grating?

Ans. Yes, sir.

Ques. When they began operating at night, was this noise less or was it increased in extent?

Ans. It was a great deal worse, increased very much.

Ques. And what about the vibration; was it greater or less at night than in the daytime?

Ans. It seemed to be worse, more vibration at night.

Ques. How long did they continue to operate until nine o'clock at night?

10

Ans. I think they commenced first it was nine or ten o'clock, and then about February first, the fore part of February, they worked until two.

Ques. Two o'clock in the morning?

Ans. In the morning; and then about the fore part of March they worked until four A. M.

Ques. And then did they increase the hours after that?

Ans. Well, they worked from seven o'clock in the morning until four o'clock the next morning, with the exception of half an hour at noon.

Ques. They stopped work about four in the morning, didn't they?

20

Ans. Four to quarter after four.

Ques. Now, what was the result upon you and your family with respect to the ability to sleep?

Ans. We couldn't sleep, couldn't even lie in bed.

Ques. When you lay down in bed, what did you feel or notice or hear?

Ans. It was continuously as if somebody would stand alongside of you and bang you on the head all the time.

Ques. With respect to the bed, did that move or was it stationary?

30

Ans. It seemed to move.

Ques. And what was the effect as to noise—were there any noises?

Ans. Yes, there was lots of noise, a humming noise all night, or up until four o'clock.

Ques. Where did these noises come from, and these vibrations?

Ans. From the power house.

Ques. What power house, the one you have spoken of?

Ans. The one I spoke of.

Ques. What effect did this have upon the ability of you and your family to sleep?

Ans. We could not sleep.

Ques. What did the family do through the night?

10 Ans. Well, walked about the house; sometimes we laid down for a few minutes and jumped up again, and sometimes we would run in the parlor and lie down there on the sofa for a few minutes, and run back again.

Ques. Where is the parlor?

Ans. In the front part of the building.

Ques. On the first or second floor?

Ans. Second floor.

Ques. And where are the bed rooms?

20 Ans. Our bed room is on the second floor right in the rear, the first room in the back building.

Ques. And was there any other bed room on the second floor?

Ans. Yes, one back of that where my son sleeps.

By the Vice Chancellor:

Ques. I cannot understand you. If you say yours was the extreme back room, that is, if yours is the rear room, how can you say there is another room back of that? Did you mean to say yours was the extreme rear room?

30 Ans. It is the first room from the front, in the back building.

Ques. The first room from the front. I understand you that there is a bed room in the extreme rear?

Ans. Yes, sir.

Ques. And yours is next to that?

Ans. Yes.

Ques. And then comes the parlor?

Ans. Then the parlor, and a bed room alongside of that.

Ques. What is in the third story of the building?

Ans. Three rooms.

Ques. Are they bed rooms?

Ans. They are bed rooms, but we do not occupy them.

By Mr. French:

Ques. What was the result upon the health of the family? 10

Ans. It gave us spasms of the stomach; we couldn't eat; Joseph, who is employed over in the city, when he came home at supper time, and the things were going, he would sit down and maybe take a few mouthfuls, and he would jump up and say: "I can't sit here," and sometimes he would go without supper until away late, until he got so he had to eat a little something.

Ques. What was the effect upon the health of your wife? 20

Ans. She was a nervous wreck, until I had to take her away.

Ques. Did you say anything to Mr. Johnson, or any of the Victor Machine people, about this?

Ans. I did.

Ques. When?

Ans. I went around to see Mr. Johnson in January, and I could not catch him, and I seen Mr. Middleton.

Ques. Who is Mr. Middleton?

Ans. The treasurer, I believe, treasurer or secretary— 30
secretary.

Ques. Now, what did you say to Mr. Middleton, and what did he say to you?

Ans. I told Mr. Middleton that the vibration and the noise from that power house annoyed us to such an extent that we could not rest in our house and it must be

remedied. He says, "It will all be remedied in about a month." I waited that month, and sometime in the early part of February I went around again, and I went to see Mr. Johnson.

Ques. Did you see him?

Ans. I did.

Ques. Now, what did you say to him, and what did he say to you?

10 Ans. I went in. I said to Mr. Johnson, "Mr. Johnson, I have come to see you about the noise and vibrations your power house makes. We cannot sleep. We have got to have some remedy." He says, "Do you come here to complain, too?" I said, "Why shouldn't I complain? I am suffering, and I have a right to have rest in my own house." He says, "Yes, we will soon do away with it; we are building now." I said, "Where are you building?" "On the Cooper street front." I said, "You haven't torn any houses down yet except one, and are just about commencing to tear it down."

20 Ques. Was that all the conversation?

Ans. That is all the conversation there was.

Ques. Now, did you address any written communication to the Victor Talking Machine Company about in April?

Ans. Yes, sir; I did.

Ques. I show you a paper. Is this a copy of the communication?

Mr. Grey: I object to the question.

30 The Vice Chancellor: The question is overruled. I do not understand that you have called upon the defendant to produce the original.

Mr. Grey: I will produce it, but I cannot produce it at this moment.

Ques. In reply to the communication that you sent the Victor Talking Machine Company, is this the paper that you received (showing the witness a paper on the Victor Talking Machine Company's letter head, dated April 12, 1906, purporting to be signed "Albert C. Middleton, Secretary")?

Ans. Yes, sir; that is the one I received.

Mr. French: I offer that paper in evidence.

(The paper is admitted without objection and is marked Exhibit C2).

10

Ques. Now, did they remedy this noise?

Ans. They did not.

Ques. Or the vibration?

Ans. No; only after I had left Mr. Johnson—He further told me "I told my men to keep those windows shut," and when I got home I found the windows were shut, and in about an hour they were open again.

Ques. By "windows," what windows do you mean?

20

Ans. The windows of the power house.

Ques. Which way do those windows face?

Ans. They have windows on both sides, north and south; I have only noticed the south windows.

Ques. It was the windows facing your building?

Ans. Yes, sir.

Ques. Now, is there a difference when those windows are closed?

Ans. Yes, sir.

30

By the Vice Chancellor:

Ques. In what respect is there a difference?

Ans. We do not hear the noise so much.

Ques. How does it affect the vibration?

Ans. Well, I don't think it is quite as much then, not quite as much vibration.

By Mr. French:

Ques. You said you were compelled to take your wife away; about when was that?

Ans. The first day of May.

Ques. And did they still continue to operate at night?

Ans. They did.

Ques. Now, were the vibrations and noises at about the first of May greater or less at night than in the day time?

10 Ans. They were greater at night than in the day time.

By the Vice Chancellor:

Ques. All of the months you have been speaking about are in what year?

Ans. This year.

Ques. 1906?

Ans. Yes, sir.

20 By Mr. French:

Ques. Now, are there any cars operated on Market street?

Ans. There are.

Ques. Trolley cars?

Ans. Yes, sir.

Ques. Is there a time when they do not run?

Ans. Yes, sir; to my knowledge, I think they quit running about one o'clock, except at about half-hour or hour intervals, I don't know which.

30 Ques. After those cars stop running, what noise and vibration, if any, did you hear?

Ans. Just the same as at any other time. In the room that we sleep in we do not hear the cars of any consequence, because we keep our door closed which goes out the front way.

Ques. Now, what about the dishes in the house; have you noticed anything peculiar about them while this plant was in operation in this power house?

Ans. Well, not from my own personal knowledge. I guess Mrs. Seligman could answer that question better than I.

Ques. When was the chimney detached from the power house, if you know?

Ans. Not very long after they put in those engines.

Ques. They have recently stopped running at nights, haven't they? 10

Ans. Yes, sir.

Ques. When?

Ans. They stopped at four o'clock on June first, four A. M., on June first.

Ques. Have they run since at night?

Ans. Last night.

Ques. How long?

Ans. Until about ten o'clock.

Ques. Now, what was the effect last night?

Ans. Well, there didn't seem to be so much vibration, but there is something noisy there, a thump, thump, thump all the time, and was until about ten o'clock. 20

Cross-examination.

By Mr. Grey:

Ques. Mr. Seligman, who owned the blacksmith and machine shop last year?

Ans. Who owns the building, or who occupies it? 30

Ques. Who owns it?

Ans. It belongs to the Collings Carriage Company, I believe.

Ques. Has it been operated the last year?

Ans. Oh, yes.

Ques. When did you first come to 117 Market street?

Ans. In eighteen hundred and seventy-eight.

Ques. And you purchased it in 1888, is that it?

Ans. Yes, sir.

Ques. And the situation you described to Mr. French was as it was in 1878?

Ans. Just the same, excepting the new factories that have been put up by the Victor Company.

Ques. What was the situation in the block from Front street toward the Delaware River, between Market and Cooper, when you came there?

10

Ans. It is just the same as it was when I came here, except that the Esterbrook Pen Company enlarged their plant.

Ques. You have not yet told us what the situation was in that block when you did come to 117 Market street; what I want to know is what was it?

Ans. Offices and stores, and some factories.

Ques. What were the factories?

Ans. There was no factory on Market street except the carriage factory of William Hunt, and a blacksmith's shop and wagon shop of Jacob Rettberg's was there then.

20

Ques. Is that where Preisendanz is now?

Ans. That is where Preisendanz is now.

Ques. What else was there, Mr. Seligman, in that block?

Ans. There was a factory and still is a factory there back from 125, or right back of the blacksmith shop and wheelwright shop of Preisendanz.

Ques. What was that?

30

Ans. I think it was originally a sash factory, if I am not mistaken; I won't be positive; it was operated by John F. Starr; whether it was John F. Starr, Jr., or senior, I do not know.

Ques. What was there where Campbell's livery stable is now?

Ans. I guess it was a livery stable all the time.

Ques. Well, what other places were there in that block?

Ans. Stores.

Ques. Anything else?

Ans. No, there was nothing there except stores, that I can remember.

Ques. You are speaking now of the whole block, or only on Market street?

Ans. I am speaking of the Market street front.

Ques. What was there on the Front street front?

Ans. On Front street was the building which is now occupied by the Asbestos Company.

Ques. What was that used for?

Ans. Well, I really couldn't say now.

Ques. All right, what else?

Ans. Then there was a factory this side of it that was originally used at one time by Derby & Weatherby, as a machine shop.

Ques. What is that used for now?

Ans. Gausler & Starr Company use it as a horse clothing factory.

Ques. What else on the Front street side?

Ans. Then there s one building that was put up by Mr. Rudderow, and Mr. Morton has a small machine shop operated by electricity; he gets it from the Public Service Corporation.

Ques. Go ahead and finish Front street?

Ans. Then there is an empty lot. That is about all there is.

Ques. How about Cooper street? What was there on Cooper street?

Ans. The Esterbrook Pen Company.

Ques. That is all there was on Cooper street?

Ans. That is all there was on Cooper street on the south side.

Ques. How large a place was that?

Ans. Well, at one time it was originally the Camden Water Works; then when the Esterbrooks got hold of it it occupied probably one third of the block, and they, from time to time, enlarged it.

Ques. What was the situation of the block between Market street and Front street, Second street and Arch street? That is where we are now. What was the situation there when you came here in 1878?

- 10 Ans. There is not much change in it except that the Campbell Preserving Company put up one building south of the old building, which was there when I came here; and have put up one here on Front street, south of the building that was there then. And Colonel Murphy put up a file works further south on Front street.

By the Vice Chancellor:

Ques. And a new bank put on the corner, wasn't it?

- 20 Ans. No, that is an old bank. And has been there for years. It was built, I believe, about 1855.

By Mr. Grey:

Ques. You are speaking of the bank on the corner?

Ans. Yes, it has been just fixed up.

Ques. You are speaking of the bank on the southeast corner of Front and Market?

Ans. The southeast corner.

- 30 Ques. When you came here there was a building to the southward of the bank on the southeast corner of Front and Market—was there any building south of it?

Ans. When I came here it was a flour mill.

Ques. And what changes took place in the use of that building?

Ans. It became afterwards the electric light plant of the Camden Heating and Lighting Company.

Ques. About when did that change occur?

Ans. Oh, that has been some years ago; I guess probably eighteen or twenty years ago.

Ques. How long was it so used?

Ans. Oh, three or four, probably five years; maybe longer; I cannot just remember that.

Ques. When it was so used, did it operate at night?

Ans. Sure.

Ques. What was the character of the machinery in that building?

Ans. They had their machinery on the first floor and the dynamos on the second. 10

Ques. How large a building was it?

Ans. I think it was a three story building.

Ques. A large building or a little one?

Ans. Pretty fair size; I presume maybe thirty feet front, maybe forty.

Ques. What did the operation of that plant in that building supply?

Ans. Electricity.

Ques. For what purpose?

Ans. For the street lighting. 20

Ques. Of the city of Camden?

Ans. Yes, sir.

Ques. Was there any other manufacturing plant in that block?

Ans. I do not think there was, only the Campbell Preserving Company's offices are there now.

Ques. How large is the Campbell Preserving Company's plant—how much of the block does it occupy, about?

Ans. Oh, I expect they occupy—they occupy the old power house now, too, I know. 30

Ques. How large is the whole plant, approximately?

Ans. Oh, well, I don't think it is less than one hundred feet, maybe one hundred and twenty or one hundred and forty.

Ques. Does the plant of the Campbell Preserving Company run through from Front to Second street, all the way through?

Ans. It does, all the way through.

Ques. What would you think that distance is, about?

Ans. About 360 feet, I should think.

Ques. How much space does it occupy, approximately, north and south? It fronts on Front street and Second street; now, how much space does it occupy north and south?

10 Ans. Well, on Second street it occupies probably eighty feet, maybe ninety, I can't tell.

Ques. How much on Front street?

Ans. Considerably more than that.

Ques. How far is the Campbell plant, at its nearest point to Market street, from Market street?

Ans. I judge about 160 feet.

Ques. How long has the Campbell plant occupied that space? I am speaking now of the space you have last described; how long has it occupied all of that space?

20 Ans. Why, about five years. They haven't occupied all of it.

Ques. What is there on Market street, between the Campbell plant and the street?

Ans. There are dwelling houses and stores.

Ques. What numbers are the dwelling houses?

Ans. 120, 122, 124, 126.

Ques. Who dwells there?

30 Ans. 120 is Buckman's, who lives there with his family. It is a frame house now owned by the Campbell Preserving Company.

Ques. What is that used for?

Ans. For a bicycle place, repairing bicycles and so forth, and a kind of a light machine shop.

Ques. Well, what else?

Ans. And he occupies it with his family as a dwelling. The next door, 122, is a store, and they have roomers, I believe.

Ques. Going west, toward the ferry, what is next?

Ans. It is an empty lot. It is partly occupied now.

Ques. What is that used for?

Ans. Well, Campbell's have their garage there, and they are putting up sheds for tomatoes.

Ques. What do you mean by a garage?

Ans. Well, they keep their automobiles in there.

10

Ques. How near is that to Market street?

Ans. It is right fronting on Market street.

Ques. Does it set back from the street at all?

Ans. The width of the pavement.

Ques. Where is the entrance for the garage?

Ans. On Market street.

Ques. What is there adjoining, westward, toward the ferry?

Ans. Then there is a street; I don't know how wide that street is.

20

By the Vice Chancellor:

Ques. It is a narrow street?

Ans. Yes.

Ques. Almost an alley?

Ans. Yes.

By Mr. Grey:

Ques. What is next to the street?

30

Ans. The City Hotel.

Ques. Where is the City Hotel located in relation to your property?

Ans. Right across the street, almost across the street.

Ques. Have you staid at the City Hotel in the last three months?

Ans. No, sir.

Ques. Any of your family?

Ans. No, sir.

Ques. Day or night?

Ans. No, sir.

Ques. Ever eat there in that time?

Ans. No, sir.

Ques. What is next to the City Hotel, on the westward side, toward the ferry?

10 Ans. The offices of Judge Joline and the Bergens.

Ques. A law office building, is it?

Ans. Yes, sir.

By the Vice Chancellor:

Ques. That is No. 110, is it?

Ans. Yes, sir.

By Mr. Grey:

20 Ques. What is next to that?

Ans. This building.

By the Vice Chancellor:

Ques. That is No. 106?

Ans. 106.

By Mr. Grey:

30 Ques. What is this building used for?

Ans. Offices.

By the Vice Chancellor:

Ques. And the Law Library and Chancery Chambers?

Ans. Yes, sir.

Ques. And next on the west, is what?

Ans. A small office.

Ques. S. H. Grey's old office?

Ans. Yes, sir.

Ques. And next to that?

Ans. Is the bank.

Ques. When you first came here who occupied the house immediately next to what the Chew Printing Press Company?

Ans. The late James B. Dayton.

Ques. And who occupied the house next to the bank, on the Second street end of the block? **10**

Ans. The late Abraham Browning.

Ques. And where did Peter L. Voorhees live?

Ans. Right next door to me, 121.

Ques. After James B. Dayton's death, and the departure of the Dayton family from their house, what was that house used for?

Ans. The Elks had it for a while.

Ques. And since that time it has been vacant?

Ans. No, sir; the Camden and Suburban Company **20** had their offices there.

Ques. And since that time it has been vacant?

Ans. Yes, sir.

Ques. And what is Peter L. Voorhees' old residence now used for?

Ans. As a boarding house.

Ques. And what is the old Abraham Browning residence used for?

Ans. As apartments, an apartment house, one of them. **30**

Ques. And also some offices?

Ans. Yes, sir.

By Mr. Grey:

Ques. Does the Campbell Preserving Company plant ever operate at night?

Ans. They do in tomato season, but never later than ten o'clock .

Ques. What is the character of that plant?

Ans. They make soups and catsups.

Ques. Do they have any power there?

Ans. Yes, sir.

Ques. Of what character?

Ans. Steam engine.

10 Ques. What was the situation in the block bounded by Market street, Front street, Delaware street and Arch, when you came here, in 1878?

Ans. On the south side of Market street there was nothing but stores, no factories of any kind except a tin shop; that is about all.

By the Vice Chancellor:

Ques. Down to the hotel?

Ans. Down to the hotel.

20 By Mr. Grey:

Ques. Where was the hotel?

Ans. On the corner of Delaware street and Market?

Ques. What was there on the Front street side?

30 Ans. On the corner was the original ferry building, occupied as a grocery store by the late William B. French, and then afterwards by a man by the name of Moore; and that went back to George street—the store didn't, but there were some other one story stores there, or two story stores, old shacks, clean on through to George street. And then in 1877, I think, or 1878, one was occupied, the lower end of these shacks was occupied as a soup house in the winter time, to feed the poor.

Ques. What has that southwest corner of Front street been used for, and whom has it been occupied by, in the last five years?

Ans. Oh, for the last twenty years by Taylor Brothers.

Ques. What is the character of their business?

Ans. They are dealers in general farming utensils and feed and seeds.

Ques. Well, now, proceeding southward on Front street, what was there immediately south of Taylor Brothers?

Ans. Then there was a livery stable on the opposite corner from George street.

Ques. Do you mean on the westward side of Front street? 10

Ans. On the west side of Front street.

Ques. South of Taylor Brothers?

Ans. Yes, sir; and next to that was a double stable occupied and owned by the late James B. Dayton and Abraham Browning.

Ques. What is there now where the livery stable was you have just mentioned?

Ans. A stable, still occupied by Mr. Joshua Franklin.

Ques. As what?

Ans. A livery stable. 20

Ques. What is there where the Dayton and Browning place was?

Ans. Campbell's bought it and have their stables there.

Ques. Proceeding south, what was next?

Ans. Two dwelling houses.

Ques. How long have they been taken away, if they have been?

Ans. They are there yet.

Ques. On the westward side of Front street?

Ans. Yes, sir. 30

Ques. What is south of them?

Ans. That has been an empty lot for years.

Ques. Well, what is south of the vacant lot?

Ans. Then comes Merritt & Company.

Ques. What is their business?

Ans. Expanded metal.

Ques. And have they any machinery in their plant?

Ans. I expect they have; oh, yes.

Ques. Mr. Seligman, do you know whether the Light, Heat & Power plant that you have mentioned was ever located anywhere else in this neighborhood than as you have described it?

Ans. Not to my knowledge. It might have been, but I don't know it, or I don't remember it.

10 Ques. What is there on the Delaware River end of Cooper street, beginning with the street as it reaches the river, and coming eastward up the street to the Victor plant? Describe the south side first?

Ans. The south side of what?

Ques. Cooper street.

Ans. Why, I have described that.

Ques. I want you to describe it again.

Ans. The Esterbrook Pen Works is there.

Ques. Is that nearest the river?

Ans. There is no building except on the—

20 Ques. (Interrupting) What is right on the river at the end of Cooper street?

Ans. Oh, on the corner of Cooper and Delaware street, or very close to it, is the office of Sweeten & Son, Contractors, and then a few years ago, further south from that, there was a spinning mill erected there.

Ques. Is that there now?

Ans. That is there yet.

30 Ques. What is next to that, coming up Cooper street, eastwardly; starting at Delaware street and coming east on Cooper street, up to the Victor plant?

Ans. On the south side?

Ques. Yes, on the south side.

Ans. There is a vacant lot; then comes the Esterbrook Pen Works; then there is another vacant lot; then there is Front street.

Ques. And what is immediately eastward of Front and Cooper, on the next corner, coming up?

Ans. The Victor Talking Machine Company.

Ques. What is at the foot of Market street toward the river?

Ans. The old ferry building.

Ques. And what is between that old ferry building on the river and the foot of Cooper street on the river—anything; is there any building there?

Ans. There is one on the wharf, occupied by Munger & Bennett.

Ques. For what purpose?

Ans. As a planing mill. They have their lumber yard there.

10

Ques. What is next to them, going northward on the Delaware River toward Cooper street?

Ans. I think there are nothing but wharves, some coal wharves there; they are out in the river, or just up on the bank, I don't know which; I don't go fishing on the river so I don't know.

Ques. What is there on the north side of Cooper street, at the Delaware River?

Ans. A wharf.

20

Ques. And is it a public wharf, private wharf, or what?

Ans. Private.

Ques. What is it used for?

Ans. I think there is a boat building company there that builds naphtha launches.

Ques. Now, starting at Cooper street, and as soon as it comes to the Delaware River, go up Cooper street eastwardly, on the north side, and describe what you find there?

Ans. There is no building between Delaware street and the river, except the original Derby & Weatherby machine shop, now occupied by Strandwitz & Scott.

30

Ques. For what purpose?

Ans. They manufacture some tin affair, I don't know what it is.

Ques. What is next to that, eastwardly, on Cooper street?

Ans. Next comes a vacant lot, now. It was originally or at one time the Camden Storage Company; they had a large building there, and that burned down.

Ques. What is next to that, eastwardly, on Cooper?

Ans. E. G. Locke & Co., or E. G. Locke; I don't know whether there is any company to it.

Ques. What is it?

Ans. Glazed paper manufactory.

Ques. Have they any machinery there?

10 Ans. I presume they have.

Ques. Don't know whether they have or not?

Ans. I guess they have; I couldn't swear; I have never seen it.

Ques. Haven't they any chimney?

Ans. I could not say that.

Ques. Never saw their chimney?

Ans. No, sir.

Ques. Do you know what that is used for?

Ans. Making glazed paper.

20 Ques. Can they make glazed paper without machinery?

Ans. That I don't know. I know how to make cigars.

The Vice Chancellor: I understand the witness to say that he understands that they have machinery there, but he does not commit himself as to that because he has never seen it.

Ques. Did you ever make cigars at 117 Market street?

30 Ans. Lots of them.

Ques. Do you now make cigars there?

Ans. No, sir.

Ques. When did you stop?

Ans. Last October a year.

Ques. How long did you make them there before that?

Ans. In that building since July, 1878.

Ques. What part of the building did you use for the making of cigars?

Ans. I had the store partitioned off at one time; then afterwards I built a small room back of the store, and before I came into that building a man by the name of Joseph Robinson built a frame building on a level with the second floor, to which we have access from the yard only by a stairway, and that we call the shop, and we worked there.

10

Ques. Is it at the rear of your building?

Ans. Yes, sir.

Ques. How large is this building?

Ans. I suppose about sixteen by fourteen; something like that.

Ques. What floor is it on?

Ans. It is a level with the second floor.

Ques. And is that the room furthest north in your construction?

Ans. It is.

20

By the Vice Chancellor:

Ques. Is that between the rear bed room in your house and the Victor Talking Machine Company?

Ans. Yes, sir; that is on the extreme north.

By Mr. Grey:

Ques. What has that room been used for for the last year?

30

Ans. Storage.

Ques. Now, what is the room adjoining that one on the south, on the second floor?

Ans. Bath room and bed room.

Ques. Well, which is it, a bath room, a bed room, or both?

Ans. Both.

Ques. Are they in one room?

Ans. Well, they are not; the bath room is just partitioned off.

Ques. Is the bath room on the north side of the room or on some other side?

Ans. It is on the northeast corner.

By the Vice Chancellor:

10

Ques. It does not take up as much space as the room?

Ans. Oh, no; not near.

By Mr. Grey:

Ques. Does it take up as much space east and west as the room itself?

Ans. The room is about fourteen feet wide, that is, the whole room, including the bath, and that is probably six feet wide; the bath room takes about six feet.

20

Ques. And when you say "wide" you are speaking of the dimension of the room east and west or north and south?

Ans. East and west.

By the Vice Chancellor:

Ques. That is not the bed room that you occupy?

Ans. No, sir.

Ques. You occupy the bed room next to that?

30

Ans. Next to that.

Ques. Toward Market street?

Ans. Yes, sir.

By Mr. Grey:

Ques. Who has occupied the bed room with the bath room in it in the last six months?

Ans. My son.

Ques. At night?

Ans. Sure.

Ques. Have you ever slept there at night during that time?

Ans. No, sir.

Ques. What is the room immediately adjoining on the south, the room with the bath?

Ans. That is my bed room.

Ques. And how large a room is that?

Ans. Oh, I guess 12x14, something like that?

Ques. That is about the middle of the house?

Ans. About the middle of the house.

Ques. What is the room next to that on the south?

Ans. The parlor and a bed room, and there is a hall there.

Ques. And is the parlor on Market street?

Ans. Yes, sir.

Ques. And is the bed room on Market street also?

Ans. Yes, sir.

Ques. Who occupied that bed room in the last six months?

Ans. My daughter; that is, part of the time.

By the Vice Chancellor:

Ques. Now, in the extreme rearmost room of the house, which is not the detached shop, which way do the windows face?

Ans. West.

Ques. And how many are there?

Ans. There are two in the bed room.

Ques. In the extreme rearmost room there are two windows?

Ans. There are two windows to the west.

Ques. And any other way?

Ans. There is one in the small room that goes out into this detached shop.

10

20

30

Ques. Right into the shop itself?

Ans. Yes, sir.

Ques. And in the next bed room, which you and your wife occupy, how many windows are there?

Ans. Two.

Ques. Facing west?

Ans. Facing west.

Ques. And are there any other windows on the second floor of your house that face west?

Ans. No, sir.

10

Ques. And which way do the other windows that are on the second floor face?

Ans. The back window in the parlor faces north.

Ques. The parlor goes across more of the house than the extension, does it?

Ans. Yes, sir.

Ques. And which way do the other windows face that are in the parlor and in the bed room in the Market street side of the house?

20 Ans. The bed room, the small room on the second floor, which is a bed room, has one window front.

Ques. And that faces which way?

Ans. Market street.

Ques. And the parlor windows face which way?

Ans. Two windows face Market street.

Ques. Now, you said there was one window in the parlor that faced north?

Ans. Yes, sir.

Ques. The parlor runs across the whole width of your house, does it?

30 Ans. No, sir; there is a small room which my daughter occupied, 6 x 8.

Ques. The parlor and the front bed room occupy the full front of your house?

Ans. Yes, sir.

Ques. Now, how much of that space, that is, the full width of your lot that your house is built on, do the back buildings occupy?

Ans. 14 feet in width.

Ques. Out of how much?

Ans. Out of 20.

Ques. So there are six feet that this window looks out upon?

Ans. Yes, sir.

Ques. And can you see out of that window north right up to the Victor Talking Machine Company's factory?

Ans. Oh, yes.

Ques. There is no building between you and the factory that is so tall that you cannot see over it? 10

Ans. No, sir.

By Mr. Grey:

Ques. Mr. Seligman, you said that the vibration in the house, or something in your house, was such that you were made sick at the stomach; did that occur to anybody but you?

Ans. Yes, sir.

Ques. Who else? 20

Ans. The rest of my family.

Ques. All of them?

Ans. Yes, sir.

Ques. All four of them?

Ans. Yes, sir.

Ques. Did that occur all the time during the day?

Ans. As soon as we would lie down in bed it would just go this way with us (indicating).

Ques. When you lay down in bed it made you sick?

Ans. Yes, sir; we felt it during the day, too, but not as much. 30

Ques. Did you feel it at any other time during the day?

Ans. All the time, more or less.

Ques. You were sick all day?

Ans. Yes, sir; but at night it was worse.

Ques. Did you call in any doctor about it?

Ans. There wasn't any use.

Ques. No, but did you?

Ans. No, sir.

Ques. Did you consult any doctor about it?

Ans. I did not.

Ques. Did any of your family consult any doctor about it?

Ans. No, sir.

10 Ques. When did this manifestation occur first?

Ans. It commenced when we were in bed, when they ran late at night.

Ques. And about when was that?

Ans. About the first of February, I think, they ran until two o'clock.

Ques. And when was the last time that it made you sick, or any of your family?

20 Ans. Why, the last Friday night in May my wife and I left the house, and on Saturday morning prior to that my wife ran out of the house, didn't stay in at all—

(Question repeated.)

Ans. Whenever we stayed at home it made us sick.

Ques. No, the last time, Mr. Seligman?

Ans. This week.

Ques. Who was it that was made sick this week?

Ans. Myself and Mrs. Seligman.

Ques. What time of night was it you were made sick?

30 Ans. Not at night, day time.

Ques. When was it you were made sick?

Ans. During the day.

Ques. What time of the day?

Ans. Well, after the power house began to operate. It gave me spasms of the stomach.

Ques. Can you tell what time of day it was?

Ans. All day.

Ques. All day long you were sick?

Ans. All day.

Ques. Did you do anything at all that day?

Ans. I did, very little though.

Ques. What day was that?

Ans. Yesterday.

Ques. Yesterday?

Ans. Yes, sir.

Ques. How long did you continue sick yesterday?

Ans. I am sick now.

10

Ques. You are sick now?

Ans. Yes, sir. My son has had to go home a few minutes ago.

Ques. Go home from where?

Ans. From here.

Ques. From this court room?

Ans. Yes, sir.

Ques. Why did he go home a few minutes ago, do you know?

Ans. Because he was sick.

20

Ques. How was he sick?

Ans. He was sick all night.

Ques. Sick at his stomach, do you mean?

Ans. Yes, sir.

Ques. And he was sick all last night?

Ans. He was sick from about—I heard him about one o'clock, and I got up and went in the bath room, and there he was sick, and I stayed with him until three or until half-past two, and my daughter got up and she stayed with him until about half-past three or four o'clock, I think.

30

Ques. What is your son's occupation?

Ans. He is a clerk.

Ques. Where?

Ans. Pennsylvania Railroad.

Ques. And what did he do yesterday?

Ans. Worked at his business.

Ques. Where is his business?

Ans. Broad Street Station.

Ques. What time did he get home last night?

Ans. About half-past five.

Ques. Does he work at his business day by day, or only occasionally?

Ans. Every day.

Ques. Where was he the day before yesterday?

Ans. Home.

10 Ques. At your house?

Ans. Yes, sir.

Ques. That was Sunday, was it?

Ans. Yes, sir.

Ques. Where was he on Saturday, the day before Sunday?

Ans. Why Saturday he was to work until noon; he came home about one, and in the afternoon he was home.

Ques. How much has your wife been sick at her stomach, how often?

20 Ans. She was continually sick, until we had to take her away, and her nerves were completely shattered.

Ques. You took her away, did you, the first of May, did you say?

Ans. On the first of May.

Ques. Has she been home since?

Ans. Yes.

Ques. When did she come home after the first of May?

Ans. We came home every day, but just slept away.

Ques. How long, from the first of May on did you sleep away?

30 Ans. Until the first of June, except when they did not work, which was Saturday night and Sunday night.

Ques. And where did you sleep?

Ans. Up on 7th street.

Ques. Camden?

Ans. Yes, sir.

Ques. Did you stay away every night from the first of May until the first of June?

Ans. Except one night.

Ques. What night was that?

Ans. That was the first week. I insisted that my daughter—

Ques. No, I just want to know approximately what time it was. Did you daughter stay away every night?

Ans. No, sir.

Ques. Why not?

Ans. Why, we couldn't leave the house alone; somebody had to stay home.

Ques. How about your son?

Ans. Well, they managed the best way they could.

Ques. He stayed home there part of the time?

Ans. Yes, sir; I could not leave one of the children alone at home.

Ques. Did you consider this sick stomach and nausea which all of your family continually suffered from to have been of any importance? Did it make much difference to you in your daily life?

Ans. Yes, sir.

Ques. Made a great deal, didn't it?

Ans. Well, we couldn't live right.

Ques. Did you say anything about that in your affidavit which you made in this cause some time in the early part of May?

Ans. I don't know whether I did or not.

Ques. I show you the original bill in this suit, and show you a page on which is in ink the words "Isaac Seligman," and ask you if that your signature?

Ans. I guess it is. Yes, that is my signature.

Ques. Did you swear to that before Miss Evans, a Notary Public, on the 5th of May, 1906, as indicated on that page?

Ans. I swore to that paper, to the contents.

Ques. Did you suffer from any annoyance by noises at night prior to Christmas, 1905, Mr. Seligman?

Ans. No, sir.

10

20

30

Ques. Did any of your family?

Ans. No, sir.

Ques. How near is 117 Market street to the street—how near is the front of the house to the street? It is separated from the highway by a pavement, is it not?

Ans. By the pavement.

Ques. It is right on the street?

Ans. Yes; it is right on the street.

10 By the Vice Chancellor:

Ques. It is right on the building line?

Ans. Yes, sir.

By Mr. Grey:

Ques. What takes place on the street? Are there any trolley tracks on it?

Ans. Yes, sir.

20 Ques. How many?

Ans. Two.

Ques. Are there any trolley tracks on Second street?

Ans. Yes, sir.

Ques. Between Market and Cooper?

Ans. Yes, sir.

Ques. How many?

Ans. Two.

Ques. And for what is the street used—what is the usual traffic on Market street composed of?

Ans. General traffic and trolley cars.

30 Ques. Do you know where the trolley cars go to that go up and down that street?

Ans. Go different places.

Ques. Well, what are they?

Ans. When they go out Market street they go to Pensauken, Trenton, Moorestown, Mount Holly and Merchantville; and up Second, they go to North Cramer Hill and Vine street ferry.

Ques. Are there many cars or very few cars go by your house on the street?

Ans. Oh, there is quite a few.

Ques. Do you mean quite a few or a good many?

Ans. There are several at every ten minutes or five minutes.

Ques. And late in the evening do they run? How late in the evening do they run or how early in the morning?

Ans. Well, I think they commence somewhere about six o'clock, and they run until sometime after twelve. 10

Ques. Do truck wagons go past your house on Market street during the season?

Ans. Yes, sir.

Ques. Many or few?

Ans. A good many.

Ques. What time in the day or night do they pass your house?

Ans. Pretty nearly all night.

Ques. Mr. Seligman, what other plants than the Campbell and the electric light plant operate at night or have done so during the last five or six years in this neighborhood? 20

Ans. I don't know that any do, outside of the Victor.

Ques. You don't know any that ever did in the last five or six years?

Ans. Well, Campbell's worked until about ten o'clock during the tomato season.

Ques. Does that disturb you or your house in any way?

Ans. We don't hear it; that is, we about hear it and that is all; it don't annoy us any; they don't work after ten, and then we don't hear that noise. 30

Ques. Have any of the plants on Front street between Market and Cooper operated at night in the last ten years?

Ans. Not to my knowledge.

Ques. Did Collings' carriage factory every operate at night?

Ans. I do not think they have.

Ques. What is there in the West Jersey Press building, at the northeast corner of Front and Market?

Ans. The West Jersey Press printing office and Bender's book bindery.

Ques. How much space on Market street does that building occupy?

10 Ans. Well, I suppose about forty or fifty feet; I don't think it is sixty.

Ques. Are there printing presses in the building?

Ans. Yes, sir.

Ques. What floor are they on, do you know?

Ans. Third.

Ques. And what floor is the book bindery on?

Ans. On the second.

Ques. Do you know whether either of those ever operate at night?

20 Ans. They have; when they are busy they operate at night.

Ques. Does the Esterbrook Pen Factory operate at night at all?

Ans. They haven't for a number of years.

Ques. How long ago did they?

Ans. Well, I couldn't really say, but I don't think they operated later than nine o'clock for ten or fifteen years; I couldn't say positively though.

30 By Mr. French:

Ques. Mr. Seligman, you came down Market street from 120 Market street going west; now what is on the south side of Market street, going east from 120 Market street?

Ans. 122 is where they sell some kind of stuff for cleaning carpets, or disinfecting, or something of the kind.

Ques. What else is the building used for?

Ans. For roomers, I believe.

Ques. Now, what is next to that, coming east?

Ans. Frank Braun has a tailor store on the first floor and occupies the house part for his family.

Ques. What is next to that, going east?

Ans. Next, on the first floor, is Mr. Samuel Sparks' office, and the rest of the house is vacant just at this time. It used to be used as a boarding house.

Ques. What is next to that?

Ans. The real estate office of Wesley & Company.

Ques. That is at the corner of Second and Market streets?

Ans. Yes, sir.

Ques. And what is over that?

Ans. That is all one building, or thrown into one building, 126 and the corner.

Ques. Well, what is it; what has it been used as?

Ans. A boarding house.

By Mr. Grey:

Ques. Mr. Seligman, have you observed any difference in your house, in the vibration or noises, in the last two or three weeks?

Ans. Daytime or night time?

Ques. Daytime.

Ans. In the daytime there is not much difference.

Ques. Is there any?

Ans. Well, I think the noise and vibration isn't quite as hard as it has been previously.

Ques. How do you account for that?

Ans. That is something I cannot tell, what they do inside of the building.

Ques. You think it is due to something inside of the building, do you?

Ans. Certainly is.

By Mr. French:

Ques. What is the size of this garage that you spoke of that Campbell's have on Market street?

Ans. Why, it is about probably fifteen feet high. It was originally a fence, and they just built on to it on the back.

Ques. One story?

Ans. One story.

10 Ques. And about how big?

Ans. I really couldn't say.

Ques. How many automobiles does it hold?

Ans. Two.

Ques. Now, you spoke of a planing mill on the river; how far is that from Front street?

Ans. About four or five hundred feet, or six hundred feet.

Ques. The windows of your house, on the second floor of the back building, what do they face, looking west?

20 Ans. Face a blank wall of a frame house next door.

Ques. And what is the number of that house?

Ans. 115.

Ques. Who lives there?

Ans. Mr. Garrison.

Ques. What sort of a pavement is the roadway of Market street paved with?

Ans. Asphalt.

Ques. Are there any truck wagons coming down Market street since December, 1905, until now?

30 Ans. Very few. They are just about commencing now for this season.

Ques. Now, speaking of Mr. Chew's printing establishment, at the corner of Front and Market streets, what is there between that and your house?

Ans. The house of the late Mr. Dayton.

Ques. Well, how high a house is that? Is that as high as the Chew building?

Ans. No, it is one story less—no, that is a four story building, too, but it is not as high; the front building I believe is nearly as high, but the back building is not.

Ques. And how far is Chew's east wall from your west wall, about?

Ans. 100 feet.

Ques. And on each of these 20 feet lots is a building?

Ans. Yes, sir.

Ques. Coming all the way out to the building line of Market street?

Ans. Yes, sir.

10

By Mr. Grey:

Ques. The post office is on the Market street side of your house?

Ans. Yes, sir.

Ques. Where was the lamp chimney located which you say cracked?

Ans. About in the center of the store, where the desk is.

20

Ques. And did it happen often?

Ans. Whenever it was close up to the screen, the iron screen.

Ques. No, I thought you said the lamp chimney cracked and broke?

Ans. Oh, that was in the sitting room.

Ques. And did that happen often?

Ans. No, not very often. It happened, though.

Ques. Did it happen more than once?

Ans. Oh, yes; it happened several times.

30

Ques. What do you think was the cause of the cracking of the lamp chimney?

Ans. Well, I couldn't say; I imagine the vibration. We have had chimneys in the sitting room as long as fifteen months or eighteen months before, and that was the first one that ever cracked in the sitting room; it

was cracked since the power house was in operation, and that one was on there two years.

Ques. Was the lamp lighted when it broke?

Ans. Don't think it was.

Ques. Mr. Seligman, do the walls of your house vibrate?

Ans. I hardly think that the walls vibrate; if they do, it is very little.

Ques. Do the floors vibrate?

10 Ans. Yes, sir.

Ques. Did you ever observe the walls to see if they vibrated?

Ans. I have had my hand against it. The window frames will vibrate.

Ques. How about the floors?

Ans. We could feel it all over our body when we stand on them.

Ques. Is that true of all the floors in the house?

Ans. Pretty much all.

Ques. Upstairs and down?

20 Ans. Yes, sir; worse upstairs than it is on the ground floor.

Ques. And in all the rooms of the house, on the first and second floor?

Ans. Yes, sir.

Ques. Have you ever been sick at your stomach before December, 1905?

Ans. I do not remember to have had sick stomach for the last fifteen years.

30

JOSEPH J. HOEY, sworn.

By Mr. French:

Ques. Mr. Hoey, where do you live?

Ans. 105 North Second street.

Ques. With your father?

Ans. Yes, sir.

Ques. How long have you lived there?

Ans. I was born there.

Ques. How old are you?

Ans. Thirty-two.

Ques. What is your business?

Ans. Clerk.

Ques. With whom?

Ans. Frank J. Burr.

10

By the Vice Chancellor:

Ques. Frank J. Burr does what?

Ans. Real estate business.

By Mr. French:

Ques. You say you live at 107 North Second?

Ans. 105.

Ques. And that is on the west side of Second street, between Market and Cooper? 20

Ans. Yes, sir.

Ques. What sort of buildings are in that block, between Market and Cooper, on the west side of Second street?

Ans. Dwellings.

By the Vice Chancellor:

Ques. Nothing but dwellings?

Ans. Nothing but dwellings except on the corner; 30
there is a bank on the corner.

By Mr. French:

Ques. One of those dwellings—part of it is used for a small cigar store, is it not?

Ans. Yes, sir.

Ques. Next to your house?

Ans. Yes, sir.

Ques. What sort of a street is Cooper street in the city of Camden?

Ans. The nicest street in the city of Camden, I think.

Ques. Is it a residence or business street?

Ans. Residence street.

Ques. How about the foot of it, on the river?

10 Ans. Well, on the river there is a lumber wharf there, I believe.

Ques. Well, east of Front street, it has been what kind of a street since you have known it?

Ans. East of Front street, on which side?

Ques. On both sides.

Ans. Why, on the north side is all dwellings and on the south side from Delaware avenue to Front, is the Esterbrook Pen Works.

Ques. East of Front street?

20 Ans. East of Front street, all dwellings.

Ques. Has the city of Camden any public squares?

Ans. One.

Ques. Where is that?

Ans. North side of Cooper street from Front to Second.

Ques. Did you notice anything that interfered with your rest at night since about December, 1905?

Ans. I did.

Ques. What did you notice?

30 Ans. I noticed vibration caused by the Victor Talking Machine plant.

Ques. Well, state how it came about. State what happened. State what the Victor Talking Machine did, first.

Ans. They put a large building right in the rear of the dwelling that I occupy, about forty feet from it, and built a power house there,

Ques. What was installed in that power house, if you know?

Ans. Very heavy machinery, so that when it was in operation, in motion, the vibration there was something terrible.

Ques. Do you know anything about the chimney attached to the power house?

Ans. Quite a large stack there.

Ques. Do you know anything about the chimney attached, or anything about it?

Ans. No; I don't know anything about that.

Ques. When did they begin to operate at nights, do you know?

Ans. I have got the date here (producing memorandum), I think it was in February, about the 2nd.

Ques. Of this year?

Ans. Yes, sir.

Ques. What was the result, so far as you were concerned, of their operating at night?

Ans. It prevented me from sleeping.

Ques. What stopped you from sleeping?

Ans. By this vibration—it caused the bed to rock and everything in the room to shake.

Ques. Did you hear any noises?

Ans. Oh, yes; there was noise all night.

Ques. What was the character of the noise?

Ans. Steam; it seemed like exhaust steam there sometimes, and often a pounding; it sounded like metal, and the grinding of this machinery.

Ques. How long did that continue during the night, what time of night?

Ans. Oh, sometimes it would continue until four in the morning.

Ques. Did you notice anything particularly about their starting or stopping the machinery, anything to cause you any annoyance?

Ans. What do you mean?

10

20

30

Ques. About the steam or the noise of the machinery?

Ans. Oh, yes; the noise of the machinery was considerable annoyance to me, at night only.

Ques. Were you able to sleep?

Ans. Well, sometimes I could sleep, and other times I could not. I had to get good and tired in order to sleep.

Ques. Did you have anything hanging in your room that would indicate to you the vibration?

10

Ans. Yes. It was customary for me to pin my watch right to the bureau there, stick a pin right through the top of the watch, and it would shake like a pendulum all night.

Ques. Would that shake when this machinery was not in operation?

Ans. No, not when it was not in operation it wouldn't, and the globes on the gas fixtures there would rock.

Cross-examination.

20

By Mr. Grey:

Ques. What floor did you sleep on?

Ans. Second floor.

Ques. Where was your room?

Ans. Second floor back.

Ques. Did you notice any difference in the movement of the watch when trolley cars were passing, or wagons, on Second street?

30

Ans. No.

Ques. It did not make any difference?

Ans. Well, the cars don't run there at night; they stop about eleven o'clock or around half-past eleven. There is no cars after that on Second street.

Ques. Are you there in the daytime at all?

Ans. Only for meals.

Ques. Did you ever notice your watch when the plant was not running, Mr. Hoey?

Ans. No, I never took notice of that.

A. EDITH ROGERS, affirmed.

By Mr. French:

Ques. What is your occupation, Miss Rogers? 10

Ans. I teach school.

Ques. And where do you reside?

Ans. 200 Cooper Street.

Ques. That is on the corner of Second and Cooper?

Ans. Southeast corner.

Ques. How long have you resided there?

Ans. Almost twenty years.

Ques. Do you remember the Victor Talking Machine plant being operated at night?

Ans. I do. 20

Ques. What was its effect upon you?

Ans. It awakened me after the hours of 10.30 until 4.00. I was awakened at 10.30; between 10.00 and 11.00; between 11.00 and 11.30; 12.00 and 12.30; and at 1.00, 2.00, and one night I was awake from twenty minutes of three until the lights were put out at fifteen minutes past four.

By the Vice Chancellor:

Ques. The lights where? 30

Ans. The lights in the Victor Talking Machine plant. It awakened me about twenty minutes of three one morning.

By Mr. French:

Ques. Did it have any effect upon your health?

11.

Ans. Well, sometimes. The day after that, one particular day when I was awakened at twenty minutes of three and kept awake until after quarter past four, I felt nervous the next morning; and it made me very nervous the other nights to be awakened.

Ques. Did you hear any noise from there?

Ans. A great clanging noise of iron, of iron clanging together, and it was continuous all night long.

Ques. Did you hear any noises from there?

10 Ans. A great beating of steam, a great puffing on the air.

Cross-examination.

By Mr. Grey:

Ques. When did you begin to be affected this way, Miss Rogers?

20 Ans. I noticed it in cold weather, I don't remember the month or anything about it; it was during cold weather.

Ques. Did it continue every night from the beginning, the time when you first noticed it—your sleeplessness?

Ans. Not every night. It annoyed me every night before retiring except Saturdays and Sundays.

Ques. But not after you retired?

Ans. Well, sometimes it would be quite a while before I could get to sleep.

30 Ques. You say you were only awakened one night at twenty minutes of three—it was only one night you were awakened?

Ans. That was one night. I was awakened other nights, but I did not get up to see the time.

Ques. Were you awakened every night by this noise?

Ans. Not every night.

JOHN B. ADAMS, sworn.

By Mr. French:

Ques. Where do you live, Mr. Adams?

Ans. 214 Cooper street.

Ques. That is about how far from Second street, and on what side of Cooper street?

Ans. South side, fifth house.

Ques. Since the latter part of December, 1905, have **10**
you observed any noise or vibration coming from the plant of the Victor Talking Machine Company?

Ans. Very great noise.

Ques. State what it is.

Ans. Well, the clanking of machinery when they are making the records, a terrible sound of iron plates coming bang, bang, every minute, at all hours of the night; the exhaust pipes from the steam like tug boats on the river; no sleep for any of the family and myself, and now I am reduced to a wreck; you can see here my **20**
arm is nearly paralyzed; my family is in the same condition; it is an outrage—

The Vice Chancellor: Oh, no, no; do not characterize it. State the facts. We will determine whether it is an outrage. Strike out the witness' statement in characterization of it.

Ques. Now, were these noises continuous in the night time, did you say?

Ans. They continued all night until a short time ago, **30**
a few weeks ago.

Ques. And were there any vibrations perceptible to you in your house?

Ans. That was the greatest portion of it, the noise and vibrations.

Ques. State what it was, and what its effect was upon your house and yourself?

Ans. Well, it would vibrate so you could not sleep, and the noise was so great that when sitting on the porch you could not talk to your friends.

By the Vice Chancellor:

Ques. Your house is across Second street?

Ans. Just above Second, on Cooper.

10 By Mr. French:

Ques. And what is the character of your house—about what did it cost?

Mr. Grey: I object to that. I cannot see what the cost of this house has to do with it.

The Vice Chancellor: I will admit it.

20 Ans. It cost \$50,000, furnished?

Ques. Well, unfurnished, I mean; what is the character of the house, unfurnished?

Ans. It is a very expensive house, inside and out, as you are aware in passing.

By the Vice Chancellor:

Ques. I understood him to ask you about what it cost unfurnished?

30 Ans. About \$40,000.

By Mr. French:

Ques. What is it used for?

Ans. Chiefly for my home, you know.

Ques. A dwelling house?

Ans. Dwelling house, yes.

Ques. Did you notice anything in the way of noise or vibration coming from the plant of the Victor Talking Machine Company in the daytime, and if so, what?

Ans. Of course, in the day time I am away from home most of the time, and we do not try to hear noises in the daytime as we do not sleep then; but in the night time, when we want to sleep, we cannot.

Cross-examination.

By Mr. Grey:

10

Ques. When did you build your house there, Mr. Adams?

Ans. I moved in the first of May, four years ago.

Ques. 1902?

Ans. I believe it would be 1902, yes.

Ques. When did you buy the land there?

Ans. About a year previous.

Ques. Where is it?

Ans. It was four houses on Cooper street; let me see, 112, I think—

20

Ques. What is your number?

Ans. 114.

Ques. And it is the fourth house, is it, from Second and Cooper, going eastwardly?

Ans. It is the fifth house.

Ques. What is there between your house and Second and Cooper?

Ans. Mr. Edward Bettles' residence, Mr. Levy's, Howland Croft's, and Mrs. Rogers' house.

30

Ques. What is the character of those four buildings?

Ans. All private residences.

Ques. What is the character of them—what do they look like—what are they made of?

Ans. Fine brick houses, with the exception of—

Ques. (Interrupting). How many stories high are they?

Ans. Three story houses.

Ques. Where on your house is the porch you spoke of?

Ans. Front and side, both.

Ques. And where is the side porch, on the east side or west side of your house?

Ans. On the east side.

By the Vice Chancellor:

10

Ques. That would be furthest away from the Victor Talking Machine factory?

Ans. Still further away.

By Mr. Grey:

Ques. And sitting on that porch you are not able to speak to your friends?

Ans. Either side; it don't make any difference.

20

Ques. Don't make any difference which side you are on?

Ans. Not a bit.

Ques. Have you noticed any difference in the way your property is affected in the last three or four weeks?

Ans. Well, there is a great difference about the soot.

Ques. Anything else?

Ans. Well, of course since the plant has shut down there is a great difference; we can sleep; there is no trouble now.

30

Ques. What about the daytime—is there any difference in the way your house is affected from what it used to be?

Ans. As I say, in the daytime I never bother; I am away from home most of the time.

Ques. Where are you in the daytime—are you occupied?

Ans. I am generally in Philadelphia or Atlantic City.

Ques. Are you away every day?

Ans. Generally.

Ques. Where do you eat breakfast?

Ans. At home.

Ques. About what time?

Ans. Nine o'clock, or half past.

Ques. Where do you eat dinner?

Ans. Philadelphia, generally.

Ques. What time of the day?

Ans. Anywhere from half-past twelve to two.

10

By the Vice Chancellor:

Ques. You have retired from active business, have you?

Ans. Yes, sir.

20

MRS. MARY FITZGERALD, SWORN.

By Mr. French:

Ques. Mrs. Fitzgerald, where do you live?

Ans. I live at 107 North Second street.

Ques. How long have you lived there?

Ans. Well, I have lived there for about pretty near forty years, when I first came there; but I have lived there now about twenty-five years.

Ques. And have you noticed anything annoying there in the daytime or night either?

30

Ans. Oh, yes. I live only about twenty-five feet from the Victor Talking Machine place. I can see them operating their machinery pretty near all the time.

Ques. And what is the effect of their operating the machinery?

Ans. Well, now, we don't keep no globes on lamps; we put them down on the floor all day; and for a long time the windows and the doors shook, all last night, used to shake all day, in a rattle; and then that stopped; they don't rattle now. And during the night we couldn't sleep in the back of our house at all. If anybody slept in the back they had to come front most of the time, and we couldn't sleep but very little.

Ques. Why?

10 Ans. Because of the noise of them working at night so much.

Ques. When did they begin working at night?

Ans. Well, I couldn't exactly tell what time they commenced, but I have known them to be working all this spring at night; some nights it would be three o'clock and four o'clock, and week before last, on the 8th of June, something blew off one night just like an explosion, and then we all, every one in our house, came to the second story, and I went to the bath room and looked out, and I seen all steam coming out; that remained for about
20 twenty minutes; the steam came out of every window and door. The back of the place comes to my place, and all the side, the windows. And after that there was two men there and they stayed fifteen or twenty minutes, fussing about whatever happened. And last week it was just the same, but not quite so bad—one night last week.

Ques. Have you any children?

Ans. Yes, I have children.

Ques. What has been the effect of the operation of this plant at night upon those children?

30 Ans. There is only one of my children, one of my girls, sleeps; with all the noise she sleeps. She sleeps in the second story back. But my daughter on the third story back, she don't sleep at all hardly.

Ques. And did you sleep?

Ans. Oh, no. I was getting very nervous. I sent them word there myself that I would have to have some

remedy, because I couldn't stand it any longer. I stood it a long time and I made no complaints.

Ques. Have you noticed anything about your kitchen utensils or about the dishes, that would show that the vibration existed?

Ans. Yes.

Ques. What did you notice?

Ans. I have a dresser in my kitchen and it don't go up to the top, and I keep a wash boiler on top of it with a cover, and the cover fell down on the floor three or four times, and I put the wash boiler and all down in the cellar; I have got nothing on top of that dresser now. And there cannot be two cups, one over the other, in the closet of the dresser, but they rattle. I try to keep them all down. 10

Ques. Have you any couches or sofas or anything of that kind in the house?

Ans. Oh, yes; I have a couch in my dining room, and I lie down to take a little rest in the afternoon, but I couldn't do that.

Ques. Why? 20

Ans. Because it seems as if something was moving all the time underneath it, jumping up and down; and I go to my daughter-in-law's and take a rest any time I want to; I go across the street and lie down there.

Ques. Did any of these things happen before the Victor Talking Machine Company began to operate its machinery in this new power house there?

Ans. No, not until they operated in the new place.

Cross-examination. 30

By Mr. Grey:

Ques. Where is your daughter-in-law's?

Ans. She lives on the other side of the street, right opposite.

Ques. What street?

Ans. On Second street, 112 North Second. But they don't feel it over there, you know; it is not as close.

Ques. Which side of Second street is 112 North Second on? Is it on the east side or the west side toward the Delaware?

Ans. No, it is on the east side, of course, towards Third street.

Ques. And does that house front right on the street?

10 Ans. Yes, that house fronts right on the street.

Ques. Is it right across the street from you, or further south or north?

Ans. It is opposite to 105.

Ques. Do the trolley cars ever bother you, going by your house there?

20 Ans. No, very seldom. Once in a great while at night, about twelve o'clock, they sometimes run very fast past, and it might wake you up; but then they don't stay but a little while, you know, they don't run all the time. I wouldn't care about the Victor if they worked all day, if they would let us sleep at night; that is the great thing; I would put up with the noise during the day. Now, they have a machine in front of my house putting down an artesian well, and that is working all day.

Ques. Do the passing trolley cars affect your rest in any way at all?

Ans. Well, it shakes the front windows, but not during the day; it is only at night, late at nights, that we hear the windows rattle on the front. It don't affect us at any other time.

30 Ques. Whereabouts is your sleeping room?

Ans. I sleep front.

Ques. On the second floor?

Ans. On the second floor.

Ques. When this explosion that you have designated as such, or have described, occurred, was the plant operating?

Ans. I don't know.

Ques. Were the engines running?

Ans. I don't know. It was at night. It was about between twelve and two. I couldn't say exactly the hour, however; I didn't look at the clock; and this, whatever it was, it seemed as if they got too much steam; my son, when he came down stairs (we all got so frightened), he says, "Why, it's nothing but some of the valves, the head flew off," he said; I didn't know what it was, but he said that it was only steam, they got up too much steam, they let their fires get too hot; that is what he said; you know he understands steam; he is working at the Pennsylvania Railroad. 10

MELVIN M. GARRISON, SWORN.

By Mr. French:

Ques. Mr. Garrison, where do you live? 20

Ans. 115 Market street.

Ques. How long have you resided there?

Ans. Two years.

Ques. Are you carrying on any business there?

Ans. Yes, sir.

Ques. What is that business?

Ans. Real estate.

Ques. Have you a family?

Ans. Yes, sir. 30

Ques. Consisting of whom?

Ans. Myself, wife and three children.

Ques. Do you remember the time, in 1905, when the Victor Talking Machine Company began operating its machinery from the plant in the new power house immediately northeast of Mr. Seligman's house?

Ans. I certainly do.

Ques. Your house adjoins Mr. Seligman's house on the west, does it not?

Ans. Yes, sir.

Ques. What did you notice when they first began operating this machinery in the new power house?

Ans. A continual noise and a continual vibration.

Ques. Now, what was the character of the noise?

Ans. The noises consisted of a continuous thumping, and to any person who was trying to get rest it continued a buzzing noise in the head all the time.

10 Ques. What was the character of the vibration, if you noticed?

Ans. The vibration of even the chandeliers in the place.

Ques. What effect did the vibration produce upon you, standing on the floor?

Ans. Well, it gives you a peculiar sensation; it affects the nervous system.

Ques. And what did you notice when you were sitting on a chair?

20 Ans. Well, if you were sitting on a chair and leaning back you would get a greater shock than if you were sitting and not leaning back. The building seems to vibrate continually.

Ques. Now, when you were lying down what did you notice?

Ans. That was almost unbearable.

Ques. You say it was unbearable, but what was it that was unbearable; what did you notice?

Ans. It was a continual motion of the bed, a continual jar.

30 Ques. Now, with that jar, were you able to sleep, or were you not?

Ans. No, sir; until nature gave away practically you got no rest at all.

Ques. Now, that applied to yourself?

Ans. Applied to myself, and not only to myself but my family.

Ques. To the children and your wife?

Ans. Yes, sir; and my wife was sick, and, in fact, I think it put her back considerably in recovering.

Ques. A child was born to you when?

Ans. A child was born to me, I don't remember the exact date; it is about a month and a half ago.

Ques. Was your wife to sleep after they began working this plant at night?

Ans. No, sir; only under opiates, or something of that character.

10

Ques. And what was the effect upon her health?

Ans. Very bad.

Ques. Did you consult your physician about it?

Ans. I certainly did, sir.

Ques. What was his advice about it?

Mr. Grey: I object to that.

The Vice Chancellor: How do you vindicate the right to introduce hearsay testimony?

20

Mr. French: I cannot.

The Vice Chancellor: The question is overruled.

Ques. Did the child live or die?

Ans. The child died.

Mr. Grey: I object to that. That is not connected in any way with this case.

30

The Vice Chancellor: That it happened, no.

Ques. When did the child die?

Mr. Grey: I object to that. I cannot see, unless it be connected with this case in some way, how the death of the child can make any difference to the issue here.

The Vice Chancellor: I will admit it. It is innocuous unless he does connect it, and I do not care to have him suggest anything to the witness by saying here what he is going to prove; so I will permit the certainly harmless testimony as to when this child died.

Ans. It was about three weeks old and some days.

Ques. When was it born?

10 Ans. It was born on Friday, but I cannot fix the exact date.

Ques. Was this plant in operation at night at the time the child was born?

Ans. Yes, sir.

Ques. And at the time of the death of the child?

Ans. Yes, sir.

20 The Vice Chancellor: Do you propose to prove, Mr. French, by any affirmative proof, that the death of this child was in any way caused by the condition of this building attributable to the defendants operating their machinery?

Mr. French: I do, by the testimony of the physician.

The Vice Chancellor: All right.

Ques. What was the character of the sickness of this child?

Ans. Spasms.

Ques. Of what?

30 Ans. Of the stomach.

Ques. Now, what is the health of the other children?

Ans. At the present time they are improved.

Ques. What was it before this plant began operating at night?

Ans. Very good.

Ques. What was it after they began operating at night?

Ans. Very nervous; it affected them in a nervous condition.

By the Vice Chancellor:

Ques. What are the ages of your children?

Ans. 14, 9, and 5.

By Mr. French:

Ques. What is the condition of your wife's health now? 10

Ans. Very poor, indeed; a physical wreck.

Ques. She has been subpoenaed to come here?

Ans. She is not fit to come.

Ques. She has been subpoenaed to come here, has she?

Ans. No, sir.

Ques. Was an attempt made to subpoena her?

Ans. Yes, sir; I objected to it on account of the condition of her health. 20

Cross-examination.

By Mr. Grey:

Ques. How long have you lived there, Mr. Garrison?

Ans. Two years; possibly a little longer.

Ques. Where did you live before that?

Ans. Burlington, N. J.

Ques. What was the health of the children prior to December, 1905? 30

Ans. The health of the children previous to our residence at 115 Market street was very good; that is, when we moved from Burlington to Camden.

Ques. What was the health of your wife prior to December, 1905?

Ans. Very good.

Ques. What room in the house did your wife sleep in, or has she occupied, since December, 1905?

Ans. What we call the "middle room."

Ques. Second story?

Ans. Yes, sir.

Ques. Where have the children slept since they came to Camden?

10 Ans. Well, we have had to change them around considerably. The daughter, the eldest daughter, sleeps in the third story front room; the wife sleeps in the second story, second room; and I occupy the next room, which is an adjoining room with a communicating door between.

Ques. Well, is your room on the Market street side or on the other side?

Ans. It is on the side of the building back from Market street.

Ques. Is it at the rear of the house, middle of the house, or in the front of the house, speaking from the Market street point of view?

20 Ans. On the second story there is only one room, and that is the bath room, back of my room; it is three rooms back; the front room runs the whole width of the house, then the middle bed room, then mine, and the bath room, which is quite a large room, back of it.

Ques. What is the character of the vibration that occurs in your building?

Ans. It is a continual jar.

Ques. Do the walls vibrate?

Ans. Yes; the whole building vibrates.

30 Ques. Well do the walls vibrate? How do the walls vibrate?

Ans. By leaning back you can feel it very plainly.

Ques. Would you know it if you didn't put your hands against it?

Ans. You would feel it by sitting on the floor, if you are sitting in a chair.

Ques. That is, on the floor?

Ans. Yes. You cannot feel the wall except you lean against it, or put your hand against it.

Ques. Do all the floors in your house vibrate?

Ans. Yes, sir; every one of them.

Ques. Did any of them ever vibrate prior to December, 1905?

Ans. Yes, sir; during the daytime.

Ques. Does the passing of trolley cars affect your house in any way?

10

Ans. Yes, sir; in some part.

Ques. How?

Ans. It makes a great racket.

Ques. Does the passing of heavy wagons on Market street make any difference?

Ans. It makes a noise.

Ques. Do the rackets of the trolley cars and the noises of the wagons affect you at all, or your family? Are they disagreeable or agreeable?

Ans. Well, we generally close all the doors between the sleeping rooms and the front rooms, and that does away with that part of it a great deal. 20

Ques. Do the passing of wagons or the trolley cars disturb the floors of your house in any way—vibrate them in any way at all?

Ans. No, sir; not that I notice.

Ques. Have you ever observed whether the vibrations which you did observe might not have been caused by the trolley cars or wagons?

Ans. Yes, sir.

Ques. Mr. Garrison, is it not true that the health of your children has been poor ever since you came to Camden? 30

Ans. No, sir; I cannot say that my health has been very poor.

Ques. Since you came to Camden?

Ans. Well, I don't know but what I have improved. I was in very poor health before I came here myself;

but my children are better than they ever were, that is, up to the time that I spoke of.

Ques. What time are you speaking of?

Ans. This continual noise at night—no rest, no sleep—it gets them nervous and irritable; it has upset their nervous systems.

By Mr. French:

10 Ques. Is there a time in the night when the trolley cars and wagons do not pass?

Ans. I believe there is; there seems to be a cessation somewhere.

Ques. Well, this vibration that you speak of and the noise—does that continue when the cars are not passing?

Ans. Oh, yes; yes, sir. I don't think there is any connection between the vibration and the cars at all, because we feel it when there are no cars passing.

20 By Mr. Grey:

Ques. Have you noticed any difference as to the way in which your house is affected, either as to vibration or noise, in the last three or four weeks?

Ans. Yes, decidedly.

Ques. What difference is there?

Ans. A great deal of difference; we get some rest and quietness.

Ques. I am speaking of the daytime?

30 Ans. In the night time, too, since they stopped running.

By the Vice Chancellor:

Ques. He is speaking of the daytime. He asked you whether you have noticed any difference in the daytime during the last four or five weeks?

Ans. No, sir; none in particular.

MRS. NATHALIE SELIGMAN, SWORN.

By Mr. French:

Ques. Mrs. Seligman, you are the wife of Isaac Seligman?

Ans. I am.

Ques. And have lived with him since 1878 at 117 Market street?

Ans. Yes, sir. 10

Ques. In the city of Camden?

Ans. Yes, sir.

Ques. What was your general condition of health prior to December, 1905?

Ans. My general condition of health was good.

Ques. And what has it been since the last part of December, 1905?

Ans. I have been very nervous.

Ques. And to what do you attribute that?

Ans. To the Victor Talking Machine high speed engines, their working at nights. 20

Ques. When did they commence working at night?

Ans. They commenced to work at nights in January, but they did not work as late then as later on.

Ques. January, 1906?

Ans. In January, 1906.

Ques. When did they commence to operate the machinery in the power house just back of your house?

Ans. I believe it was the beginning of January or end of December. 30

Ques. That is, December, 1905?

Ans. 1905; yes, sir.

Ques. When they began to operate the engines in the new power house, what did you notice about your house?

Ans. I felt a certain vibration.

Ques. Describe what you felt.

Ans. I felt, when I sat on a chair, that it was vibrating with me. When I went in the parlor—and it was a great many feet away—I felt the windows shake; and then when I came down they shook all over the house, every window of the house shook from the vibration.

Ques. Now, there was a time during the day when the machinery stopped, was there not?

Ans. Then it didn't shake.

10 Ques. I say there was a time during the day when the machinery did not shake, wasn't there?

Ans. Yes; that was from twelve to half-past.

Ques. Now, what happened then in your house?

Ans. Then we ate our dinner.

Ques. Well, what about the windows, did they shake then?

Ans. They did not shake when the machinery was not going, oh, no, no.

Ques. What about these vibrations?

20 Ans. The vibration was most terrible at nights; and it is now in the daytime.

Ques. Did these vibrations exist when they stopped from twelve to half-past twelve in the day?

Ans. It was not then so much. They would do sometimes a little work, but it did not annoy us as much as during the day and night; but at night was a most terrible time.

Ques. I am talking about this half hour in the daytime—there was a time when they stopped, wasn't there, from twelve to half-past twelve?

30 Ans. Then we didn't feel it so much.

Ques. Now, after December, or the first of January, they worked, you say, at nights—part of the night only?

Ans. They worked first, I believe, until ten; then they worked later; but towards the end they worked, I believe, from March until the end of May, until four o'clock in the morning, and that was terrible agony.

Ques. What was the effect?

Ans. The effect was that it affected my stomach like spasms of the stomach; my heart beat faster, and my head acted on the top as if somebody had pulled my hair out hair by hair; that was the effect; I couldn't lie and I couldn't sit, and I couldn't sit in a rocking chair; I had to get up, I was so nervous over it.

Ques. When you were lying in bed what was the effect; what did you feel?

Ans. The effect was as if somebody would be rolling something under the bed like big balls, and the bed would shake from it. 10

Ques. Would the word "pulsate" describe what happened?

Ans. Then my heart would beat right this way (indicating), and my stomach ached, and the top of my head felt just like somebody pulling it hair by hair.

Ques. Now, did you notice anything about the dishes in the house or the lamps?

Ans. Well, the lamp in the sitting room, we broke three chimneys in one week. But that doesn't matter; it could have broke a thousand if it wouldn't affect us poor creatures; we had to suffer. 20

The Vice Chancellor: Strike that all out except the fact that the three chimneys broke.

Ques. What did you notice about the dishes, if anything—what did they do, anything?

Ans. I did not watch the dishes; I only watched our bodies, how they were feeling.

Ques. Now, what was the effect upon the health of Joe, the boy? 30

Ans. Well, my poor Joe is sick now. I was just around to the doctor. I don't know what is the matter with him now, but then he hollered at nights; he said, "Don't switch me, Mister; don't switch me; don't switch me." I would go and say, "My boy, what is the matter?" He says, "Well, somebody wants to switch me."

Ques. This was while he was asleep, or half asleep?

Ans. Oh, then he awoke; he was wide awake. I said, "What is the matter?" He said, "Well, somebody wants to switch me all the time."

Ques. Did this happen before the Victor Talking Machine Company plant operated at night?

Ans. No, sir.

Ques. Only afterwards?

Ans. I am sorry to say, only since while they were
10 working.

Ques. Now, they haven't been working at night for some time?

Ans. Oh, no; it was very quiet.

Ques. What has been the result since they have not worked at night?

Ans. We feel much better.

Ques. And were you able to sleep when they did not work at night?

Ans. Why, certainly we were.

Ques. After the first of May where did you sleep?
20

Ans. I tried to sleep all over the house.

Ques. No, after the first of May?

Ans. After the first of May we slept in the back part first, but I couldn't sleep there; I went in the front parlor on the sofa.

Ques. One moment. Did you go away from home to sleep at any time?

Ans. Oh, yes.

Ques. When did you go away?

Ans. I went away at the time when you had the argument with the Victor Talking Machine lawyers.
30

Ques. Some time early in May?

Ans. Yes, sir; right after that day. On Tuesday evening I went away first, I remember.

Ques. Well, were you able to sleep when you went away?

Ans. When I went away, certainly I was.

Ques. You went away some distance from this place?

Ans. I went away ten squares; yes, more than that.

Cross-examination.

By Mr. Grey:

Ques. Mrs. Seligman, do you ever suffer from sick stomach?

Ans. Not as a general thing; no, sir.

10

Ques. You only suffer from sick stomach when the plant is operated?

Ans. Only when the plant operated.

Ques. Was that very dreadful to you; did you suffer much?

Ans. I would rather die than suffer it again.

Ques. You made an affidavit in this cause, did you not?

Ans. I guess I did; yes, sir.

Ques. I show you affidavit annexed to the original bill, and, on one page thereof, in ink, the words "Nathalie Seligman;" is that your signature, Mrs. Seligman?

20

Ans. That is my signature.

Ques. You swore to the contents of that affidavit, did you, before a notary public?

Ans. Yes, sir.

(The affidavit referred to is offered in evidence; admitted without objection.)

The Vice Chancellor: The affidavit need not be marked; it is part of the original files.

30

JOHN MEIRS, ESQ., affirmed.

By Mr. French:

Ques. Are you a counsellor at law of New Jersey?

Ans. I am.

Ques. Office at 106 Market street, Camden?

Ans. Yes, sir.

Ques. Do you know the complainant, Isaac Seligman?

10 Ans. I do.

Ques. Prior to and about the 1st of May, 1906, were you in his dwelling and store?

Ans. I was in the store and back of the store—in back of the store.

Ques. What did you notice while there?

Ans. Well, I noticed there a perceptible vibration and sort of throbbing movement, like the sensation that is usually accompanied by the operation of a heavy engine or anything like that, a constant movement.

20 Ques. State how you noticed it?

Ans. Well, the way I came to notice it, Mr. Seligman spoke to me of the fact that he was very much troubled on account of it, and my attention was particularly called to it on that account. I was there for postage stamps one evening.

Ques. What part of the building did you go to?

Ans. I was first in the store and then back of the counter of the store?

Ques. Where else?

30 Ans. I have been—I think it was that evening—in the back place there in the cigar store, where he did at one time make cigars.

Ques. In the back of the store?

Ans. Yes, back of the store.

Ques. What did you notice while you were there?

Ans. Well, there was a very appreciable vibration.

Ques. And where did it come from, could you determine?

Ans. It seemed to come from the rear of the building. I did not follow it back to see where it did come from. It apparently came from the building directly back or north of Mr. Seligman, which, I understand, is the power plant of the Victor Talking Machine Company.

Ques. Do you mean the low one story building immediately back of his lot?

Ans. Oh, no; the three or four story power house.

Ques. Well, did you hear any noises emanating from that power house?

Ans. Nothing excepting the usual noises accompanying the operation of heavy machinery, that is, the vibration and throbbing noise that comes from it; and then, on the other side though, I have noticed the clatter of plates, apparently the operation of heavy presses, or something of that kind, with a sharp clatter.

Ques. When?

Ans. Every time I go by there at night when they are operating it.

Ques. Is the noise loud or light?

Ans. Well, you could hear it two squares away easily enough, across the track and up as far as Third and around; I have heard it there very plainly.

Ques. In your office at 106 Market street are you conscious of the operation of it there?

Ans. Well, I could hardly say that I am. There is a great deal of noise in the street, and I don't know that I distinguish the vibration from the Talking Machine Company from that, if there is any from the Talking Machine Company that affects it.

By the Vice Chancellor:

Ques. What do you mean when you say "the other side"—you say you heard noises on "the other side;" what is "the other side?"

Ans. Well, I meant coming up Cooper street, along Front and Cooper streets.

Ques. How often have you been in Mr. Seligman's cigar store since the first of January?

Ans. Really that is impossible to say; I suppose I am in there seven or eight times a week. I am there almost every day for postage stamps, or to get special delivery stamps, or to register letters, or something of that sort.

Ques. Did you notice any vibration there prior to the time that Mr. Seligman asked you to make observations?
10

Ans. Well, I noticed there was a vibration there, but my attention was not particularly addressed to it before then. There was a great deal of noise and vibration there.

Ques. How long was it that you noticed any vibration?

Ans. It would be impossible for me to state the time.

Ques. Well, was it a year ago?

Ans. Oh, no; I had heard the street noises there before then, because I had tried to use the telephone over there.
20

By Mr. French:

Ques. These noises you heard when your attention was called to them were different from the street noises?

Ans. Oh, yes, different from the noises of the street.

Cross-examination.

30 By Mr. Grey:

Ques. Mr. Meirs, did you notice whether the vibrations you speak of were due to trolley cars or wagons, or anything passing on the street, or not?

Ans. Well, the noise I particularly speak of—

Ques. I am not speaking of noise, but of vibration.

Ans. The vibration and throb would not be noticeable at the time a trolley car was going by; the noise of the trolley car would drown it; but the minute the trolley car would pass you would appreciate it.

Ques. Did the passing of the cars increase it or diminish it?

Ans. At the moment of passing there was more noise.

Ques. I am speaking of the vibration; did a trolley car passing make any vibration at all that you could tell?

Ans. I don't know; I have got so accustomed to the jar and thud of a trolley car. I assume that it would,, but I did not notice it. 10

By Mr. French:

Ques. Mr. Meirs, would the word "pulsation" describe more aptly what you felt?

Ans. Yes; it was a throb or pulsation; that was exactly what it was.

By Mr. Grey: 20

Ques. What do you mean by "vibration"?

Ans. Well, there was movement of the articles there; the chandelier had a slight movement.

Ques. When you speak of "vibration" you mean movement of the earth and not things attached to it?

Ans. Yes.

Ques. What about the pulsation?

Ans. Well, the pulsation was a sort of a—well, I could hardly describe it. 30

By the Vice Chancellor:

Ques. He means was it a sensation that affected the things bodily, or did it affect only your ears—that is what he means; did you hear it, or did you feel it?

Ans. Well, both senses would be affected by it.

Ques. By what, the pulsation?

Ans. Both senses would be affected by the pulsation, both the sense of hearing and the sense of feeling.

WILLIAM T. READ, ESQ., sworn.

10 By Mr. French:

Ques. Are you a counsellor at law of the State of New Jersey?

Ans. Attorney at law.

Ques. With offices at 106 Market street?

Ans. Yes, sir.

Ques. Do you know the complainant, Isaac Seligman?

Ans. Yes, sir.

20 Ques. Known him and his family for a number of years?

Ans. Yes, sir.

Ques. Have you noticed anything relative to the health of the family within the last five or six months?

Ans. I noticed very perceptibly after I came back from a trip—I was away all the month of March—and when I came back in April I called over there; I buy cigars and postage stamps over there; and in all the trips after I came back I noticed that their eyes were red and they looked worn out and seemed to be rather nervous.

30 Ques. Have you noticed anything in his house with reference to the vibration or pulsation of the machinery of the Victor Talking Machine Company, and the noise of its operation?

Ans. Yes.

Ques. When was it, about?

Ans. I don't know just the time. It was some time in April. I was speaking to him about his run-down condition, and we went back in the back building, that is the little glass-enclosed place back of his store, and we opened the door there and I made an observation; I don't know just what day it was; I think it was about eleven o'clock in the morning.

Ques. Well, what did you notice?

Ans. Well, I noticed a very perceptible vibration; I could feel it through my body, feel the little quiver as of the vibration of a heavy engine or something; and I also noticed a very perceptible buzzing noise that seemed to come from the buildings back of Mr. Seligman's, and also a beating sound as of the chug of an engine. 10

Ques. Do you notice those same pulsations and noises in your office in the second floor of 106 Market street?

Ans. Not all the time; I do once in a while. What I mean to say is; if my mind is very much occupied on work I forget everything, but once in a while I sit there with nothing much to do and I notice a very perceptible vibration; I noticed it at quarter of ten this morning, just happened to notice it. 20

Cross-examination.

By Mr. Grey:

Ques. Do you know whether the Victor Plant was running at the time you say you noticed this vibration in your office?

Ans. Quarter of ten this morning. 30

Ques. Directing your attention to the time at quarter of ten this morning, when you say you noticed this vibration, I want to know whether you know whether the Victor Talking Machine plant was running at that hour?

Ans. I don't know whether it was running this morning or not, but I do the other time.

Ques. What was "the other time"?

Ans. Some time in April, I don't know just what the date was. I did not make the observation for the purpose of testifying.

Ques. I am speaking about what occurred in your office.

Ans. No, I never made any observation.

Ques. Did you ever notice that vibration you speak of in your office at any other time than this morning?

10 Ans. Yes.

Ques. And did you know, at these other times when you made that observation, whether the Victor plant was operating or not?

Ans. Well, I can say "Yes" and "No" too. I know it was running when I passed it sometimes on my way from my house from lunch; I would pass and it would be running then, and I would get in my office and notice it just afterwards; of course, I did not know that it was running at the exact time I noticed the vibration.

20 Ques. Did you notice it every day?

Ans. Well, at some time during the day.

Ques. You noticed it every day?

Ans. Yes.

Ques. How long has that continued; how long has that situation been that way?

Ans. It must be quite a while.

Ques. A year or two?

Ans. I have only been here about a year.

Ques. Well, has it been ever since you have been here?

30 Ans. I couldn't say whether it was here when I first came here or not.

Ques. You don't know?

Ans. No.

Ques. And you don't know when you first observed it?

Ans. No.

Ques. Is your office in this building?

Ans. Yes.

Ques. What floor is it on?

Ans. The second floor.

Ques. What floor are you on now?

Ans. Third.

Ques. Do you notice any such vibration as you notice in your office occurring now?

Ans. Not right now.

Ques. Have you, since you came into this room?

Ans. No.

Ques. Have you ever noticed it in this room?

Ans. Yes.

Ques. When?

Ans. Sometimes when I have been up here waiting to have a case called, or something.

Ques. Did you know, when you noticed it here, whether the Victor plant was operating or not?

Ans. No.

Ques. What was it you noticed in this room?

Ans. Just a slight quiver.

Ques. Was it in the air, do you think, or in the building?

Ans. No, it seemed to be a shaking of the whole building, very slight, but perceptible.

Ques. And you noticed it in this room, as I understand you?

Ans. Yes.

Ques. What time of day was it when you noticed it—during the opening time of Court?

Ans. Well, usually Monday morning.

Ques. Well, Court was in session Monday morning?

Ans. Yes, Court was in session.

Ques. Did you ever speak of it to anybody else?

Ans. Yes.

Ques. Who?

Ans. Spoke of it to Mr. French.

Ques. Did you first mention it to him, or did he first speak of it to you?

10

20

30

Ans. That I could not say. It was just a casual comment.

Ques. Was it before or after this Seligman suit was commenced?

Ans. I think it was after.

Ques. Did you ever notice it before this suit was commenced? This suit was commenced in May, some time, of this year.

Ans. Yes.

10 Ques. You noticed it before that?

Ans. Yes.

Ques. How long before that?

Ans. Well, I say I have noticed it nearly all the time I have been here.

Ques. I am speaking now of what you observed in this third story room of 106?

Ans. Oh, I cannot say; I just recall that I have at different times felt the vibrations; it has occurred to me since the building of the new Court House; I have often, when I felt these vibrations, thought it would be better
20 up there.

Ques. How long has the new Court House been built?

Ans. Well, now, let me see; I took notice of it before the new Court House was finished, for the reason that I was on a committee appointed by the Bar Association to see about moving the law library up there.

Ques. About when was that?

Ans. That was just what I was trying to call to mind. I think that was sometime in February, but I am not
positive.

30 Ques. Of 1906?

Ans. Yes, this year.

Ques. Had you ever noticed it before that?

Ans. I could not state any exact date; it just seems, looking back, that I have noticed it at different times.

Ques. You have said you do not notice any vibration now?

Ans. Not now, no.

Ques. What time is it now?

Ans. Twenty minutes of one—nineteen minutes of one.

Ques. How near is the place in the room in which you are sitting to the Campbell Preserving Company plant?

Ans. I should say about thirty feet, to the store house.

Ques. What is the situation of the windows of this room now?

Ans. All open.

Ques. How many are there?

10

Ans. 8.

Ques. And how about the door?

Ans. It is open.

Ques. What is the amount of the vibration that you have observed in this building, 106 Market street?

Ans. Very slight, but perceptible.

Ques. Do you hear any noises in this building, either in your office or in this room, which you can trace to the Victor plant?

Ans. No.

20

Ques. Since you have been here have you heard any noises from the Campbell plant?

Ans. Yes.

Ques. Do you observe any pulsation of the air at all since you have been in this room?

Ans. Not particularly.

Ques. Mr. Read, the passing of trolley cars and wagons on the street, on Market street—can you hear those from your office?

Ans. Yes, sir.

30

Ques. Are they louder, or less loud, than the noise which you have described from other sources?

Ans. Louder.

Ques. Does the passing of trolley cars or wagons in any way affect the vibrating of the building, do you know?

Ans. Yes, sir.

Ques. Is that vibration more or less than the other vibration that you have observed when the trolley cars are not passing?

Ans. Well, it is somewhat of a different vibration.

Ques. Well, is it more or less—can you describe it as more or less, or not?

Ans. The trolley car has more of a jar.

Ques. Well, does that jar exceed, or is it not so great
10 as this vibration?

Ans. I should say for the moment of passing it exceeded the other.

Ques. When you were in Mr. Seligman's, in the cigar store, haven't any trolley cars or wagons passed while you were there at any time?

Ans. Yes.

Ques. In the last six months?

Ans. Yes.

Ques. Could you hear the trolley car pass—did it make
20 any noise?

Ans. Yes.

Ques. Was that noise louder or not so loud as the noise you say came from the Victor plant?

Ans. Well, the noise would be louder.

By Mr. French:

Ques. Mr. Read, the vibration or noise from the passing trolley cars and wagons, would they be uniform and continuous?

30 Ans. No.

Ques. Was the vibration from the Victor Talking Machine plant of that character?

Ans. No.

Ques. It was not?

Ans. It was not of the character of a passing trolley car or wagon.

Ques. Well, was it of the character of being continuous and uniform?

Ans. Oh, yes.

ESTHER L. SELIGMAN, sworn.

By Mr. French:

Ques. Miss Seligman, you live at 117 Market street? **10**

Ans. Yes, sir.

Ques. Are you the daughter of Isaac Seligman?

Ans. Yes, sir.

Ques. What was the condition of your mother's and brother's health prior to December, 1905?

Ans. They were just on the verge of collapse.

Ques. Prior to December, 1905, I say?

Ans. Oh, why, nothing ever seemed to bother them at all. Everything was perfectly quiet in the neighborhood.

Ques. What happened in the latter part of December, 1905, with respect to the plant of the Victor Talking Machine Company? **20**

Ans. The latter part of 1905?

Ques. Yes, the latter part of December, 1905.

Ans. Well, nothing happened until the operating of the new power house, and they commenced to work until ten o'clock at night, and then there was a rattling of windows and a continuous jarring. It made every one nervous in the house.

Ques. When did they begin to operate until ten o'clock at night? **30**

Ans. Why, I should judge about—I don't know the exact date—but around Christmas time.

Ques. 1905?

Ans. Yes, around Christmas time, or the beginning of the year.

Ques. The beginning of this year, 1906?

Ans. Yes, 1906.

Ques. How long did they continue to operate until ten o'clock at night?

Ans. Now, the exact date I couldn't tell you, but I should judge several weeks; and then they worked until two.

Ques. And how long did they work until two o'clock in the morning?

10 Ans. Until sometime, I believe, in March.

Ques. 1906?

Ans. 1906, and then they worked until four, until the 31st of May.

Ques. When they worked until ten o'clock at night, did you and the rest of the family get any sleep?

Ans. Well, we don't usually retire before that time. There was a great annoyance—

(Question repeated.)

20

Ans. Oh, yes.

Ques. What time do you usually go to bed?

Ans. Well, generally about ten or a little after; sometimes later.

Ques. When they began to work until two o'clock in the morning, did you get any sleep?

Ans. No, sir; no, sir.

Ques. Who was it that did not sleep?

Ans. I guess all the family, unless we took something to make us sleep, and we might doze off a little while.

30

Ques. What effort did you make to obtain sleep, and what effort did the rest of you make to obtain sleep? Just state what you did in order to get sleep.

Ans. Well, took a few asafoetida pills, but I couldn't sleep or mamma either. Occasionally mamma would doze off, and brother would doze off, if he slept in my room; but I didn't go to bed except Saturday or Sun-

day night. I would sleep on a lounge or chair, or lie down in the couch, as long as I could stand it, and then I would have to get up.

Ques. When you were lying on the couch what would you feel or notice?

Ans. Oh, just felt as if something was under that couch going this way all the time (indicating), just a continual wabble and thumping that made me feel sick at my stomach.

Ques. And when you lay on the bed, what did you notice? **10**

Ans. Saturday or Sunday I did not feel it.

Ques. Didn't you go to bed at all during the week on other nights?

Ans. No, sir; I did not.

Ques. After two o'clock in the morning, when they ceased running, did you go to bed then?

Ans. Sometimes. Sometimes I would just lie on the sofa in the parlor.

Ques. Then after a while they began running until four o'clock, you say? **20**

Ans. Until four o'clock.

Ques. Then what was the result?

Ans. It was impossible to sleep then, even after they closed down.

Ques. Why?

Ans. Because our condition was such that we were so nervous we couldn't sleep. Many a morning I did not go to sleep at all until probably nearly six, and then they would blow off steam, and it was a case of getting up then. **30**

By the Vice Chancellor:

Ques. Where is your bed room?

Ans. I sleep front, next to the parlor; and there is a continual jar all the while.

Ques. Do the windows face Market street?

Ans. Yes, sir.

By Mr. French:

Ques. How many windows facing Market street?

Ans. One.

Ques. Did you ever put your hand upon the wall?

Ans. Yes, sir.

10 Ques. What did you notice?

Ans. A continual throbbing.

Ques. And was the plant of the Victor Talking Machine Company running at that time?

Ans. Yes, sir.

Ques. And was this in the night or in the day time?

Ans. Both. We feel it very much in the day time, but, of course, then you can put up with it; but when it comes time to sleep I tell you you want to sleep, unless you are very ill; and it made us all such.

20 Ques. What has been the condition of the mother's health before the first of May, before she went away to sleep?

Ans. Well, she was in such a condition that she was crying all the time; had several fainting spells; we had to continually watch her; I could not have her out of my sight five minutes; it was a dreadful strain on me.

Ques. Then after she went away to sleep, what was the result?

30 Ans. Then her nerves, of course, became a little more quiet; she could rest at night; but during the day it bothered her considerably.

Ques. How is she now during the day while this plant is in operation?

Ans. Well, she likes to run away from herself occasionally.

Ques. Well, does she speak about it?

Ans. Oh, yes; yes, indeed.

Ques. What does she say about it?

Mr. Grey: I object to that.

The Vice Chancellor: How do you vindicate the right to ask her what she says?

Mr. French: As an expression of what has happened to this particular person, confirming what she has already stated on the witness stand, and the result of the operation of this plant upon the individual. 10

The Vice Chancellor: I will exclude that question but will not exclude your proving by proper testimony what the effect is upon an individual living in this house; but I do exclude what she said to her daughter about her feelings.

Cross-examination.

By Mr. Grey: 20

Ques. Miss Seligman, did you try to sleep in any other room than the one in front that you spoke about?

Ans. Yes, I have tried the third story; I have tried the parlor, put a bed up in the parlor; it was impossible to sleep; tried the couch; tried the large rocking chair; it was impossible to sleep, even with matches and hair pins all plugged in the windows; I could hear these windows rattle all the time.

Ques. Was the effect in each one of the rooms exactly the same? 30

Ans. Yes; in the parlor it seems to be as bad as in the rear rooms.

Ques. And what was the effect?

Ans. Why, just a continual throbbing and thumping and rumbling noise.

Ques. Was there just as much noise in the parlor as there was in the rear room?

Ans. Well, I think there was.

Ques. Was there just as much noise in the front bed room that you say you slept in part of the time, as there was in the rear bed room?

10 Ans. Not if everything back was closed up; but there was just as much vibration and noise front if everything back was open; but after our folks slept out the back part of the house was kept tight shut, shutters and all, windows and doors.

Ques. When sleeping in the front bed room did you ever notice trolley cars or wagons passing on Market street?

Ans. They never bothered me.

Ques. When did you begin to have sleepless nights on this account, Miss Seligman?

Ans. Just as soon as they commenced operating the power house.

Ques. When was it?

20 Ans. Well, sometime around the beginning of January.

Ques. Before they began operating at night did you have sleepless nights?

Ans. No.

Ques. Then from sometime in January or February until the thirty-first of May, you never slept at nights; is that it?

Ans. Except Saturdays and Sundays.

30 Recess until two o'clock P. M.

AFTERNOON SESSION.

Trial of the cause resumed at 2 o'clock, P. M.

RICHARD M. PANCOAST, sworn.

By Mr. French:

Ques. Where do you live?

10

Ans. 205 Cooper street, Camden.

Ques. How long have you lived there?

Ans. Upwards of twenty years.

Ques. Do you know the plant of the Victor Talking Machine Company?

Ans. Yes, sir.

Ques. Do you remember when the Cooper street part of it was constructed?

Ans. Yes.

Ques. In the year 1905, about, was it—last year?

20

Ans. It has been within a year.

Ques. Do you remember their commencing to operate the plant at night the fore part of this year—the latter part of the winter and spring?

Ans. In the latter part of the winter; yes, sir.

Ques. What do you hear in the way of sounds, and experience in the way of vibrations, coming from the operation of that plant?

Ans. Particularly disturbing at night when they run all night; pretty much of the night; very disturbing in the bed rooms; clanking and rattling of metal and some jarring.

30

Ques. What is the difference in the day time?

Ans. Well, that is going on more or less in the day time, but not so perceptibly in the presence of other sounds which do not exist so much at night; the contrast is at night.

Ques. What is the character of the noises?

Ans. Well, just the clanging of metals, ringing sounds, and some banging. The clanging metal sound is the most disturbing to us there.

Ques. Any other noise than that?

Ans. Not so noticeable. The clanging and the banging of metals has been disturbing to us. We are diagonally across the street.

10 Cross-examination.

By Mr. Grey:

Ques. You are on the north side of Cooper street east of Front?

Ans. East of Second.

By the Vice Chancellor:

20 Ques. Where is your house with respect to the old McKean house?

Ans. Next door, east.

By Mr. Grey:

Ques. The McKean house is on the corner, is it not?

Ans. Yes, sir.

30

JOSEPH SELIGMAN, sworn.

By Mr. French:

Ques. Where do you reside?

Ans. 117 Market street.

Ques. How old are you?

Ans. I am in my twentieth year.

Ques. What is your occupation?

Ans. I am clerk in the accounting department of the Pennsylvania Railroad Company.

Ques. How long have you resided at 117 Market street?

Ans. All my life. I was born in that house, sir.

Ques. What room of that house is your sleeping room?

Ans. My sleeping room is the last room back except one, the last room in the house proper; beyond that is the shop. 10

Ques. In the second floor?

Ans. Second floor; yes, sir.

Ques. Are you acquainted with the plant of the Victor Talking Machine Company?

Ans. I am, sir.

Ques. Have you ever been in the plant?

Ans. I have been in different parts of it; I have been in the power house and in the first building erected on Front street.

Ques. When you speak of the power house do you speak of the house that was erected last year? 20

Ans. I do.

Ques. When did they begin to install the machinery in that house?

Ans. Sometime in the fall, I am not just sure as to the time.

Ques. Of what year?

Ans. Of 1905.

Ques. Of what school are you a graduate?

Ans. Camden High School. 30

Ques. Did you have any course in mechanics or mechanical engineering in that school?

Ans. I had one year at physics, and one year at chemistry.

Ques. How many times were you in the power house?

Ans. I have been there only once.

Ques. What is in that power house?

Ans. On the first floor is the machinery for generating steam, and on the second floor are two directly connected electric generators, and some other smaller machinery.

Ques. Where are the engines?

Ans. I do not quite understand what you mean.

Ques. Where are the engines that run the generators?

Ans. Why, they are on the same piece with the generators. You can best explain it by saying that where
 10 the wheel of the engine would be to which the belt would be attached, in place of that is the generator itself, the two being on the same shaft, revolving on the same axes.

Ques. How many engines and generators are there on this second floor?

Ans. Two, to my knowledge, or were at that time.

Ques. How are they set?

Ans. The floor could be divided into three parts, and the two generators would occupy the two divisions toward the west, leaving an open space toward the east
 20 where another generator could be placed.

Ques. Then the two engines and generators are on the west side of the second floor of the power house?

Ans. They are, sir.

Ques. Of what material is that floor constructed?

Ans. I think it is reinforced concrete.

Ques. How are the engines set; are they parallel with one another or at right angles with one another?

Ans. They are parallel, and running in the same direction. I think the cylinders are at the north and the
 30 dynamos at the south.

Ques. While in that power house what did you notice in the way of noise?

Ans. There was a very loud humming noise, and the building was vibrating to such an extent that I was only too glad to go out when I had the opportunity.

Ques. When it was first constructed, where was the stack placed?

Ans. The stack adjoins the power house.

Ques. Was it built into the power house, as part of it, or was it separated from it?

Ans. Well, the base of the stack is not of the same kind of brick; but the bricks of the stack and the bricks of the power house touch each other, or, at least, they did at that time.

Ques. What happened after they were running a while?

Ans. Why it appears that some of the bricks were cut away in order to cut the power house loose from this stack. 10

Ques. You say you noticed a vibration while you were in the power house?

Ans. I did.

Ques. To what extent was that? What was the extent of the vibration? Describe it the best way you can?

Ans. Well, it would be such as to cause fear for your safety; that is about as near as I can express it.

Ques. Did you know, in your home, when they first began to operate the new power house? 20

Ans. Yes, sir.

Ques. How did you know it?

Ans. Why, by a humming, buzzing, throbbing sound. Only last evening I sat before the step—

Ques. (Interrupting). When they first began to operate—how did you know when they first began to operate in the new power house; what called to your attention the fact that they were operating?

Ans. Why, the vibrations and the noise caused by these generators. 30

Ques. Now, the noise as you describe it was what?

Ans. A throbbing, buzzing, humming, and also the vibration.

Ques. What was the character of the vibration that you felt in your house?

Ans. Well, that's pretty hard to describe. It is not very perceptible when you are standing up. When you sit down it becomes more perceptible; and as you recline on a bed or rocking chair it is quite perceptible.

Ques. When they first began operating, how long did they continue to operate during the day?

Ans. The usual hours. I think from about seven till about five fifteen.

10 By the Vice Chancellor:

Ques. In the afternoon?

Ans. Five-fifteen P. M.; yes, sir.

By Mr. French:

Ques. When was that, what time of the year?

Ans. When they first operated this power house?

Ques. Yes.

20 Ans. About November or December, I should say.

Ques. Of 1905?

Ans. Of 1905; yes, sir.

Ques. After that did they begin to run later than five-fifteen in the afternoon?

Ans. It was increased around Christmas time to about ten or twelve at night; and at the beginning of February, until two; and sometime between the first and fifteen of March, to four A. M.

30 Ques. Well, what about the vibrations and noise—were they more or less marked at night than they had been in the day time?

Ans. I think that the vibration at night is greater owing to the fact that in addition to running the machinery the electric incandescent and arc lights have to be run; but the particular thing which makes it more perceptible at night is the fact that other noises have subsided.

Ques. Then, to the senses, it is more perceptible at night than it is in day time?

Ans. A great deal more so.

Ques. By saying that they have to run heavier because of the lights, do you mean that this power that is generated is an electric power?

Ans. An electric power; yes, sir.

Ques. And by running the lights it puts a heavier load on the engines?

Ans. I imagine so. I am not familiar enough with the principles of that to say exactly. 10

Ques. Now, after they began running at nights, until say ten o'clock at night, were they running when you came home from your office duties?

Ans. Yes, sir.

Ques. What was the effect upon you physically?

Ans. Well, it was distressing. It increased my nervousness to a great extent.

Ques. When they began running to twelve o'clock, what was the effect then?

Ans. Why, I wasn't able to sleep or to secure any rest until after the operation ceased; and upon my awakening in the morning the operation had started. 20

Ques. And after they began running until two o'clock, what did you notice then?

Ans. The same thing—I could not sleep until the operation had ceased.

Ques. And when they continued to run until four o'clock?

Ans. The effect was just the same, only as these hours increased the effect upon the system became increased; and the effect was so great upon my nerves that it deprived me of sleeping after that time. 30

Ques. Now, what was the effect upon the mother?

Ans. She was all broken up. I was very much afraid—

Mr. Grey: I object to what he was afraid of. What he observed he can testify to.

The Vice Chancellor: Strike out the remarks as to what the witness fears.

Ques. State what you observed.

Ans. I observed that my mother grew thinner, that a great number of wrinkles appeared upon her face; she complained a great deal—

Mr. Grey: I object to what she complained about.

10 The Vice Chancellor: I will permit this witness to state that she complained, but not what she said.

Ques. Go on and state what you observed.

Ans. She was unable to secure her rest.

Mr. Grey: I object to that.

20 The Vice Chancellor: He is not stating now what she complained of, as I understand it; he is stating what he observed.

The Witness: I observed this.

Ques. She was unable to get her rest?

Ans. She was unable to get her rest, and in the morning her nerves were all upset, and she was hardly able to perform her duties about the house.

Ques. And did this diminish or increase as this operation continued?

30 Ans. It increased all the time.

Ques. What happened along about the fore part of May with respect to your mother—was she able to sleep in the house at all?

Ans. No, sir; she was not.

Ques. How did she get any sleep?

Ans. She went away from the house.

Ques. What has been the result upon your health, generally, of the operation of this plant at night?

Ans. When it commenced to operate until four o'clock in the morning, when I got up in the morning I did not have my rest, and when I arrived at the office I found I could not perform my duties there with the same facility that I had before; and in the space of five or six weeks I lost eight or nine pounds in weight, which I have not regained.

Ques. While you were in the power house did the engineer make any request of you to do anything? 10

Ans. Yes, he requested me to throw my weight against the window sill; my father accompanying me at the time, he made the same request of my father; and that is what caused me to realize the terrific vibration.

Ques. What did you feel when you leaned against the window sill?

Ans. I thought any moment the walls might bulge outward and fall.

Ques. Now, you were going to say something about sitting somewhere last night; what were you going to say about that? 20

Ans. I sat before the step of our private entrance—

Ques. That is on the Market street front?

Ans. On the Market street front—somewhere between seven and eight, I think it was; I could perceive that the plant had started to operate, and that operation continued until about ten o'clock.

Ques. How did you know that it did?

Ans. I could feel and hear it.

Ques. Did you verify that feeling and hearing—did you go and look to see whether the plant was in operation? 30

Ans. The plant was in operation. The steam was coming out of the exhausts, and I believe only one generator was in operation, at least, it seemed so, since the rumbling caused by the two was more of a throb.

By the Vice Chancellor :

Ques. When you speak of the private entrance, the house in which you live has two entrances, one to the store and one of the dwelling house—is that what you mean?

Ans. That is the fact, your Honor.

By Mr. French :

10

Ques. Was there any difference between the running last night and at former times at night?

Ans. Only that it was not so pronounced, because of the fact, I think, of only one generator being in operation.

Cross-examination.

By Mr. Grey :

20

Ques. When did you lose that weight, Mr. Seligman?

Ans. I lost it from the time the plant started to run until two o'clock in the morning until the operation until four o'clock in the morning ceased.

Ques. When did you weigh yourself last on that point?

Ans. I weighed myself last about the time that operation ceased.

Ques. When was it?

Ans. I will have to refresh my memory a moment—why the operation ceased at the end of May.

30

Ques. And then is when you weighed yourself?

Ans. That is when I weighed myself.

Ques. What did you weigh then?

Ans. I think I weighed about 116 or 115½.

Ques. When did you weigh yourself before that?

Ans. Oh, before that I weighed myself at various times, but the particular time I refer to is sometime in January, I think, when I weighed about 126.

Ques. What was the object of your weighing yourself in January—any special purpose about it?

Ans. No; I cannot understand that question.

(Question repeated).

Ans. No; no special purpose, except to ascertain it.

Ques. Are you in the habit of weighing yourself every little while?

Ans. Yes, sir; whenever I feel like it.

Ques. How often have you felt like it in the last six months?

Ans. Probably four or five times.

Ques. Do you notice any vibration in this room where you are now?

Ans. No, sir; I cannot say that I do.

Ques. Do you notice any pulsations, such as you have been speaking about that come from the Victor plant now here?

Ans. No, sir; I cannot say that I do.

Ques. You have been in Mr. French's office, haven't you, several times since this case started?

Ans. Yes, sir.

Ques. Did you ever notice any vibrations there?

Ans. When I was in his front office I could hear it distinctly.

Ques. Hear what, the vibrations?

Ans. No, sir; hear the noise.

Ques. I asked if you ever noticed any vibration such as you have been speaking about that come from the Victor plant, when you were in Mr. French's office?

Ans. No; I have not.

Ques. Where is Mr. French's office with respect to this Court room?

Ans. It is in the northeast corner of the second floor of this building, at least, of No. 106, barring out No. 110.

Ques. And when you speak of the room in which you were, what room did you mean—is it on Market street or where?

Ans. On Market street. I referred to two rooms, the corner room and the one immediately adjoining it on Market street.

By the Vice Chancellor:

10 Ques. And that is almost opposite your house, is it not, just cattercornered?

Ans. Cattercornered; yes, sir.

By Mr. Grey:

Ques. When were you in Mr. French's office, Mr. Seligman?

Ans. I cannot recollect the time. I have been there several times since this case has been started, and I was in there at no time for any great length of time, simply

20 a few moments each time.

Ques. Was it day time or night time?

Ans. Once I remember in the morning, and once in the evening.

Ques. What time in the evening?

Ans. Why, when I returned from the office, about five-fifteen.

Ques. What day of the week was it?

Ans. I cannot recollect that. It was not Saturday.

Ques. Just one question: Were you made sick at your stomach?

30 Ans. At what particular time are you referring to?

Ques. Any time.

Ans. I was—now, I don't know just what you mean by "sick at the stomach."

Ques. You don't know what that means?

Ans. I know what it means, but I have seen one person define it as one thing and another person define it as another. I have had sickness at the stomach.

Ques. When was that? When did you ever have any sickness at the stomach?

Ans. At various times during the operation of this plant until four o'clock in the morning.

Ques. Since what date, about?

Ans. About the middle of March.

Ques. What time of day or night was it?

Ans. At all times, at various times.

Ques. All day?

Ans. No, sir; I was at the office during the day, but then I felt the effects of it. 10

Ques. Then it was at night, wasn't it?

Ans. Yes, sir.

Ques. Was it operating all night then?

Ans. It was.

Ques. Did you ever have any sickness at the stomach before that time?

Ans. Yes, sir I had when I was a child; I believe every child has that.

Ques. That is the only time before that, is it? 20

Ans. Yes, sir.

Ques. Just define, please, what you mean by sickness at the stomach, Mr. Seligman?

Ans. By sickness at the stomach I mean a feeling of heaviness at the stomach with a headache and a swaying feeling so you have to hold on to objects while traveling from one part of the room to the other in order to steady yourself.

Ques. Did you vomit?

Ans. I did not at that time. I did last night, however, which I think was the result of that operation until ten o'clock. 30

Ques. Was that the only time you were sick enough at the stomach to vomit?

Ans. That is the only time since the beginning of the year, yes, sir—for several years, in fact.

Ques. The plant has operated before last night at night, has it not?

Ans. Oh, yes.

CHARLES A. WOLVERTON, ESQ., SWORN.

By Mr. French:

Ques. Are you an attorney at law of the State of New
10 Jersey?

Ans. Yes, sir.

Ques. With an office on the second floor of this building, 106 Market street?

Ans. Yes, sir.

Ques. How long have you been engaged or occupied in the offices on the second floor of this building—about how many years?

Ans. Some ten or twelve years, I suppose.

Ques. Some time during the early part of this year
20 was your attention called to any vibrations peculiar to the office you occupied?

Ans. The first part of this year, or the latter part of last, it may have been December; it was some months ago.

Ques. Where is the office you occupy?

Ans. It is directly beneath this one, and just this side of the stairs as you come up on the second floor.

Ques. What is in that office in the way of a safe?

Ans. Well, there is a large safe, possibly six feet
30 high, with doors possibly five feet high, and maybe two feet broad, each door.

Ques. Now, what did you notice with respect to the vibrations?

Ans. I have noticed that when those doors are opened so that they are resting outwards and not closed, there has been a very perceptible vibration or jarring of the door that would be open.

Ques. Did you ever notice anything on the third floor of this building, in the front room, in the law library?

Ans. I remember on one occasion when working in the library there that, upon tilting back the chair in which I was sitting, and having the chair resting on the back legs, I noticed a very perceptible jar which would, the nearest I could explain it, be the jar that you would ordinarily feel upon a river steamer while it is in motion—a jerking, a jarring.

Ques. And was that symptom of the vibration felt in your office? **10**

Ans. Well, I never felt any jar in the chair in the office; I have felt the vibration similar to that in the safe door.

Cross-examination.

By Mr. Grey:

Ques. What is the cause of these two vibrations that you felt? **20**

Ans. I could not say.

Ques. The office where the safe is placed—describe where that is in relation to Market street?

Ans. Well, it is in the back part of the building, directly under the northwest corner of this portion of the room.

Ques. How many rooms are there from Market street, going southward?

Ans. There are two rooms with an open space between. **30**

Ques. Then comes this room where the safe is, being the third room in the rear?

Ans. Yes.

Ques. Did the vibrations that you have mentioned amount to enough to disturb you in your business in any way?

Ans. No, sir.

HORACE W. BOARDMAN, SWORN.

By Mr. French:

Ques. You are a student at law?

Ans. I am.

Ques. And have you an office in this building, 106 Market street, on the first floor?

Ans. Yes, sir.

10 Ques. Do you know Isaac Seligman, the petitioner?

Ans. I do.

Ques. Ever been in his store and house?

Ans. A number of times.

Ques. While in there did you ever notice any noise or vibrations that were disturbing?

Ans. Why, I was there about six weeks ago, I guess it has been, late in the afternoon; I went in there to buy a cigar, and I sat down in a chair which he has against the wall there in the store, and while sitting there I felt these vibrations, and at the time I asked him what it was, and
20 he told me that it was caused by the generator.

Mr. Grey: I object to what he told you.

The Vice Chancellor: That will be stricken out.

Ques. As a result of what he did tell you, what did you do?

Ans. He says, "You feel it, do you?" I says, "Yes,—"

30 Mr. Grey: I move that that be stricken out?

The Vice Chancellor: Yes, strike it out.

The Witness: Well, he invited me—

The Vice Chancellor: Tell us what you did; never mind how you came to do it, tell us what you did; if you saw anything, tell us; if you felt anything, tell us.

Ans. Well, I felt this vibration while I was sitting in the chair.

Ques. What else did you do?

Ans. Later I walked in the rear room, which he usually used or formerly used for the manufacture of cigars, and there I could feel it much plainer; that is immediately in the rear of the store, a small room back there that he has.

Ques. Did you hear any noise?

Ans. Well, the noise I assumed was from the exhaust—the sound there—the muffled exhaust there, which gave a pulsation. 10

Ques. At any time can you hear any of those noises in your office?

Ans. Well, I can hear that, yes; the steam as it comes out of this muffled exhaust; it is a muffled exhaust, I presume they call it.

Ques. What direction is the wind when you hear it?

Ans. Generally north—northeast—north.

Cross-examination. 20

By Mr. Grey:

Ques. How do you know what direction the wind is in when you hear that noise?

Ans. Well, because the smoke which is coming from their smokestack is coming across this building, and that would indicate that the wind was north, or probably northeast, that (indicating) being north, that (indicating) direction being northeast. That is the only way I 30 can account for it.

Ques. You mean the wind was blowing from the smokestack toward your office?

Ans. Yes.

Ques. And every time you heard that noise did you get up and look to see which way the smoke was coming?

Ans. Well, no; I don't get up every time.

Ques. Do the things which you have observed in your office in any way disturb your business or your studies?

Ans. No; I cannot say that they do.

Ques. Do you think they amount to enough to disturb your sleep, if you slept in your office?

Ans. Well, I don't know; I have never been at the office after ten o'clock at night.

10 Ques. The vibration you described when in Mr. Seligman's—do you know whether there was any trolley car or wagon passing at the time?

Ans. Oh, I assume so, yes. It was in the evening about half past four or five o'clock.

By Mr. French:

20 Ques. Could you notice a difference in the sound or vibration caused by a moving trolley car and this vibration which you felt?

Ans. Oh, this vibration which I felt was continuous. Now, of course, the passing of a trolley would only be for the time being.

Ques. What effect do you think that continuous vibration would have upon your sleeping if you were to sleep there?

Ans. Well, I am a very light sleeper as it is; I don't think I could get very much sleep there.

30

EPHRAIM TOMLINSON, ESQ., affirmed.

By Mr. French:

Ques. Mr. Tomlinson, you are a counsellor at law of the State of New Jersey?

Ans. I am.

Ques. And have an office where the late Peter V. Voorhees had his office?

Ans. 119 Market street, Camden; yes, sir.

Ques. And it adjoins Mr. Seligman's house, with an alleyway between?

Ans. It is next door to Mr. Seligman's house, with an alley between to the east.

Ques. The power plant of the Victor Talking Machine Company is immediately north of the lot on which your office is erected?

10

Ans. Yes.

Ques. From December, 1905, to May 7th, 1906, have you noticed any noise or vibrations coming from the plant of the Victor Talking Machine Company?

Ans. I have noticed some vibrations, and I assume that they came from the Victor plant.

Ques. State what they were, and their character and extent?

Ans. The main time that I recall noticing any vibration was when a representative of the Victor plant called at our office some six weeks ago, perhaps, or five weeks ago, and was asked to be admitted to the rear office to see if there was any vibration, and I went there and allowed him to go with me, and I then placed my fingers on the window, and I could feel a vibration there.

20

Ques. To a noticeable extent?

Ans. Quite perceptibly.

Ques. You don't sleep there, do you?

Ans. Oh. no, sir; I am almost never there after six o'clock.

Ques. Was this noise and vibration sufficient to interfere with your business in any way?

30

Ans. No, sir; because we are very busy at the time we are there, and we do not notice that hardly at all; while they might exist and might exist to quite an extent, we are intent on our business and do not notice them; and I am generally in the front office, which

would be 121 Market street, not in the office occupied by Mr. Voorhees, which would be nearest the building.

Ques. Have you been on the streets and in the neighborhood of this plant frequently during the day time?

Ans. Oh, yes; quite frequently.

Ques. And have you been at the late Peter V. Voorhees' residence during the day time?

Ans. Yes, sir.

Ques. Where is his residence, or where was it?

Ans. His residence was at 315 Cooper street.

10 Ques. That is on the north side of Cooper above Third?

Ans. North side of Cooper.

Ques. And did you hear any noises coming from this plant there?

Ans. I remember one night, I think it was about the first of May, when Mrs. Tomlinson and I went to call on Mrs. Voorhees, and the plant was evidently running because off in the distance I could hear a rumbling that seemed very much like the ocean, that suggested the

20 ocean, at a distance of a hundred yard, perhaps.

Ques. And did you hear any other noises coming from there?

Ans. That is all I noticed at that time, and I did not pay any particular attention to it, excepting that I just casually happened to remember it.

Cross-examination.

By Mr. Grey:

30

Ques. I understand you to say you never noticed any vibration in the rear office where you are at all until the time when you put your hand on the window, about five or six weeks ago?

Ans. I don't remember noticing it at any particular time.

Ques. And then only because your attention was called to it?

Ans. Only because my particular attention was called to it. My attention was not called to the vibration; permission was asked to go into the office, and I then took it upon myself to find if there was any vibration.

Ques. And when you took your hand off the window you had no other way of knowing that there was any vibration?

Ans. No, sir; excepting when I had it on something solid. 10

Ques. Which is the nearest to the Victor plant—where that window was at the rear end of your office, or Mr. Seligman's house?

Ans. I think Mr. Seligman's house.

Ques. Well, how do you make that out?

Ans. Because in looking out those windows I notice a frame building on the left, and I think his house extends perhaps some two or three feet further north; I am not positive of that, but that is my recollection. 20

Ques. Where is his house, relating to the east and west wall of the power house?

Ans. His house would be a little west of a direct line from the power house.

Ques. Where is the rear of your office, as to the east and west wall of the power plant?

Ans. It is almost immediately south.

Ques. What does the rear of Mr. Seligman's house consist of which projects two or three feet further north than the rear of your office?

Ans. I think it is frame. 30

Ques. Do you know anything about what it is used for, or what the character of the rooms is there—is it a kitchen or shed?

Ans. I don't know what it is used for.

Ques. Does it look like a parlor or sleeping room?

Ans. No, sir; I imagine the parlor is in the front part of the house.

Ques. Do you think that last room is a sleeping room?

Mr. French: I object to what the witness thinks.

By the Vice Chancellor:

Ques. Is this a detached building that we are speaking about, or is it part of the house itself?

Ans. I should think it was a detached part of the building.

10 Mr. French: I have no more witnesses here. I have subpoenas issued, and it was thought so much time would be taken in the case that one of the witness was allowed to go on important business. She will be here to-morrow morning.

The Vice Chancellor: She will be too late to testify then, if you close your case now.

20 Mr. French: Well, I will have to close the testimony unless the Court will allow me to re-open the case for that one witness. Her business was so urgent and important, and I thought the case would take more than a day, that I allowed her to go until to-morrow morning.

The Vice Chancellor: If you close, having allowed a witness to go which you should have kept here, I cannot permit you to re-open the case.

Mr. French: I rest my case then.

30 The Vice Chancellor: During the taking of the complainant's proofs the witness, Garrison, was permitted to testify with respect to the illness and death of a child upon the promise of counsel that he would produce evidence to connect that illness and death with the operations carried on by the defendant on its premises; since that promise has not been kept, owing to the absence of the witness, I will strike out of this record all testimony concerning the illness and death of the child.

THE CASE FOR THE DEFENDANT.

CHARLES K. HADDON, sworn.

By Mr. Grey:

Ques. Mr. Haddon, where do you reside?

Ans. In Camden, New Jersey.

Ques. How long have you lived here?

10

Ans. About eight years.

Ques. During that eight years what has been your occupation?

Ans. I have been connected with the Victor Talking Machine Company, as its purchasing agent, and now as treasurer of the company.

Ques. Are you familiar with the business of the corporation?

Ans. I am.

Ques. Are you familiar with its plant and power house, and generally with its manufacturing establishment in Camden, on Cooper street between Second and Front

20

Ans. In a general way I am.

Ques. When you came to the employ of the company, was it a corporation at that time, eight years ago?

Ans. No.

Ques. What then was the business—who composed it, who carried it on?

Ans. Eldredge R. Johnson.

Ques. And where was it then located?

Ans. In the blacksmith shop in the rear of Collings' Carriage Factory, 108 North Front street.

30

Ques. Where is that shop, relating to 117 Market street, the premises of the complainant?

Ans. Directly to the north of 117 Market street.

Ques. Describe how the plant increased from that time, if it did increase?

Ans. From the time of the incorporation?

The Vice Chancellor: No, from the time you were in the blacksmith shop?

Ques. From the time you went there and found it to be a business in the blacksmith shop?

Ans. At that time the business was entirely owned by Mr. Eldredge R. Johnson, and there were probably twenty-five employees.

10

Ques. What business was carried on there, what was done?

Ans. A general repairing machine shop.

Ques. Not confined to the making of talking machines?

Ans. Not exclusively at that time.

Ques. What power was employed on the premises?

Ans. I think about a fifteen horse engine.

Ques. Steam?

Ans. Steam engine.

Ques. And was that a one story building, or what?

20

Ans. That was a one story building.

Ques. Very well; how did the plant increase, and when?

Ans. Through the energetic administration of Mr. Johnson, who gradually achieved more work; more work was taken on, and as a consequence new machinery added from time to time, employees increased—

By the Vice Chancellor:

30

Ques. He is just asking you to tell us the successive stages, just what happened; if you put in a certain engine on a certain day, and you can remember it, he wants to know that. Tell us exactly what happened.

Ans. As to the exact date when new machinery was added I cannot tell you.

Ques. He wants to get before the Court, generally, what has taken place there physically?

Ans. Well, I can only say, from the time that I speak of, that there were constant additions made to the machinery, probably every month.

By Mr. Grey:

Ques. Did Mr. Johnson rent the blacksmith shop, or did he buy it?

Ans. He rented that.

Ques. Where was the first ground that was purchased, if any?

10

Ans. That was 120 North Front street.

Ques. Was any new machinery added to the blacksmith premises?

Ans. Decidedly.

Ques. When did Mr. Johnson cease to use that, or when did the Victor plant cease to use that?

Ans. The Victor plant never used that.

Ques. When was it stopped being used by Mr. Johnson?

Ans. I think it was about 1900, when Mr. Johnson erected a new machine shop on the ground that he purchased at 120 North Front street.

20

Ques. Was that the first building he erected for his business?

Ans. That was the first building he erected for his business.

Ques. Had he bought machinery, in or outside of the blacksmith shop, before that time for his business? What I desire to know, Mr. Haddon, and am trying to get by this question, is to have you describe in succession, the various steps leading up to the present completed construction of the Victor plant. Now, it began with the blacksmith shop. I do not care about specific dates or months or weeks, but I want to know each successive increase in the plant up to its present capacity.

30

Ans. Well, in 1900, the business had increased to such an extent that the quarters in the blacksmith shop

were inadequate, and ground for a new building was purchased and a new building was erected.

Ques. Where was that?

Ans. 120 North Front street; and new machinery was purchased for that, together with that removed from the old blacksmith shop and the old machine shop.

Ques. Is that machinery there yet?

Ans. Some of it is.

Ques. Will you describe the machinery as it originally was?

10 Ans. There were lathes, milling machines, screw machines, planers, shapers.

Ques. Was there any power plant there?

Ans. A gas engine was installed to run that machinery, and during the first year, as I now recall it, of that building's occupancy it was found then to be too small and an addition was erected to the rear.

Ques. Do you mean toward Second street?

Ans. Toward Second street—a one-story addition
20 erected to the rear.

Ques. What was put in that?

Ans. A gas engine and grinding machinery, such as emery wheels and machinery of that nature for ordinary machine shop use.

Ques. Well, what next was added?

Ans. Later on, that one-story addition was added to by erecting the three upper stories.

Ques. What was put in those?

Ans. Additional machinery was purchased to fill
those.

30 Ques. Any additional power?

Ans. Yes; there was additional power.

Ques. What was it?

Ans. The gas engine was increased in power.

Ques. Do you mean another gas engine was added?

Ans. No; increased on the then basis?

Ques. Well, what next happened?

Ans. The building then had to be further increased, and an ell extension was built on the rear, extending south onto a piece of property that was then newly acquired for that particular purpose.

Ques. What was put in that?

Ans. Additional machinery.

Ques. Of what character?

Ans. Of the same nature as the other, precisely.

Ques. Any additional power?

Ans. Yes, additional power in that building.

10

Ques. Of what character?

Ans. That was a steam engine and a steam plant and boiler.

Ques. Is that there now?

Ans. That is there now.

Ques. What power has it?

Ans. At the present time that is a 125 horse power engine.

Ques. And where is that, in relation to the rear of Mr. Seligman's premises, 117 Market street—where the steam engine plant was located?

20

Ans. That is nearly due north, I should say. If you will allow me to consult the map I can tell you exactly.

Ques. How near is it, would you think?

Ans. To the house, or the rear end of the lot?

Ques. The engine, from the rear end of Mr. Seligman's house?

The Vice Chancellor: There is some part of Mr. Seligman's house that is not built on, is there not?

30

The Witness: Yes, sir.

The Vice Chancellor: He wants to know the distance from his house, not from the rear end of the lot.

Ans. Probably fifty feet.

Ques. When was that steam engine put there?

Ans. That is the engine I am talking about.

Ques. Well, when was it put there?

Ans. Probably in 1901.

Ques. 1901 or 1900?

Ans. 1901.

Ques. Now, what was the next addition to the plant?

Ans. The next advancement to the plant was the incorporation of the Victor Company.

10 Ques. When was that, about?

Ans. That was October 5th, 1901.

Ques. Did the Victor Company take over all this property and operate it?

Ans. The Victor Company purchased all that property.

Ques. What next addition was made to the plant?

Ans. The ell building I have just described was then extended westward to the street—

Ques. Westward to what street?

20 Ans. To Front street, building up solidly the property last purchased for that particular purpose.

Ques. Did that include the corner of Front and Cooper?

Ans. No.

Ques. All right; what was the next addition to the plant?

Ans. Further additions were made in that building necessarily. In 1903, I think, the company acquired title to property along Cooper street, east from Front.

30 Ques. Describe that building, Mr. Haddon, please?

Ans. The building purchased?

Ques. Yes, or the lot purchased. Did you say you put a building on it, or did you acquire a vacant lot, or what?

Ans. They acquired title to several dwellings.

Ques. What was done with them?

Ans. The tenants were continued in the building, such as desired to stay, and no change was made at that immediate moment.

Ques. When was there a change made; what did you do with the property?

Ans. During the latter part of the year 1903, as I recall the year, the properties were torn down and preparations were made for the erection of a portion of the building that is now there.

Ques. Well, what was done when the building was put up; what is it; describe it; what is in it? **10**

Ans. The building that was erected on that site was erected for the purpose of manufacturing records. The necessary machinery was installed.

Ques. When was that?

Ans. That was not completed until 1905, the summer of 1905; the necessary machinery was installed and the manufacture of records commenced in that building.

Ques. Well, what next took place as to the increase in the plant?

Ans. As the plant now stands, with that building which I have described, it practically represents the completed building up to date. **20**

Ques. Does that include the power house?

Ans. No, I haven't said anything about the power house, I was only speaking about factories.

Ques. I am speaking about it all, the whole plant; what happened next?

Ans. After plans had been determined on for erecting this record manufacturing plant it was necessary to provide for more power, the old 125 H. P. engine would not be adequate at all, and plans for a power plant were prepared and the power plant erected immediately to the east of the first factories erected on the side of 114 to 120 North Front, immediately to the east of those properties, those factories. **30**

By the Vice Chancellor:

Jues. Where, with reference to the building in which the 125 H. P. engine had stood or still stands?

Ans. Directly to the east of that.

By Mr. Grey:

10 Ques. Does the present power house adjoin the building where the 125 H. P. steam engine is?

Ans. Not connected.

Ques. No, but does it immediately adjoin?

Ans. Oh, yes; it adjoins the property.

Ques. When did you say the power house was completed, the power plant, this new power house?

Ans. In the summer of 1905.

Ques. What did you put in it?

20 Ans. Boilers on the first floor, aggregating some 600 horse power; and on the second floor engines and dynamos, direct connected—two engines and dynamos aggregating 350 horse power.

Ques. Have you now described the increase in the plant up to its present occupation of ground, and general character, or was there still more additions made than you have mentioned?

Ans. There have been still more additions made to the real estate owned by the plant, but no factory.

Ques. Then that describes, in a general way, your factory, and how it came to be built?

30 Ans. Yes, sir.

Ques. I show you a paper. What is it?

Ans. This is a map showing the block—

Ques. It is a map, is it not?

Ans. It is a map.

Ques. What does it purport to show?

Ans. The plant of the Victor Talking Machine Company and the property of Mr. Seligman,

By the Vice Chancellor:

Ques. As the Talking Machine Company's buildings now are?

Ans. Yes, sir.

By Mr. Grey:

Ques. Does that map show the ground floor or what?

Ans. It generally shows a plan view of the first floor. 10

Ques. Does it accurately disclose the situation of the ground floor of that plant?

Ans. It does.

Mr. Grey: I offer that map in evidence.

The Vice Chancellor: Is there any objection?

Mr. French: Not if it is offered for illustration. I don't think it is evidence. 20

The Vice Chancellor: I do not understand that distinction. The witness has said this map accurately delineates the situation; it is now offered in evidence; if you object to it I will hear you.

Mr. French: I do not object.

(The map is admitted in evidence and is marked Exhibit D1.) 30

Ques. Will you point out on that map the part which discloses the power plant you have been describing, and mark it in some way that we can refer to it?

(The witness pointed out on the map, D1, the part inquired about, and the Court marked the place so designated with an X.)

Ques. That is the power plant in which the new engines are which are complained about in this case?

Ans. That is.

Ques. Marked X, is it, Mr. Haddon, on the map marked DI?

Ans. Marked X.

Ques. Mr. Haddon, what are your duties—you are treasurer of the corporation?

Ans. I am.

10 Ques. What are your duties?

Ans. In addition to the duties incident to the position of treasurer I am the manager of the record factory.

Ques. What does the plant of the Victor Talking Machine Company produce?

Ans. Victor Talking Machines and records.

Ques. What are Victor Talking Machines, in a general way?

Ans. The Victor Talking Machine is a small clockwork motor encased in various suitable small cabinets.

20 Ques. Is there any sounding device, any device to increase the sound?

Ans. Not on the motor at all.

Ques. Well, do you make any such thing?

Ans. We do.

Ques. What do you call it?

Ans. We call those "sound boxes."

Ques. And what else is produced by the plant, anything?

Ans. The talking machines and the records, these sound boxes and the various parts thereof.

30 Ques. You produce all the parts yourself, do you?

Ans. We do not manufacture every piece that we use—for instance, we do not manufacture the cabinets that are used within which our clockwork motors are enclosed.

By the Vice Chancellor :

Ques. Now, I am looking at D 1, and I notice around facing on Cooper street, the easternmost building is labelled "New Power House,"—is there any power in the new power house at the present time?

Ans. Not in operation; it is in the course of erection.

By Mr. Grey :

Ques. What are records? What are the records you speak of? 10

Ans. The Victor Talking Machine records are flat discs of approximately one-eighth of an inch thickness, varying in diameter from eight inches to twelve—eights, tens and twelves—having thereon the various reproductions, such as band music, voices of grand opera artists, and such records incident to the talking machine business.

Ques. To what is the power generated by the new power plant applied, to the manufacture of what? 20

Ans. Both the talking machines and the making of the records.

Ques. Have you described all the products of the manufacturing plant of the Victor Company, or do you make anything further?

Ans. I think I have described all of the products in a very general way.

Ques. When did the new power plant located and marked X on D 1, begin to be operated?

Ans. In the latter part of August, as I recall it, of 1905. 30

By the Vice Chancellor :

Ques. Referring again to D 1, I notice that there is an interrupted line between the boiler room marked A, and the building marked "South Wing Old Building,"

which I will mark B; what does that broken line indicate?

Ans. This whole floor here is devoted to one particular use.

Ques. "This whole floor" is the one marked B?

Ans. Yes; that is the portion marked "Boiler Room," (indicating A); there are two boilers located in there at the present time, with fire proof walls, in the positions indicated by those dotted lines.

10 Ques. Now, whereabouts was the 125 horse power engine?

Ans. Directly in this engine room (indicating on plan D 1).

Ques. The engine room which I now mark C?

Ans. That is correct.

Ques. And when was the building labelled "South Wing, Old Building," and which I have marked B, erected there?

Ans. That is what I was describing in answer to the former question where I spoke of 120 North Front street. This is 120 (indicating on plan).

Ques. The one marked D is 120 North Front street?

Ans. Yes, sir; that portion of the building back probably to there, about half-way back (indicating) was first erected, and then the one story addition back to about here (indicating).

Ques. Pretty near to the engine room?

Ans. Back to the boiler room. Then that was completed four stories high, the same height as D; and after that this wing was extended on over here up to about
30 half-way there (indicating).

Ques. Half-way through B?

Ans. Yes, sir; a four story building. After that again this addition was made, continuing the four stories right on through to Front street.

Ques. Now, when was the half of B which is furthest from Front street, and which was first erected, erected?

Ans. I should think it was in the year 1903.

(Last question put by Mr. Grey, with the answer, read as follows: Ques. When did the new power plant located and marked X on D 1, begin to be operated?

Ans. In the latter part of August, as I recall it, of 1905.)

By Mr. Grey:

Ques. And how long did that operation continue?

10

Ans. Up to the present time, up to this date.

Ques. When did you begin to operate at night?

Ans. During the fall of 1905 our record orders increased so that it was necessary to make more records than we could make during the regular ten hours work.

Ques. Well, I asked you when did you begin to operate at night?

Ans. I cannot give you the exact date, but it was during the fall of 1905.

Ques. Was it prior to Christmas Day, 1905?

20

Ans. It was.

Ques. How long prior thereto, approximately, if you can fix it at all?

Ans. I should think during October we commenced running our plant at night.

Ques. How late did you run it at night then?

Ans. Until about, not exceeding ten o'clock.

Ques. And did you, after that time, run the plant later than that at night?

Ans. We did.

Ques. About when did you begin to run it still later? 30

Ans. On January 22d, 1906, we ran the plant until twelve o'clock at night.

Ques. And after that until still later hours?

Ans. Yes.

Ques. When did you cease operating the plant at night?

Ans. On June 1st, 1906.

Ques. Since June 1st, how late in the day have you operated it?

Ans. Only the regular hours of the factory, closing the factory down at quarter past five.

Ques. And when do you commence in the day?

Ans. Seven o'clock.

Ques. What was the reason for operating the plant at night in the fall of 1905?

10 Ans. The increase of record orders.

Ques. And why did you increase the lateness of the hour?

Ans. To produce more records.

Ques. Did the orders increase?

Ans. Yes, sir.

Ques. Making it necessary to do that?

Ans. Yes, sir.

Ques. Why did you stop on the 1st of June, 1906, or the 31st of May, whenever you did stop?

20 Ans. Because we had sufficiently caught up with our orders to not make it necessary to run the plant a double shift later than that date.

Ques. Had any portion of the plant, any mechanical portion of the plant, ever been operated at night prior to the summer or fall of 1905?

Ans. Oh, yes; frequently.

• Ques. When did you, either when you were with Mr. Johnson or since the incorporation of the company, first operate any portion of the plant at night, beginning with the old blacksmith shop days?

30 Ans. I cannot give you any dates; it was a very frequent occurrence that overtime was necessary on account of the orders on hand.

Ques. Did you operate any of the blacksmith plant at night when you were located there?

Ans. Yes, I remember one winter that plant ran all night; we had a double force of men.

Ques. Do you mean every night through the winter?

Ans. Except Saturday and Sunday.

By the Vice Chancellor :

Ques. The plant you say had a 15 horse power gas engine?

Ans. No; steam engine.

By Mr. Grey :

10

Ques. About what winter was that?

Ans. I think it was the winter of 1899.

Ques. After that time did you operate the plant in the blacksmith shop at night, at any other time?

Ans. Not all night.

Ques. Parts of the night, did you?

Ans. Frequently.

Ques. How late?

Ans. Until probably ten o'clock.

Ques. After you left the use of the blacksmith shop, did you operate any of the other plants at night?

20

Ans. Frequently.

Ques. When, after 1899 or 1900, whenever you moved in?

Ans. I cannot give you dates; it was a very frequent occurrence.

Ques. How late at night?

Ans. Until ten o'clock. That was the usual proceeding.

Ques. And that was the gas engine power plant?

30

Ans. That was the gas engine power plant.

Ques. When you commenced to use the 125 horse power steam engine, and prior to the erection and use of the power plant on the square marked X on Exhibit D1, did you operate the same plant at night?

Ans. Yes.

Ques. When, approximately?

Ans. It would be impossible for me to give you even approximate dates.

Ques. How late at night?

Ans. Ten o'clock.

Ques. How many nights a week?

Ans. Usually three.

Ques. Did you ever operate that plant all night?

Ans. No.

10 Ques. What times in the year was it that you did that?

Ans. I have known it to occur both in the spring and in the fall.

Ques. Have you ever observed the operation of the electric light and power plant where the Campbell Preserving Company now is on Front street just south of Market?

Ans. Yes.

Ques. Was that in operation when you were in Camden?

20 Ans. When I first came in Mr. Johnson's employ that was in operation?

Ques. And did you observe that operating at night?

Ans. Yes.

Ques. How late at night?

Ans. I presume it ran all night.

Ques. Do you know?

Ans. I know it must have run all night, from the fact that the city of Camden received its light supply from there.

30 Ques. Did you ever observe it in operation?

Ans. Yes; during the evening.

Ques. Where were you when you observed it, on the street or in the power plant?

Ans. Both.

Ques. What was the character of the operation of the plant as to noise and vibration, and so on?

Ans. Such incident to the general running of electric light plants.

Ques. Describe it, please—what you observed in the operation of that particular light and power plant at night?

Ans. I do not recall how many engines they had, or how many dynamos.

Ques. I am asking you what you observed in the course of the operation—did it make any noise or no noise—did it make any vibration, or make none?

Ans. Surely it made noise, and surely it made some vibration.

10

Ques. Describe the noise, please?

Ans. The noise is such as is made by any company's running engines of the type that they were using.

Ques. Do you know what was the approximate horse power employed in the engines in that power plant?

Ans. I do not.

Ques. What would you think it was? Did you observe it?

Mr. French: I object to what he thinks it was.

20

The Vice Chancellor: The witness has not shown that he is qualified to think on the subject; he says he does not remember anything about the number of engines or the horse power of them.

By Mr. Grey:

Ques. Can you describe the noise at all, Mr. Haddon?

Ans. I don't think I can describe the noise at all, any other than to say that it was just such noises as are now heard in the operation of any electric light plant.

30

Ques. How far away could you hear the noise of this light plant—could you hear it on the street?

Ans. Yes.

Ques. How far away could you hear it—could you hear it on Market street?

Ans. Probably it could have been heard on Market street.

Ques. Did you hear it on Market street?

Ans. I do not recall that I heard it on Market street.

Ques. Was there any vibration from that power plant?

Ans. Well, only from the knowledge that I have of such plants, I would certainly say there was vibration.

Ques. Was there any vibration when you were in the plant?

10 Ans. Surely; you were conscious of the motion of the engines and the dynamos; there was vibration to that extent.

Ques. Was there any other manufacturing plants in this neighborhood that were operated at night since you first came to Camden, up to this time, so far as you know?

Ans. Yes.

Ques. Describe what they were, please?

20 Ans. I first came to Camden some ten years prior to the time that I was connected with Mr. Eldredge Johnson, and at that time the electric light plant supplying the city with light was located on Front street north of Market, in the building now occupied by the Gausler & Starr horse blanket place.

Ques. Which side of Front street?

Ans. The west side.

By the Vice Chancellor:

30 Ques. When did the building on Front street which is now occupied by the Campbell Preserving Company, which you say used to be occupied by the electric light plant, cease to be used for an electric light plant?

Ans. I do not recall the exact date.

Ques. Was it a month ago, or a year ago—give us some idea of it?

Ans. I would think that has been about ten years ago.

Ques. Now go back, if counsel desires you, to the time when this electric light plant was where Gausler &

Starr now is, on the west side of Front street, between Market and Cooper?

Mr. Grey: I am inquiring whether that was operated at night?

Ans. That was operated at night; all night.

By Mr. Grey:

Ques. Do you know whether it moved over to the other location that you first described, on Front street below Market, where the Campbell Preserving Company now is, approximately, Mr. Haddon? 10

Ans. About 1890, I should say.

Ques. About 1890?

Ans. Yes.

Ques. Are there any other power plants about here operated at night, since you have known this community?

Ans. Not any other power plants that I know have been run regularly all night. 20

Ques. Any part of the night?

Ans. Yes, I know of a number of power plants that work at night.

Ques. Describe them?

Ans. The Esterbrook Pen Factory has worked at night since I have been in this locality; I don't know whether they are doing it now or not.

Ques. How late at night?

Ans. They did operate certain portions of their machinery all night, so I was told—left it in care of the watchman which they employed. 30

Mr. French: I object to what he was told.

The Vice Chancellor: That will be excluded.

Ques. Do you know anything about it of your own knowledge?

Ans. No, sir.

Ques. What other plants about here have you known to operate at night?

Ans. The West Jersey Press Company I know have frequently worked at night.

Ques. What is their plant?

Ans. Prints the editions of the West Jersey Press.

10 Ques. Where is that located?

Ans. At the northeast corner of Front and Market streets. The Campbell Preserving Company I have frequently known to have worked at night.

Ques. Any others? What other power plants about here, to your knowledge, are operated at nights, if any? Have any power plants in the last few years operated on Front street between Market and Cooper, other than as you have described?

20 Ans. The firm of Gausler and Starr have operated their machinery at night by power generated from their plant.

Ques. Where is their power plant?

Ans. In the rear of their building.

Ques. Where is it?

Ans. On the first floor.

Ques. Locate it on the street, please?

Ans. It is not located on the street.

Ques. Well, is the Gausler & Starr place on Front street, Second street or Third street?

30 The Vice Chancellor: He has already told us that it is on Front street between Market and Cooper, on the west side.

Ques. What is their number? Do you know what their number is?

Ans. I do not know the number, no.

Ques. Any others that you have known to operate at night?

Ans. I have known the New Jersey Asbestos Company to operate their plant at night.

Ques. Where is their plant?

Ans. On Front street directly below Cooper.

Ques. On the west side?

Ans. West side of Front.

Ques. Between Cooper and Market?

Ans. Between Cooper and Market.

Ques. Are there any other plants of that character that have operated at night? 10

Ans. There are none that I recall.

Ques. Mr. Haddon, what is the power used by Gausler & Starr to operate their plant?

Ans. I don't know the exact horse power.

Ques. No, is it steam power, or electric power, or what?

Ans. Steam power.

Ques. The Asbestos Company, what power do they use? 20

Ans. Steam power.

Ques. Mr. Haddon, what would be the effect upon the company's business of not filling its orders by operating at night, or operating so much as is necessary to fill the orders?

Ans. It is absolutely necessary that the Victor Company use every possible endeavor to fill orders, and as quickly as possible after such orders are placed.

Ques. Suppose they do not fill them, what is the effect on the company's business? 30

Ans. The natural consequence would be that very many of those orders would be lost, being in all probability filled by another record making company.

Ques. When the plant operated at night from the summer or fall of 1905 to date, or until June 1st, 1906, what was produced by the night work?

Ans. The only object of running at night during that period—

Ques. (Interrupting.) No, what was produced?

Ans. Records.

Ques. Was anything else produced by this night work, the boxes, or the clockwork?

Ans. No.

Ques. Or any other part of the talking machine?

Ans. No.

10 Ques. What was produced by the steam power which is located in X on that Exhibit D 1—what was produced by its operation in the daytime?

Ans. Victor Talking Machines, this clockwork motor.

Ques. What else?

Ans. And the sound boxes.

Ques. And what else?

Ans. And only the accessories of those two articles.

Ques. Were the records produced in the daytime?

Ans. No, sir; not by that plant.

20 Ques. What did produce the records, operating in the daytime?

Ans. At that time we had a factory in the rear of 23 Market street, which was operated in the production of records.

Ques. You mean the 125 horse power steam plant?

Ans. No, sir.

By the Vice Chancellor:

30 Ques. Do you mean to say that during the last six or eight months you had this other plant at 23 Market street?

Ans. No, sir.

* Ques. You did not understand Mr. Grey's question; he has been asking you this: During the day time what did your power plant turn itself into in the way of product—what did you get out of that power in the day time?

Ans. Out of the present power plant?

Ques. Yes; marked X?

Ans. Machines and records, talking machines.

Ques. And records, both?

Ans. Yes, sir.

By Mr. Grey:

Ques. That is, that power was applied to making all of the product of your company, was it not?

10

Ans. Yes, sir.

Ques. And to what use and to produce what was the same power applied when you operated at night?

Ans. For the production and making of records.

Ques. Solely?

Ans. Only.

Ques. In the making of things additional to the records, whatever you made, did you use any other machinery than was employed at night to make records?

Ans. Yes.

20

Ques. What?

Ans. We used this 125 horse power engine in the day time.

Ques. And any other machinery?

Ans. And the machinery that is in operation and installed in the two original buildings outlined on the map.

By the Vice Chancellor:

Ques. Which two buildings?

Ans. B. and D.

30

By Mr. Grey:

Ques. Of what does that consist?

Ans. Of what machinery does that consist?

Ques. Yes.

Ans. Screw machines, lathes, planers, milling machines, shapers, gear cutting machinery.

By the Vice Chancellor:

Ques. This is all run from one or the other sources of power, either from the 125 horse power engine in C, or what was in the power house X in Exhibit D1, wasn't it?

Ans. Yes, sir.

10

By Mr. Grey:

Ques. In the operation of these additional machines—are they attached to the power plant and operated by power from the power plant? I understand you to say they are.

Ans. They are, in part.

Ques. They are only operated in the day time, these additional machines, as I understand it?

20

Ans. Yes.

Ques. Do they make a noise when they are operated, or do they not?

Ans. They usually make some noise when they are operated.

Ques. So when the whole plant is operated in the day time, is it making more or less noise than when the power plant in the square X is operated at night?

Ans. It undoubtedly makes more noise in the day time.

30 Ques. I understood you to say that the 125 steam horse power engine is operated in the day time and not at night, for this past year?

Ans. Yes, sir.

Ques. What proportion of the total output of the plant is produced, or has been produced, between the hours of eleven o'clock at night and four in the morning, when the plant was operated at night?

The Vice Chancellor: That is an impossible question to answer, because at night they only manufactured records, and through the day they manufactured everything, including records.

(Question withdrawn.)

Ques. Of the records produced by the operation of the plant in the past year, when it was being operated both at night and in the day time, what proportion was produced at night to the total proportion produced by the whole plant—was one-fourth of the record production by the night operation, or one-fifth, or what? **10**

Ans. I should say that between forty and fifty per cent. of the entire production of records was made during the night shift.

By the Vice Chancellor:

Ques. When does the night shift go on? **20**

Ans. At five o'clock in the afternoon, working until four in the morning.

By Mr. Grey:

Ques. Mr. Haddon, how many hands do you employ at night during the night operation?

Ans. Approximately 150. I am speaking now of the hands employed in the record factory only during the time it was working at night. **30**

Ques. What does the payroll for this night force amount to a week, approximately? I don't care for it exactly.

Ans. Approximately \$2,500.

Ques. What disposition is made of those records which are produced—what does the company do with them?

Ans. Those records, on being produced by the press plant, are immediately put in suitable packages and taken directly to our shipping department, from where they are properly packed and sent out to our various customers.

Ques. What territory do you supply with these records? Where are they sent?

Ans. All over the Americas and China.

Ques. When you say "the Americas," you mean South as well as North America?

10 Ans. I mean North and South America, China, the Philippine Islands, and the islands contiguous to the American territory.

Ques. How many hands are employed in the day time, Mr. Haddon? What is your payroll—how many in number?

Ans. At the present time we have about twelve hundred hands employed.

By the Vice Chancellor:

20 Ques. Do you mean the weekly payroll? Is the payroll weekly?

Ans. The payroll is weekly. The payroll is probably between thirteen and fifteen thousand dollars; it is within those figures.

By Mr. Grey:

Ques. What is the total approximate expense of erecting this plant, up to its present condition?

30 Ans. That is a question that I really cannot answer; I would have to consult data.

Ques. Well, what is the approximate cost of the power house building and plant which is in that little square marked X on that map (Exhibit D1), which was begun to be operated since the summer of 1905?

Ans. I should say \$65,000.

Ques. Can you state what is the total capital invested in the corporate enterprise here in Camden?

Ans. There are over \$2,000,000 worth of assets, exclusive of any legal patent rights that we have acquired or own.

Ques. And are they evidenced by property here in Camden?

Ans. They are evidenced by property and the equipment of the property.

Ques. Here in Camden?

10

Ans. Yes.

Ques. Nothing outside of this square that we have been discussing here?

Ans. Yes, outside of this square we have another plant, at Front and Linden streets, which is a very valuable plant.

Ques. Of your two millions of assets in Camden, how much of it is evidenced by property or invested in property in this block that we have been discussing?

Ans. Approximately a million and a half.

Ques. Mr. Haddon, were you here this morning in the court room during the examination of the witnesses of the complainant?

20

Ans. I was.

Ques. Did you hear the testimony of the witness who described the explosion as taking place twice, I think, in the last two or three weeks—Mrs. Fitzgerald—did you hear her testimony?

Ans. I did.

Ques. Do you know of any such happenings as she described there as an explosion, or two explosions, happening at night?

30

Ans. I do not.

Ques. Was the plant operating either of those nights? Her testimony was, as I recall it, that twice since the 1st of June, and after ten o'clock at night, something in the plant occurred which she called an explo-

sion; has the plant been operating at night since the 1st of June, this power plant which is in the block in the square X on Exhibit D 1?

Ans. It is quite possible. I know it was running last night for a short time to make repairs on one of our generators, and such repairs always come under the attention of our engineers; he has authority at any time to start his engines and make such repairs as may be necessary, as we hold him accountable for the running of the plant daily.

10 Ques. Was the company making any records last night?

Ans. No, sir.

Ques. Or any night since the 1st of June, after six o'clock?

Ans. No, sir.

Cross-examination.

20 By Mr. French:

Ques. Mr. Haddon, what is the small square in the corner of the power house, marked X?

Ans. That indicates the brick chimney or smokestack that was erected there.

Ques. Was that built at the same time?

Ans. Yes, sir.

Ques. Was it connected with the wall of the power house?

30 Ans. At the time of building it was connected with the power house wall.

Ques. It was subsequently disconnected?

Ans. It was.

Ques. Why?

Ans. The stack, like all stacks of that height, has a considerable swing to it, caused by the wind, and the matter was referred to our engineer—not the engineer

directly in charge of our plant, but our consulting engineer—and the stack was cut loose from the power house. The stack would probably never have been joined to the power house if Mr. Johnson had been here during the erection of the stack and the power house. It was erected during the summer months of 1905, when Mr. Johnson was in Europe. Immediately on his return to the country in the early part of or during September, he discovered that that was joined there, and instantly knew that it was wrong, and I am quite sure that if he had been on the premises at the time of its erection it would not have occurred. It was not intended to be that way. 10

Ques. You had some notice or some information from the building inspector to detach that stack, hadn't you, because of the vibration?

Ans. Not that I know of.

Ques. Were you afraid that the stack would pull the power house over?

Ans. No, sir.

Ques. And you say the detachment was only made because of the wind? 20

Ans. I stated that the smokestacks all sway in the wind.

Ques. Well, did not the vibration of the machinery in that power house also cause that stack to vibrate?

Ans. That is a question I cannot answer; I don't know.

Ques. And did not you detach it because of the vibration of the machinery?

Ans. No, sir; it was detached simply because it was not erected properly in the first place. 30

Ques. Well, the machinery was not properly installed in the power house, was it?

Ans. Yes, sir.

Ques. What sort of machinery is on the first floor of the building marked B—I don't mean special machines,

but the character of the machinery generally—what is made there?

Ans. There is nothing made there. That room is used as our stock room, our store room, with the exception that in the extreme rear here there are probably three or four emery wheels.

Ques. What do they do?

Ans. The rough portions of the castings are ground off on these emery wheels.

10 Ques. Smoothed off?

Ans. Yes, sir.

Ques. What character of machinery is in the room marked D?

Ans. In the rear portion there are now a series of punch presses.

Ques. All the way up to the fourth story?

Ans. No, just on the first floor.

Ques. What is in there?

Ans. No machinery yet; it is used as a part of the stock room.

20 Ques. What do the punch presses do?

Ans. The punch presses are used to blank out pieces of steel or brass.

Ques. Do they cut discs, do you mean, and wheels?

Ans. Yes.

Ques. What, on the second floor, is the character of the machinery?

Ans. In this building?

Ques. Yes.

Ans. That is our tool room.

30 Ques. What do you mean by that?

Ans. There are expert machinists there at work, our tool makers.

Ques. Making tools?

Ans. Making tools for us in the factory.

Ques. What is on the third floor of the building marked D?

Ans. Our gear cutting department and milling machine department and drill press department.

Ques. Those are machines that cut edges on the wheel, what you call milling?

Ans. Cut teeth on the wheel; yes.

Ques. And by gear cutting machinery you mean to stamp out metal that you turn?

Ans. To cut the teeth.

Ques. And that is the only character of machinery on the third floor?

10

Ans. Yes.

Ques. What is on the fourth floor?

Ans. A nickel-plating department.

Ques. That comprises the whole of the building?

Ans. No; that is this one, D.

Ques. Now, what is on the second floor, B?

Ans. There is a portion of the rear of the second floor of B devoted to the manufacture of sound boxes.

Ques. Those are wooden boxes?

Ans. No; not wooden.

20

Ques. What are they, generally?

Ans. That little piece of ours whereby the sound from the record is taken and transferred out thorough the horn. It is a metal construction.

Ques. Small, or large?

Ans. Oh, it is quite small, two inches in diameter.

Ques. These machines manufacture them by cutting them out?

Ans. No; it is made by turning it on a lathe, and milling machine work—ordinary machine shop process.

Ques. What is on the front part of the second floor? 30

Ans. The front portion of the second floor is devoted to packing such portions of our machines, our motors, as we send abroad directly; and the superintendent's office directly in the front portion of the second floor.

Ques. Now what is on the third floor?

Ans. Our automatic screw machine department, and hand screw machine department.

Ques. What do you mean by that?

Ans. By the "automatic screw machines" I mean a machine whereby you can put a long rod of brass or steel, as the case might be—for instance, if you wanted to make that piece (indicating), tools would be made whereby that rod, after it is once fed into the machine, it would automatically make such pieces as that, and drop them off, so that it requires no attention on the operator's part.

Ques. And hand screw machines?

10 Ans. Hand screw machines are for making that same piece, we will say, excepting they require an attendant all the time.

Ques. Then they are for making small piece of metal, either automatically, or requiring an attendant?

Ans. Exactly.

Ques. What is on the fourth floor of that building?

Ans. The general assembling room of these two factories, where all these parts that are made in the other portions of the factory are taken to the fourth floor and put together, making the completed machine.

20 Ques. Making the completed machine?

Ans. Except the cabinet wood work.

Ques. What is this completed machine?

Ans. That is the Victor Talking Machine.

Ques. Well, is it an article of amusement?

Ans. Well, it is used for amusement, and for a variety of purposes.

Ques. What purposes is it used for?

30 Ans. For instance, if you were a singer and wanted to study one of the Grand Opera singer's voices, an artist's voice, you might be sufficiently interested to purchase one of our machines and a number of these records and carefully study the reproduction of the voice. You would hardly term that "amusement," you would term that "business."

Ques. And it might be "education"?

Ans. Yes.

Ques. At the large building at the corner of Front and Cooper, what is on the first floor of that building?

Ans. In the rear of this dotted line (indicating on Exhibit D1) there are a series of blanking rolls and mixing machines for making and mixing the material from which our records are made (marking the spot indicated on the plan "E.")

Ques. That is, the record is made of some sort of composition?

Ans. Yes, sir.

Ques. And stamped?

10

Ans. Not on that floor. It is stamped later.

Ques. The composition is mixed there?

Ans. Yes.

Ques. And the front part there is offices?

Ans. Yes, sir.

Ques. What is on the second floor of the building E, in the front?

Ans. The front part of the second floor is offices; the rear portion we have filled with presses devoted to making these records.

20

Ques. Now, what is on the third floor of E?

Ans. Precisely the same description applies—in the front part, offices, and in the rear portion presses devoted to making the records.

Ques. What is on the fourth floor of E?

Ans. The stock room. On the front portion we have an experimental laboratory; and in the rear portion the records that have been made downstairs are sent upstairs for final inspection.

Ques. Describe the process of making this record, or stamping the record, or whatever it is—the machines that make the records.

30

Ans. These records are made under pressure, under hydraulic pressure in hydraulic presses. The record material, after it has first been prepared from the various ingredients that go to make up the composition, is taken

to these presses and laid between dies, in one of which the master record is contained. The whole apparatus is then heated to a sufficient extent until the material becomes plastic, when the pressure is applied and the entire record is formed.

Ques. How great is this pressure?

Ans. Probably two hundred pounds to the square inch.

Ques. How is this mass heated?

Ans. Simply by laying it on a table, which we term a "steam table."

10 Ques. Heated by steam, then?

Ans. Yes; heated by steam.

Ques. Now, in going by, you hear a sort of a sound as if metal was falling—what is that, the operation of the press, or the record dropping?

Ans. No; after this record has been formed in between these dies or moulds the pressure is released, and the mould is then taken out from between the two large flat plates that must necessarily be there, and then these plates are dropped on a block to loosen these dies one from the other. The drop on the block loosens them, and the upper portion of the mould is easily removed and the record taken out.

Ques. What rate of distance are they dropped?

Ans. Probably six inches.

Ques. And what is the weight of these moulds or dies?

Ans. That varies according to the size of the record that is being made.

Ques. About what?

30 Ans. The largest size record that we are making is a 12 inch record. They will probably weigh, well, forty pounds.

Ques. That is, the two dies together weigh forty pounds each?

Ans. Yes, probably.

Ques. And what sort of metal are they made of?

Ans. Steel.

Ques. And how many of these presses are there that make the records in these two rooms of E—I don't mean exactly, but approximately?

Ans. Probably 120 or 125.

Ques. And how frequently does the machine stamp or make or press a record?

Ans. Somewhere between two and three minutes.

Ques. Two and three a minute, or between two and three minutes?

Ans. Between two and three minutes.

10

Ques. It takes between two and three minutes for a completed operation?

Ans. Somewhere in that neighborhood.

Ques. What is the character of the thing that the dies are struck on to loosen them?

Ans. A cast iron block.

Ques. A heavy solid block?

Ans. It is not a solid block; it is a block just presenting a cast iron surface, equal in extent to possibly the entire area of the moulds, possibly about fourteen inches square.

20

Ques. Fourteen inches square, to take in any sized mould?

Ans. That is the idea.

Ques. And how high is it from the floor; what is the height of it?

Ans. Just about the height of this table (indicating).

Ques. Does it rest on legs?

Ans. No, it is a wooden table, and we set this small cast iron block directly on top of it.

30

Ques. Then it is a small wooden table, one to each machine, is there?

Ans. Yes.

Ques. And it has a cast iron top?

Ans. Yes.

Ques. And on that these steel dies are dropped about six inches, to loosen them?

Ans. Yes.

Ques. That is the character of the operation of these one hundred and twenty-five machines?

(Question unanswered at adjournment.)

Recess until Wednesday, June 27, 1906, at ten o'clock, A. M.

10

CAMDEN, N. J., Wednesday, June 27, 1906.

Trial of the cause resumed at ten o'clock, A. M.

CHARLES K. HADDON, recalled.

By Mr. French:

20 (Last question before recess, which was unanswered, repeated as follows: Ques. That is the character of the operation of these one hundred and twenty-five machines?)

30 Ans. That is not the character of the operation of these 125 machines, it is the character of the operation of the greater majority of them. There are some seventy presses that are operated in the manner that I have described, by dropping the moulds on this cast iron block; the balance of the presses are operated in an entirely noiseless manner, they do not require the moulds to be dropped on a block, because there is an ejecting device in connection with the press that forces the record from between the moulds after the record has been made.

Ques. In which room are those seventy machines that are operated in this manner?

Ans. On the third floor.

Ques. Are there windows in the building E?

Ans. Yes, sir.

Ques. On which side of the building?

Ans. On the north and south sides.

Ques. North and south?

Ans. Yes.

Ques. Are those windows opened or closed during the operation of the plant?

Ans. During the warm weather those windows are open. 10

Ques. I understand you that the 125 horse power steam engine is in the room marked C, the engine room?

Ans. That is correct.

Ques. On what floor?

Ans. On the first floor.

Ques. Just set on a board?

Ans. No, set on a concrete foundation.

Ques. Let into the ground?

Ans. Yes, sir.

Ques. What sort of an engine is it? 20

The Vice Chancellor: Do you mean the make?

Mr. French: The character of the engine—how many cylinders?

Ans. Single cylinders.

By the Vice Chancellor:

Ques. Just describe the engine. 30

Ans. It is an Ames engine, single cylinder; runs at, I think, 120 revolutions per minute. I am not exact about that.

Ques. Well, about that?

Ans. About that.

Ques. And that means that that turns a driving wheel at the rate of 120 revolutions a minute, or that the piston makes 120—

Ans. (Interrupting.) Turns the wheel at that rate.

Ques. That is, it turns a large driving wheel?

Ans. Yes.

By Mr. French:

10 Ques. And that transmits power by belts, or is that driving wheel geared on to a shaft?

Ans. The power is transmitted by belt.

Ques. Now, the power thus transmitted is the force that is generated by the steam driving this piston, and that power is communicated by a belt to shafting—is that right?

Ans. Yes, sir.

Ques. Now, what machinery does that 125 horse power engine run?

20 Ans. That runs the machinery that is in the two buildings on the plan, letters D and B.

Ques. And does it run the machinery in those two buildings, both in the daytime and at night.

Ans. We have never operated those two buildings D and B at night.

Ques. Then this engine is not run at night?

Ans. No, sir.

Ques. This engine is also in an enclosed room, is it not?

Ans. Yes, sir.

30 Ques. And has been used more than four years?

Ans. About that I should say.

Ques. And there are four or more intervening brick walls between that engine room and Mr. Seligman's house, are there not?

Ans. Only three, that I have knowledge of.

Ques. What about the wall of the Collings' Carriage Company's building, that which has been called "the blacksmith shop"?

Ans. Yes; I should think that intervenes.

By the Vice Chancellor:

Ques. You would think that the walls of what we have called "the blacksmith shop" did intervene?

Ans. Yes, sir.

Ques. That is not shown on this plan, is it—I mean the blacksmith shop?

Ans. Yes, sir.

Ques. Can you indicate about where it is, without being bound as to accuracy? 10

Ans. Yes, sir.

Ques. Just take a pencil and mark where it is, and mark it with the initial of your last name.

(The witness complies.)

The Vice Chancellor: The witness, at the suggestion of the Court, has taken a pencil and has delineated on Exhibit D1, a parellelogram to represent the building on the rear of the Collings' Carriage Works property, which has been referred to by the witness as "the old blacksmith shop, and has marked the parellelogram so delineated with the letter H. 20

By Mr. French:

Ques. Now, with respect to the building marked "X Power House," are there windows in that building?

Ans. Yes, sir.

Ques. And are there windows facing the south, toward Mr. Seligman's? 30

Ans. Yes, sir.

Ques. Are they open or closed during the operation of the plant?

Ans. During the warm weather those windows are usually open.

Ques. Now, what sort of engines are on the second floor of that building?

Ans. Ames engine, direct connected.

Ques. Will you please say what you mean by "direct connected"?

Ans. Having the generator attached to the shaft of the engine.

By the Vice Chancellor:

10

Ques. No belting?

Ans. No belting required to operate the electricity.

By Mr. French:

Ques. There are two engines?

Ans. Yes, sir.

By the Vice Chancellor:

20

Ques. Are generators and engines the same thing, in your phraseology?

Ans. No, sir.

Ques. I understood you to say there were boilers on the first floor?

Ans. Yes, sir.

Ques. How many boilers are there?

Ans. Four in operation.

Ques. And they, when they are in full operation, I understood you to say, generated six hundred horse power?

30

Ans. Yes, sir.

Ques. Then what do they connect with upstairs?

Ans. With the engines, by steam pipes connecting the engines, operated by steam; they, in turn, revolve the shaft to which is attached the generator generating the electrical current that is used for operating the various motors that are located at different stations throughout the factory.

Ques. Is a generator and a dynamo the same thing?

Ans. Practically.

Ques. How many engines are there on the second floor of the building marked X?

Ans. Two.

Ques. And two generators?

Ans. Yes, sir. You understand that each one of those two is in one piece.

Ques. The engine and the generator is in one piece?

Ans. Yes, sir.

10

By Mr. French:

Ques. Now, the steam is taken from the boilers by pipes to a steam chest or some mechanical device that pushes a rod to and fro?

Ans. Yes.

Ques. And that rod moves what?

Ans. It actuates the shaft.

Ques. A shaft of what particular thing; what you call the generator?

20

Ans. The shaft of the engine and the generator.

Ques. They are the same thing?

Ans. Yes, sir.

Ques. That is what you mean by "directly connected"?

Ans. Yes, sir.

Ques. Now, describe what this generator is?

Ans. I cannot give you a very clear description of what the generator is; I am not familiar, in detail, with the construction of a generator; I merely know that, in a general way, it is that part of the mechanism from which the electricity is produced.

30

Ques. That is, by the revolving of some mechanism in this generator with brushes or wires, or something of that character?

Ans. From a contact of the brushes on these necessary parts.

Ques. It generates sufficient current of electricity to run certain machinery?

Ans. Yes.

Ques. Now, what machinery does that current run?

Ans. It runs all the machinery that is in the record factory.

By the Vice Chancellor:

10 Ques. Marked E?

Ans. E. It runs portions of the machinery that are located in factories D and B.

By Mr. French:

Ques. Does that have anything to do with the lighting of the place at night?

Ans. Yes; it does. The light current is produced from these same generators.

20 Ques. And does the current produced by these generators do anything else than run the machinery in the building and the lights?

Ans. No, sir.

Ques. About how heavy are these engines in weight?

Ans. I could not tell you; I don't know.

Ques. Approximately, about how many tons?

Ans. I don't recall; I don't know.

Ques. Are they light or heavy?

Ans. Well, they are reasonably heavy.

30 Ques. You say, I think, combined they are 350 horse power?

Ans. Yes, sir.

The Vice Chancellor: I did not understand that. I thought he said 350 horse power for one.

The Witness: No, sir.

The Vice Chancellor: That is what he testified when he stated it before, I thought.

Ques. Which is correct?

Ans. Combined they are 350 horse power. That is what I have the impression I testified to yesterday.

Ques. And how many horse power is each engine?

Ans. I am unable to answer that question accurately. The larger of these two engines is known as a 150 kilowatt machine, and the smaller one a 100.

10

Ques. So the engines are different size, are they?

Ans. Yes, sir.

Ques. Now, how are they located, parallel with one another?

Ans. Practically so.

Ques. How large are those generators?

Ans. I cannot tell you the size of those generators, any other than the description I have already given you.

Ques. Well, are they quite a large piece of mechanism?

Ans. In diameter?

Ques. Yes.

20

Ans. Oh, approximately 5 feet.

Ques. In diameter?

Ans. Yes.

Ques. That is, you mean the top of them would be 5 feet from the floor?

Ans. Five feet from the foundation of the engine.

Ques. Do they make any perceptible noise when you are in the room and they are running?

Ans. They make precisely the same noise that engines of that type and of a modern construction do make anywhere under fair running conditions.

30

Ques. Well, now, are you speaking of the engines or the generators?

Ans. Of both; they work together.

Ques. They work together, but each has a distinct noise, has it not?

Ans. I cannot say that.

Ques. Is not there a peculiar noise connected with the operation of the dynamo or generator of electricity?

Ans. They may be, but I don't know it.

Ques. Now, about how many revolutions do these engines make?

Ans. I am under the impression that these generators run about 350 per minute.

Ques. Each of them, or are they different?

10 Ans. I think they are somewhat different.

Ques. One running about 350, and the other more or less?

Ans. I would think it was close to that same number of revolutions.

By the Vice Chancellor:

20 Ques. Clear up in my mind, if you can, please, by your testimony, this question about the horse power; I understood you to say that the boilers were capable of generating 600 horse power?

Ans. Yes, sir.

Ques. Now, do the engines that are now connected with them only, when combined, generate 350 horse power?

Ans. Yes, sir. Can I go on and explain further than that?

Ques. Yes.

Ans. The query that is in your mind probably is, what has become of the steam power—

30 Ques. No; the query in my mind is that I understood you to say that each of those engines was capable of generating 350 horse power, and I don't understand how you could get 700 horse power out of your engines when you could only get 600 out of the boilers?

Ans. No, sir; the balance of the steam power is used in our factories for heating purposes.

By Mr. French:

Ques. And there is an advantage in having a boiler in a larger horse power than an engine, is there not?

Ans. Surely.

Ques. What is meant by an engine "carrying a load" when that engine is an electrical engine?

Mr. Grey: It does not seem to me that this is competent cross-examination. I object to it.

10

The Vice Chancellor: I will hear Mr. French as to how he thinks it is cross-examination.

Mr. French: Well, he used the term, and I suppose, if he knows anything about it, it is competent testimony, because he practically represents the defendant in the case, and any cross-examination of anything he knows anything about is competent.

The Vice Chancellor: I will rule it out as not cross-examination.

20

Ques. What do those engines do in the day time?

Ans. Generate the current that is used for operating the motors from which the machinery in the various portions of the plant is run.

Ques. And the machinery run in the day time by the motors supplied with electricity from these engines, electrical generators, is the machinery in that building marked E?

30

Ans. It is, but not exclusively.

Ques. And does it, in the day time, also run some of the machinery in the buildings marked B and D?

Ans. Yes, sir.

Ques. What do those engines run at night, or what do they propel?

Ans. They operate the machinery through this electrical current that is in operation in the building marked E.

By the Vice Chancellor :

Ques. Where the records are made?

Ans. Yes, sir.

By Mr. French :

10 Ques. Anything else?

Ans. We are not using any other portion of the plant at night.

Ques. Do they also operate the lights?

Ans. Oh, yes.

Ques. And do the lights require quite a good bit of current, or don't you know?

Ans. I do not know the current required.

Ques. The plant is then dependent on these engines for its operation?

20 Ans. Together with the engine that is in the building marked C.

Ques. The plant could be run by this engine in the building marked C. without these engines?

Ans. No, sir; it could not.

Ques. Water is required for these boilers connected with these engines, is it not?

Ans. Yes, sir.

Ques. From whence do you obtain that water supply?

30 Ans. As much as the city of Camden will allow us we purchase from it. We use large quantities of water, more than we can purchase from the city, and for that purpose have been compelled to sink artesian wells, from which we are drawing a portion of our present supply?

Ques. You are limited, as I understand, to 500,000 gallons every twenty-four hours from the city?

Ans. That is practically the situation. We made application for further connections with the city mains, which was refused.

Ques. And you get more of that in the night time than you do in the day time—the city water?

Ans. No.

Ques. The supply is exactly the same, night and day, is it?

Ans. I should say so.

Ques. When, in 1905, did you finish the building E?

Ans. I think during the latter part of July, or the first part of August.

Ques. And when did you get the machinery installed in it? **10**

Ans. During the month of August, in part.

Ques. When did you get it entirely supplied with machinery?

Ans. It is not entirely in yet.

Ques. Have you been continually adding machinery since the latter part of August?

Ans. We have.

Ques. Then there is an ever increasing use of power from the power house X since the latter part of August, 1905? **20**

Ans. That is correct.

Ques. What personal observation did you make of the operation of other power plants in this neighborhood at nights, that you personally saw?

Ans. I have seen in operation the various power plants to which I testified yesterday.

Ques. In the buildings?

Ans. In such buildings as the power was generated in.

Ques. Were you in the buildings?

Ans. I was. **30**

Ques. How was the power generated by the Camden Lighting and Heating Company in the building on Front street south of Market?

Ans. As I now recall it, their engines were located on the first floor, together with their boilers, and on the second floor their various dynamos were placed.

Ques. And they were connected by belts?

Ans. Yes, sir.

Ques. And not directly connected?

Ans. No, sir.

Ques. And their engines were on concrete foundations?

Ans. I should judge so.

Ques. And what sort of engines have they at the Campbell Preserving Company's plant?

10 The Vice Chancellor: Do you mean at the present time?

Mr. French: Now.

20 Ans. The last personal knowledge that I have of the engines in the Campbell Preserving Company was during the time when their former general manager, Mr. Martindale, if I recall the name correctly, was living; and at that time they were operating their plants from a steam engine located on the first floor of the Campbell Preserving Company, which, as I now recall, was almost in direct line with the small street running down alongside of the City Hotel.

By the Vice Chancellor:

Ques. From Market street?

Ans. From Market street.

Ques. Toward Arch street, south?

30 Ans. Toward Arch street, south.

By Mr. French:

Ques. This was a steam engine?

Ans. Yes, sir.

Ques. And on the ground floor?

Ans. Yes, sir.

Ques. And on a concrete foundation?

Ans. Yes, sir.

Ques. The Esterbrook Penn Manufacturing Company, did you ever see them operating at night, personally?

Ans. No sir.

Ques. Did you ever hear any noises, day or night, from the operation of their plant, outside of the walls?

Ans. Only such noises as could be observed from the exhaust of the engine, so far as I now recall.

Ques. The Building Inspector of the city of Camden did have some communication with your company, or its officers, with respect to this power house, did he not? 10

Ans. I understand there was some communication, whether it was addressed personally to the company, or to one of its officers, or to our attorneys, I am unable to state.

Ques. You were required by that communication to brace, or stay in some way, the building marked X, were you not?

Mr. Grey: I object to that. The Building Inspector himself, or the communication itself should be produced, it seems to me; that is the best evidence. This witness is asked what is contained in a communication to him; it seems to me that is hearsay. 20

[F F]

The Vice Chancellor: Is that your only ground?

Mr. Grey: It seems to me that what they were required to do by the Building Inspector is not evidence in this case and not material to the issue. On those two grounds I object. 30

The Vice Chancellor: I will hear Mr. French.

Mr. French: This is a representative of the company, that comes here to testify, and we are entitled to know—

The Vice Chancellor: Just a moment; let me ask the witness a question.

By the Vice Chancellor:

Ques. Do you, of your personal knowledge, know the contents of the communication from the Building Inspector?

10 Ans. No, sir.

The Vice Chancellor: I will overrule the question.

By Mr. French:

Ques. Did you stay or brace that building in any way?

The Vice Chancellor: The company, of course, you mean?

20 Mr. French: I mean the company.

Ans. Yes; there were certain braces erected in that plant.

Ques. And was that because of this communication?

Ans. No, sir.

Ques. Why was it done?

30 Ans. We contemplated at that time putting a much heavier engine and generator, as a third engine, on the second floor of the power plant, a much heavier one than had been originally intended and for which the space was reserved, and it seemed very wise that we should increase our power by adding to the power plant. Upon taking the matter up with our architects and engineers they instructed us that such a plant could be accommodated safely on the floor provided we would brace the lower floor in a manner suggested by them. That

bracing was duly done. But after it was finished the increase of our business—that of making the records—became so very marked that we saw that were we to carry out our plans that we had prepared for such an engine would very shortly be inadequate, and that proposition was dropped, and other plans prepared for increasing our power plant in a method that would give us a considerable spare horse power.

By the Vice Chancellor:

10

Ques. Is that in connection with this building that is labelled "New Power House," fronting on Cooper street?

Ans. Yes, sir.

By Mr. French:

Ques. And in that building labelled "New Power House," fronting on Cooper street, is where you propose to install your new power plant?

Mr. Grey: I object to that. I cannot see how what they propose to do in another location in the future is material to the present question here before the Court. 20

The Vice Chancellor: I will admit the question.

Ans. Yes, sir.

By the Vice Chancellor:

Ques. Is it purposed, after you install such new power plant, to discontinue any part of the power plant now in X? 30

Ans. Yes, sir; a portion of it.

By Mr. French:

Ques. The Victor Talking Machine Company have purchased all of the dwellings in the block bounded by Market street and Cooper street, Front street and Sec-

ond street, north of a line running about the centre of the block, have they not?

Ans. North of a line running on an approximately parallel line with their present south line.

By Mr. Grey:

10 Ques. Mr. Haddon, in reply to a question by the Court, you said that you proposed, or that it was proposed, to move a portion of the power plant now where Exhibit X is located on DI, to the place marked on the map "New Power House"; I ask you what portion of the power is proposed to be moved?

Mr. French: I object to that as not re-direct examination.

The Vice Chancellor: I will admit it.

20 Ans. That portion entirely now located on the second floor, comprising the generators and engines, and the condenser and the compressor—all the machinery on the second floor.

Ques. And what portion will remain?

Ans. The boilers on the lower floor will remain in their present position.

30 Ques. Mr. Haddon, in your testimony you referred to your knowledge of the operation of the Campbell plant during the time Mr. Martindale was an officer of the company, but you did not define the time nor the date when that was; can you state when that was, approximately? Was it 1906, or 1905, or when?

Ans. My impression is it was between the years 1898 and 1900.

Ques. In your testimony as to the use of the presses which were opened by dropping them on a block, you said that that use of those presses was on the third floor—of what building I ask you now?

Ans. Of the building on the plan marked E.

Ques. And when were those presses so commenced to be used in that building?

Ans. Since the first occupancy of the building, last August.

Ques. Of what year?

Ans. 1905.

Ques. How long has the Victor plant used presses of that character?

Ans. Since its incorporation, or very shortly after, 10 when it put up its own record factory.

Ques. And where were the presses so used prior to the use of the building E for that purpose?

Ans. They were used in the building in the rear of No. 23 Market street, Camden.

Ques. On another block?

Ans. On the block west.

By Mr. French:

Ques. You spoke of condensers and compressors on the second floor of the power house X; what sort of machinery are they? 20

Ans. I made an error in mentioning the word condenser; I do not think the condenser is located on the second floor; the compressor is; that is an air compressor, very similar to an ordinary steam engine. Its use is to force a current of air through piping into these artesian wells that we have driven, to force the water to the surface.

Ques. Are there wheels, or machinery that revolves, 30 connected with it?

Ans. My best description would probably be that it is, to all appearances, a steam engine, a horizontal steam engine.

Ques. Then there are practically three engines on this floor?

Ans. Excepting that this air compressor is not known as an engine; it is known as an air compressor.

By the Vice Chancellor:

Ques. But assimilating that with the steam engines, as you have, then there are three, two of which have generators connected with them, and the other is this air compressor?

10 Ans. The air compressor; yes, sir.

Mr. Grey: I would like to vary my order of proof a little to accommodate some of the witnesses.

The Vice Chancellor: Very well.

HEULINGS LIPPINCOTT, affirmed.

20

By Mr. Grey:

Ques. What is your business?

Ans. I am president of the National State Bank of Camden.

Ques. And where is that located?

Ans. At the northwest corner of Second and Market.

Ques. How long have you been president?

Ans. About eighteen years.

30 Ques. During that period have your duties required you to be personally present at the bank?

Ans. Every day when I am able to attend to business.

Ques. How much have you been able to attend to business and how much have you been present in the bank for the last year?

Ans. Well, I have been away an unusual amount in the past year; I have been away two months this spring; but I am usually there eleven months in the year.

Ques. Well, take the past six months; how much of the time?

Ans. Oh, I have been absent two months of that time.

Ques. What two months were they?

Ans. From the 10th of April to the early part of June.

Ques. And prior to the 10th of April, for how long a time were you able to continually attend to your duties there?

Ans. I was there every day practically.

Ques. For several years back?

10

Ans. Yes.

Ques. What room in the bank do you ordinarily occupy—where are you placed there?

Ans. On the Second street side, at the northwest corner.

Ques. How near the rear end of the building is that?

Ans. Right against the rear end.

Ques. The rear end, speaking from the south to the north?

Ans. Right against the rear end of the building.

Ques. That is the end furthest away from Market street?

20

Ans. Yes.

Ques. How are the windows located in that room, or where are they located, rather?

Ans. There are two windows on Second street and one at the north end on an alley running at the north end of the building.

By the Vice Chancellor:

Ques. What is between your room and the west wall of the building?

30

Ans. Two rooms.

By Mr. Grey:

Ques. Mr. Lippincott, what have you observed in the bank as to the operation of the Victor Talking Machine plant?

Ans. Nothing.

Ques. Aside from any plant, what vibration is there observable in your bank building?

Ans. I have never noticed any.

Ques. Is the operation of the bank interfered with in any way by any vibration?

Ans. Not that I know of.

Ques. What noises have you observed while in your bank building, either in your room or elsewhere in the bank?

10 Ans. Well, our most annoying noises are the street cars grinding around the curve at Second and Market streets and along on Second street. In the last few days there have been some very annoying sounds on Second street; I understand they are well digging, boring or driving a well.

Ques. Have you been conscious of any noises emanating from the neighborhood toward the northwest of your bank building?

20 Ans. No.

Cross-examination.

By Mr. French:

Ques. Your office is in the northeast corner of the bank building, is it not?

Ans. Northeast corner of the bank building; yes.

Ques. Is the Victor Talking Machine Company a customer of the bank?

30 Ans. No.

Ques. The Abraham Browning house extends further north than the bank building, does it not?

Ans. I think it does, a little.

Ques. Where is the well digging taking place?

Ans. Well, I didn't locate it. I heard the noise, and simply asked what it was, and they said they were digging a well on Second street.

Ques. The bank is rather a substantial building, is it not?

Ans. Very.

Ques. And immediately in the neighborhood of the office is a large vault?

Ans. It is between my office and the street.

By the Vice Chancellor:

Ques. You mean Market street, don't you?

Ans. Yes, sir; Market street.

10

By Mr. French:

Ques. And what is the size of that vault?

Ans. I should think it was twenty feet square, probably.

Ques. And the vault is about twenty feet from the partition that forms your office?

Ans. It is entirely south of the partition that forms my office.

20

Ques. About a distance of fifteen or twenty feet?

Ans. I should think about fifteen feet from my desk.

Ques. And that vault goes all the way to the cellar?

Ans. Yes, sir.

Ques. The foundation is in the ground?

Ans. In the cellar; yes.

Ques. Are the walls of the bank light or heavy?

Ans. Heavy walls.

30

FLORENCE H. SAVAGE, sworn.

By Mr. Grey:

Ques. Mr. Savage, where have you resided for the last two years?

Ans. 127 Market street.

Ques. What part of the building 127 Market street have you occupied?

Ans. Third floor, rear.

By the Vice Chancellor:

Ques. That is the Abraham Browning building, is it not?

10 Ans. Yes, sir.

By Mr. Grey:

Ques. How many rooms there do you occupy?

Ans. Four, practically—one very small.

Ques. And beginning with the room furthest north; that is, most to the rear of the building, speaking from Market street, describe that room.

Ans. That is my bed-room.

20 Ques. How large a bed-room is that?

Ans. About twelve by fifteen, I think.

Ques. And where are the windows located in that?

Ans. There are two upon the east and one on the north.

Ques. And the one on the north looks out on what neighboring manufacturing plant, if any?

Ans. It looks out toward Cooper street, toward the Victor Talking Machine plant.

Ques. Have you slept in that room for the last two years?

Ans. Slept there the last six years.

30 Ques. What have you observed in the way of vibration and noise, if anything, emanating from the neighborhood north of your rooms?

Ans. Well, I cannot say that I have observed anything of any annoyance to me.

Ques. Has your sleep been disturbed?

Ans. Not at all.

Ques. Has your attention been called to the plant recently?

Ans. Yes.

Ques. When?

Ans. Well, during this spring.

Ques. Since then—in the last day or two—yesterday or this morning?

Ans. No.

Ques. How near would you think your room was to the Victor plant?

Ans. I couldn't say; possibly fifty feet; maybe more. **10**

Ques. Do you know of a large chimney forming a part of that plant?

Ans. Yes; there is a chimney.

Ques. That is in what direction from your room?

Ans. West, I think—northwest.

Ques. What construction, what buildings, if any, are between you and the Victor plant—any houses there?

Ans. I don't think there are any constructions.

Cross-examination.

20

By Mr. French:

Ques. How was your attention called to the operation of the plant in the spring?

Ans. Mr. Seligman spoke to me about it and asked me if it annoyed me, and I told him it did not.

Ques. Did you hear any noises from it at all?

Ans. Oh, I hear a noise when I direct my attention to it, but I have never been bothered by it in any way. **30**

Ques. Did you say to Mrs. Seligman that you noticed it, but that it did not bother you?

Ans. I did.

Ques. Do you carry on the operation of the house, 127 Market street?

Ans. Do I carry on any operation?

Ques. I mean, do you rent the house, or do you just have rooms there?

Ans. I have rooms there.

By the Vice Chancellor:

Ques. He means, do you run a boarding house, or lodging house?

Ans. No; I do not.

Ques. Do you rent it from somebody else?

10 Ans. I rent from somebody else.

By Mr. French:

Ques. Are you in the house all during the day?

Ans. No, sir; I am not.

Ques. Do you have some independent business that takes you away from there?

Ans. I have business that takes me away most of the day, and very often in the evening.

Ques. What is the character of your business?

20 Ans. I give massage treatment and electricity.

Ques. Then you are there only when you rest?

Ans. Practically. During my busy season I am there only at night.

By Mr. Grey:

Ques. When is your busy season?

Ans. For ten months in the year, with the exception of July and August.

30

WILLIAM T. READ, ESQ., recalled.

By Mr. Grey:

Ques. Mr. Read, you testified yesterday in this case?

Ans. Yes, sir.

Ques. Since that time have you made any observations in regard to the operation of the Victor Talking Machine plant?

Ans. Yes, sir.

Ques. Where?

Ans. In the back yard of 127 Market street.

Ques. When?

Ans. This morning, about 9.30 or 9.45.

Ques. What did you do?

Ans. I went out in the back yard and stood near the plant of the Victor Talking Machine Company. 10

Ques. How near did you get to it?

Ans. About twenty or twenty-five feet.

Ques. And did you make any observations relating to the building, or the rear end of the building, 127 Market street?

Ans. Do you mean the relation of the building to the plant?

Ques. Well, how did you get into the rear of 127 Market street?

Ans. Went through the offices. 20

Ques. What did you observe in relation to the operation of the plant; was the plant operating or not?

Ans. Yes; the plant seemed to be operating; there was a noise there, a pulsating sound.

Ques. Was the steam going through the exhaust?

Ans. I think it was; yes.

Ques. What did you observe as to the vibration of the ground or the building through which you passed?

Ans. I did not notice any vibration in the building, nor do I recall any noise in the building; but when we opened the door the noise was perceptible; and then when we walked back further in the yard there seemed to be a slight vibration, but whether that vibration was the pulsating of the machinery or not it was very hard to differentiate. The pulsations were very noticeable there, and whether that caused my body to feel as if it was vibrating or not it was hard to tell. 30

Ques. That is, it was hard to tell whether it was a vibration in the ground, or a pulsation in the air?

Ans. Yes.

Ques. How would you compare the effect upon the premises, 127 Market street, of the operation of the Victor plant, as you observed it this morning, with the effect upon the premises of Mr. Seligman that you described yesterday?

Ans. About the same.

10

Cross-examination.

By Mr. French:

Ques. At whose request did you do this, this morning?

Ans. At Mr. Archer's.

Ques. And he is a member of the firm of Grey & Archer?

20

Mr. Grey: It was at my request; there is no doubt about that.

JOSHUA E. BORTON, ESQ., SWORN.

By Mr. Grey:

Ques. You are a counsellor-at-law of the State of New Jersey?

30

Ans. Yes, sir.

Ques. Where are you carrying on your law business?

Ans. 113 Market street, Camden.

Ques. Do you know the complainant in this case, Mr. Seligman?

Ans. I do.

Ques. Are you familiar with 117 Market street?

Ans. I am.

Ques. How near is 113 to 117?

Ans. Fifteen feet, I think.

Ques. There is one intervening building?

Ans. One intervening house.

Ques. How long have you been occupying the premises 113?

Ans. Probably fifteen or eighteen years.

Ques. And what portion of the premises have you occupied; what floor?

Ans. The first floor, rear part. 10

Ques. How many room are there there?

Ans. There are three now.

Ques. And how many did there used to be?

Ans. Two.

Ques. When was the third one added?

Ans. In January, 1905, I think.

Ques. And in the orderly course of your business, what room do you usually occupy?

Ans. The rear room; the north room.

Ques. You are speaking of the rear of the building, going from Market street northward? 20

Ans. Yes.

Ques. What vibrations have you observed, if any, occurring in your buuilding or any of these rooms?

Ans. I don't know that I have noticed any.

Ques. What noises are imposed upon your ears there?

Ans. Well, I have heard a little of what seems to me as a sort of a whirring sound.

Ques. How loud would you say it was?

Ans. That is a pretty hard matter to say. It don't seem to be very loud. When I am busy I don't notice it. If I am not busy and put my mind on that particular thing I hear it. 30

Ques. Has your health been affected in any way from this noise?

Ans. I think not.

Ques. Has your business been interfered with to any extent?

Ans. Not to the best of my knowledge.

Ques. Where do the windows of your rear room open?

Ans. Toward the north.

Ques. How many are there?

Ans. Two.

By the Vice Chancellor:

10 Ques. Does that building extend as far north as Mr. Seligman's building?

Ans. I don't know that I can answer that question. My building, I think, extends north from the north line of Market street probably sixty feet.

Ques. Do you own the building?

Ans. No—well, I will have to answer yes and no.

Ques. All I want to know is, whether you have the interest of a real estate owner, or whether somebody else owns it; I do not care about the intricate details.

20 Ans. I have an interest in part of the building, but I do not have any interest in the land.

By Mr. Grey:

Ques. Are there any buildings or constructions between the rear of your building and the Victor plant?

30 Ans. Well, I haven't noticed it particularly, but I should say that there was a small space that there wasn't any buildings. I think probably on the east is that old blacksmith shop that is spoken of, and I should say on the west is the Collings Carriage Company building, and I think there is a small space where there is not anything, as near as I can recollect.

Cross-examination.

By Mr. French:

Ques. There is quite a high fence back of your building, is there not?

Ans. About ten feet, I think.

Ques. You are the president of the Security Trust Company?

Ans. Yes, sir.

Ques. And where is that located?

Ans. Northeast corner of Third and Market streets.

Ques. And to what extent are you there in your capacity as president?

Ans. Well, I am there about half the time; I should think half the day.

10

Ques. That is, half of the business day?

Ans. I should say so.

Ques. And when does the business day end with you, about?

Ans. It varies from half-past three to six.

Ques. During the time you are at your office, which is half the business day, are you usually occupied with business?

Ans. Yes, sir.

Ques. Are you quite busy?

Ans. Yes, sir.

20

LEWIS STARR, ESQ., SWORN.

By Mr. Grey:

Ques. Are you a counsellor at law of the State of New Jersey?

30

Ans. I am.

Ques. How long have you been practicing law in Camden?

Ans. Since 1887.

Ques. Where?

Ans. The first four years in this building, and the balance of the time at 111 Market street.

Ques. By "this building" you mean 106 Market street?

Ans. 106 Market street.

Ques. What part of 111 Market street have you occupied?

Ans. Second floor.

Ques. Do you know Mr. Seligman, the complainant?

Ans. I do.

Ques. Are you familiar with 117 Market street?

Ans. Yes.

10

Ques. How near is that to 111 Market street?

Ans. There are two buildings intervening, 113 and

115.

Ques. And you are westward of 113?

Ans. Yes, sir.

Ques. How many rooms do you occupy, or have you occupied, on the third floor of that building?

Ans. On the second floor.

Ques. On the second floor, I mean?

Ans. There are five rooms, three offices, a storage

20 room and bath room.

Ques. And where is the bath room located?

Ans. In the rear.

Ques. Toward the north?

Ans. Toward the north.

Ques. What is the next room?

Ans. The next is the office now occupied by Mr. Horner, and then there is the middle office, and then the office in front, occupied by myself.

Ques. The office in front, facing on Market street?

30

Ans. Yes.

Ques. How much attendance have you put in in the building for the last three or four years?

Ans. Practically every working day.

Ques. And do you exclusively use any one room of those rooms, or are you almost daily in each one of the rooms?

Ans. I am almost daily in each of the rooms. I spend most of the time in the front office.

Ques. On Market street?

Ans. On Market street.

Ques. What noises and vibrations have you observed in those rooms?

Ans. I have noticed no vibrations. When the windows are open there is a rumbling noise and a sort of a whirling noise.

Ques. How do the windows open?

Ans. The windows on the front open on Market street, south; and then in the middle office and Mr. Horner's office, the windows open on the west; in the bath room the windows open on the north.

10

By the Vice Chancellor:

Ques. In the front office there is also a window that opens towards the north, is there not?

Ans. Yes, one window toward the north.

20

By Mr. Grey.

Ques. There is an elbow in the building there, is there not?

Ans. An elbow or an ell.

Ques. Have you been disturbed in the carrying on of your business there by any noise or noises you hear?

Ans. No.

Cross-examination.

30

By Mr. French:

Ques. You are not there in the evening?

Ans. Very seldom.

Ques. The window to the north, in the front room, opens upon an alleyway or areaway, does it not?

Ans. Yes, sir.

Ques. And that is west of the back building of your building?

Ans. Yes, sir.

Ques. So that the back building extends several feet, probably 20 or 25 back of that?

Ans. I should say 30 feet back of that window.

Ques. Further back of the window and on the east of the window?

10 Ans. Yes, sir.

JOHN G. HORNER, ESQ., sworn.

By Mr. Grey:

Ques. You are a counsellor at law?

Ans. I am.

20 Ques. And a member of the Senate of the State of New Jersey?

Ans. I am.

Ques. Where have you practiced law in the last ten years?

Ans. Camden.

Ques. And what building have you practiced in?

Ans. Well, my office is at 111 Market street.

Ques. How long have you been there?

Ans. I have been in that office about 13 years.

30 Ques. On what floor is your office?

Ans. Second floor.

Ques. Are you associated with Mr. Starr?

Ans. I am at the present time.

Ques. And occupy the same offices that he has described?

Ans. Yes.

Ques. What part of the offices do you occupy, or rather, what is your room?

Ans. The office which is usually designated as my office is the third office on the second floor, the front office being the office which faces Market street, and is generally referred to as Mr. Starr's office, and then the next room toward the north is known as the middle office, and the next room is the one known as my office.

By the Vice Chancellor:

Ques. Then there is a little passageway, and then the bath room? **10**

Ans. Then there is a passageway running toward the north, and also a passageway running toward the west, and a stairway, and then on the rear there is a little store room, and the bath room.

By Mr. Grey:

Ques. What vibrations and noises are observable to you when you are in your room, your office? **20**

Ans. I have never noticed any vibrations. I have noticed at times a noise, rather a puffing noise, sounding something like the exhaust of a steam pipe, and also a rumbling noise something like the noise incident to the running of machinery.

By the Vice Chancellor:

Ques. Which way do your windows face?

Ans. The windows face toward the west in my room. **30**

Ques. How many are there?

Ans. Two.

Ques. And during the summer-time do you open the door that leads into the little hall and get any draught through the bath-room?

Ans. At times, but not very often.

By Mr. Grey:

Ques. What effect have those noises upon you in the conduct of your business?

Ans. None whatever, I can say. I hear them.

Cross-examination.

By Mr. French:

10

Ques. You are quite busily engaged during the times you are at your office?

Ans. At times; yes.

HARRY E. MORGAN, SWORN.

By Mr. Grey:

20

Ques. Mr. Morgan, where do you live?

Ans. 123 Market street.

Ques. Camden?

Ans. Camden; yes, sir.

Ques. Do you know the premises, 117 Market street?

Ans. Yes, sir.

Ques. What are the numbers of the houses, residences, between you and 117?

Ans. That would be 121 and 119.

30

Ques. 121 and 119 are whose premises?

Ans. Why, one is the office of the Cooper estate on the ground floor, and I think it has a boarding house above, the two combined in one.

Ques. Is 119 more than one story?

Ans. 119 is simply a one-story building.

Ques. And 121 is what?

Ans. Two-story building.

Ques. And then your building comes next, 123?

Ans. Yes, sir.

Ques. How long have you occupied that building?

Ans. About five years and a half.

Ques. For what purposes have you used the building?

Ans. For the electrical contracting business, and I live there and have my office there and store.

Ques. What do you use the first floor for?

Ans. The first floor front is used as the store and for keeping my supplies, &c.

Ques. You are speaking now of the first floor front on Market street?

Ans. Yes.

10

By the Vice Chancellor:

Ques. Is this the old place that William Calhoun used to carry on business in?

Ans. Yes, sir.

By Mr. Grey:

20

Ques. What do you have in that store; what do you sell there?

Ans. All kinds of electrical supplies, batteries, bells, electric light outfits, &c.

Ques. Have you any china or porcelain articles there?

Ans. Yes; we have a lot of porcelain articles, globes and battery jars, &c., stacked away.

Ques. And have you any show window?

Ans. Yes, sir.

30

Ques. What do you put in your window?

Ans. Why, a little of everything.

Ques. Well, these porcelain things?

Ans. Porcelain things and bells, glassware, &c., in the sample line.

Ques. And do you also carry glassware in stock?

Ans. Yes, sir.

Ques. For what purpose?

Ans. For battery jars, &c., to supply the demand.

Ques. Have you shades?

Ans. Yes, sir.

Ques. What are they composed of?

Ans. Some are glass, some are porcelain, some tin, aluminum, &c.

Ques. Is more than one room used for this store purpose?

Ans. Only use one room; it is practically a double room that is used for the store purpose.

Ques. And what is the room back of the room used for store purposes used for?

Ans. First comes the sitting-room, then the dining-room, then the kitchen.

Ques. Going toward the north?

Ans. Going toward the north; yes, sir.

Ques. Describe the second floor of this property, beginning with the room on Market street.

Ans. One large room, which covers the store front, probably sixteen feet deep, going north; then comes a side entry and another room which runs to the end of the store, partly over the areaway and partly over the hallway down stairs; then we have a bath-room, and then another large room going north from the bath-room, a small sewing-room, and then another room and bath-room right on the rear of the house.

Ques. Which of those rooms do you use as a bed-room, if any?

Ans. What we call the rear room, in the front, looking over the areaway.

Ques. Have you and Mrs. Morgan used that as a bed-room and sleeping room?

Ans. Yes, sir.

Ques. For how long?

Ans. Well, I slept there pretty near the whole time I have been in the house, since the first year, when I moved back there.

Ques. The room which you describe as your sleeping room, has windows in it?

Ans. Yes, sir.

Ques. Describe their location?

Ans. It only has one window, facing north.

Ques. And is there an ell in the building?

Ans. Well, it is not exactly an ell; it is where the building is reduced in size for an areaway to be thrown in. 10

Ques. Well, is the building narrower toward the north of that room?

Ans. Yes, sir; from that room on the building is about three feet narrower.

Ques. And the window looks on the north, on that three feet of space, the extra width?

Ans. Yes, sir; it looks right north.

By the Vice Chancellor:

Ques. What do you see when you look out that window? 20

Ans. We see the areaway in the back yard, and then the back part of the Victor Talking Machine plant and their power house.

Ques. How far would you say that window was from the power house of the Victor Talking Machine plant that you can see from it?

Ans. Why, I should judge it would be about one hundred feet. 30

By Mr. Grey:

Ques. What noises and vibrations, if any, have you observed in that building?

Ans. Haven't observed any vibrations; I hear the exhaust, a kind of a concussion of the exhaust steam, as you would from any engine.

Ques. Do the articles, the glass, porcelain, china, bells and so on that you have described as being stored in the store, and the shades in the windows, rattle against each other?

Ans. They do when some of these heavy cars go by.

Ques. Has your sleep been disturbed by any noises?

Ans. It is disturbed at night time when some of these people come down with their trolley cars and banging their bell.

10 Ques. Have you an alarm clock in your room?

Ans. Yes, sir.

Ques. Describe how you use that clock?

Ans. Why, I use it in case I want to make an early call; I set the clock to call me in the morning.

Ques. Where do you put the clock in your room?

Ans. We hang it on the key of the chandelier, right back of the electric light.

Ques. And how long have you hung the clock in that way?

20 Ans. Oh, hung it there for ever since I have occupied the room.

Ques. And while the clock is hanging there have you looked at it?

Ans. Oh, very often.

Ques. Does it wobble or vibrate?

Ans. No, sir.

Ques. Where do you keep your china that you use for your dining purposes?

30 Ans. Why, we have it in three different places, got some in the kitchen, some in the clothes closet in the dining room and some in the china closet.

Ques. Does any of that china rattle, or shake against each other, and make a noise?

Ans. No, sir; only when we walk across the dining room floor, we have a few bad joists there in the floor that shakes them up a little.

Ques. But when you are not walking across the floor?

Ans. Don't hear anything at all.

Ques. Have you observed the Victor Talking Machine plant from your premises?

Ans. Yes, sir.

Ques. Where is it as to your premises?

Ans. It is right on the same lot, north; it joins my back shop.

Ques. Have you observed the large chimney in the Victor plant?

Ans. Yes, sir.

Ques. Where is that as to your premises?

10

Ans. Why, it would be northwest.

Ques. And is it within the lines of your lot extended northward?

Ans. No, sir.

The Vice Chancellor: Do you mean the power house or the chimney?

Mr. Grey: The chimney.

20

By the Vice Chancellor:

Ques. Look at this Exhibit D1; this is the power house marked X; you see this little block or square over here in the corner of the chimney?

Ans. Yes, sir.

Ques. Now, then, about where is your work shop with respect to that whole building marked "Power House"?

Ans. It would practically be pretty near in the centre of the building there for about sixteen or twenty feet wide (indicating on the plan).

30

Ques. Right in the centre here? (Indicating.)

Ans. Pretty near, as near the centre as you can get it; yes, sir.

Ques. Like that? (Indicating.)

Ans. Yes, sir.

Ques. What are your initials?

Ans. H. E. M.

The Vice Chancellor: Put this on the minutes: The witness indicates, as the location of his work shop, a parallelogram situated about in the middle of the power house X, and extending southward, and the Court has delineated this on Exhibit D1, and has marked it

10 "H. E. M."

By Mr. Grey:

Ques. How near is that workshop which you have just described to the power house?

Ans. Oh, I guess there is a kind of a space there, probably about eighteen inches to two feet wide.

Ques. Are you in the work shop a good deal of the time?

20 Ans. Oh, not so very often; only when we have a little rush there, sometimes for two or three days; there is times I won't go in it for a month.

Ques. Are you there in the daytimes?

Ans. Sometimes.

Ques. And are you there at night time?

Ans. Yes, sir.

Ques. Have you been there in the daytime or night-time in the last six months?

Ans. Yes, sir.

Ques. When were you last in that shop?

30 Ans. Yesterday morning.

Ques. What time, about?

Ans. Somewhere around nine o'clock.

Ques. Was the Victor plant in operation at that time?

Ans. Yes, sir.

Ques. Steam coming from the exhaust?

Ans. Yes, sir.

Ques. Did you observe any vibration in the building?

Ans. Not particularly so; not that I notice it unless my attention was called to it—only the vibration from the other machinery when they are running it, that is all.

Ques. Describe the building, the work shop, please?

Ans. Simply a one story square brick building with an ordinary slag roof on it; two windows facing on the yard.

Ques. What do you have in the building?

Ans. Lathes and motors and drill press, emery wheel, jig saw, and other appliances for light machine work. 10

Ques. Is the building lit—do you light it?

Ans. Light it by electricity; yes, sir.

Ques. And how is the light brought into being there—what system?

Ans. Incandescent—straight pendent, with cord drops.

Ques. Do those light vibrate?

Ans. Not unless you handle them. 20

Ques. Have you observed noises coming from the Victor p'ant when it is in operation?

Ans. Only what you would hear from any ordinary dynamo or engine.

Ques. Have those noises disturbed you at night?

Ans. Haven't disturbed me any.

Ques. Have they kept you awake?

Ans. No, sir.

Cross-examination. 30

By Mr. French:

Ques. What are the noises ordinarily heard from a dynamo?

Ans. Why, a kind of concussion from all exhausts; you can hear it in the air, and it kind of jars on the

ear a little; then there is a commutator on the dynamo that makes a kind of a little roar. That is about the only way I can describe it.

Ques. What is a dynamo?

Ans. A dynamo is supposed to be a machine for generating electricity, composed of one stationary part and one moving part. The armature moves in a stationary field.

Ques. Does it move rapidly or slowly?

10 Ans. It all depends on the condition it is worked under. Some go slow and some fast. They run anywhere from 150 revolutions to 2,500.

Ques. Does the power depend upon the rapidity of the revolution—the power generated?

Ans. No, sir; the machines are wound to suit the conditions they are to be used under.

Ques. Are you employed by the Victor Talking Machine Company?

Ans. No, sir.

30 Ques. Who does their electrical work, do you know?

Ans. Oh, I do some electrical work, contract work, there, but I am not employed by them as an employee.

Ques. Not a regular employee?

Ans. No, sir; I am in business myself.

Ques. You do do all their electrical work, don't you?

Ans. No, sir; not all their work, only what I succeed in winning out in the bids, and so forth.

Ques. This shop of yours, has it any windows towards the north or west?

40 Ans. No, sir; only got a stove-pipe hole out, that is all.

Ques. The windows are towards the south?

Ans. Face our own lot.

Ques. The building next to you on the west is the building formerly occupied by Peter L. Voorhees as a residence, is it not?

Ans. I know he had his office there; I don't know whether he had a residence there or not.

Ques. Is there not a large three-story building just west of you?

Ans. Yes, sir.

Ques. And next, just west of that, a one-story office building?

Ans. Yes, sir.

Ques. Now, the three-story back building next to you, does that extend further north than the building you reside in?

Ans. No, sir; we go further north than they do, if I am not mistaken. **10**

Ques. Are you as high above the ground?

Ans. No; they have got about half a story higher than us, in the attic; that is, on the front building only.

Ques. And the areaway you speak of is to the east of your back building, is it not?

Ans. Yes, sir.

Ques. Did you have a conversation with Esther Seligman about the vibration of the windows, and putting matchsticks or fasteners on to stop the vibration?

Ans. Not as I recall it; not in that particular light. I think they have been talking to me several times about it, and I told them if they wanted it to stop vibrating to stick matchsticks in it; that will stop it. **20**

Ques. Didn't you say you put them in, or put fasteners on them to stop it?

Ans. Not in my residence I haven't, but I have stopped windows from shaking that way. The only time our windows shake is when the trolley cars go by.

Ques. Didn't you claim that the stopping of the noise at four o'clock in the nights wakes you up? **30**

Ans. At four o'clock in the morning?

Ques. Yes.

Ans. Yes; on several occasions when the plant has stopped I have woke up; I am a very light sleeper, anyway.

Ques. Can you tell, from the noise and vibration, when the Victor Talking Machine plant is in operation?

Mr. Grey: The witness testified that there was not any vibration in it at all, as I understand it.

The Vice Chancellor: It is proper cross-examination.

Ans. I can tell from the noise, if I put my attention on it, when it stops; but otherwise I don't notice it, for I go on about my own business.

Ques. Are you a pretty busy man?

10 Ans. Yes, sir; very busy at the present time, and have been for the last six months.

JOHN F. JOLINE, ESQ., SWORN.

By Mr. Grey:

Ques. You are a counsellor-at-law of the State of New
20 Jersey?

Ans. Yes, sir.

Ques. Where do you carry on your law business?

Ans. At 109 Market street, Camden.

Ques. Is that building on the premises known as the Dayton property?

Ans. Yes; it belongs to Mr. Dayton and his sister—formerly belonged to his father.

Ques. And does that building that you occupy as an office immediately adjoin, on the westward, 111 Market
30 street?

Ans. Yes.

Ques. What is the building that you occupy; describe it—one story or two?

Ans. It is a one-story brick building, with a brown-stone front, containing two rooms.

Ques. Do you occupy both of those rooms; do you use them both?

Ans. Yes.

Ques. Where is the desk which you most frequently use in your business?

Ans. The desk that I most frequently use is in the centre of the back office.

Ques. Do you use any other desk in that room?

Ans. I use a desk at the northeast corner of the room.

By the Vice Chancellor:

Ques. Of the rear room?

10

Ans. Of the rear room, by the window.

By Mr. Grey:

Ques. And that window is where?

Ans. That window faces the north.

By the Vice Chancellor:

Ques. Is there any other opening in that rear room that faces north? 20

Ans. There is a door, with a window in the door.

By Mr. Grey:

Ques. Did you ever have that window, or the door, or both, opened during business while you were there?

Ans. Always—the door in the summertime, and sometimes the window.

Ques. How long have you so used those offices? 30

Ans. Over thirty-one years.

Ques. How are you affected in regard to the noise or vibration while so using those offices—does the building vibrate?

Ans. I never have observed any vibration.

Ques. Do you hear noises there?

Ans. Yes, when the door is open I hear noises.

Ques. How loud are they?

Ans. Not very loud.

Ques. Do they disturb you in your business?

Ans. Never have disturbed me.

Cross-examination.

By Mr. French:

10

Ques. You can put your hand on the door, or on the jamb of the door, and feel a slight tremor, can you not?

Ans. I don't know; I never tried.

Ques. Didn't you, in my presence, do it?

Ans. Why, if you know that I did it I would hesitate to say that I did not do it, but without any such assurance from you, I should say I never did.

Ques. Do you recollect my being in there one day after you made an affidavit in this case?

Ans. Very distinctly.

20

Ques. And do you remember our talking about it?

Ans. Yes.

Ques. And do you remember your then putting your hand upon either the jamb or the door and saying you did notice it, but hadn't noticed it before?

Ans. I don't remember that, no.

Ques. What time do you arrive at your office?

Ans. About half-past nine in the morning.

Ques. And what time do you leave?

30 Ans. Sometimes, usually between half-past five and six; very frequently after six.

Ques. You are not there at any other time of the day?

Ans. I am not there in the evening.

Ques. Are you busy while you are there?

Ans. Yes.

By Mr. Grey:

Ques. Do you ever take your lunch with you to your office?

Ans. Almost always.

Ques. And where do you eat your lunch?

Ans. I eat my luncheon in the back office, adjoining the desk that is in the further corner of the office.

10

LEVI E. FARNUM, sworn.

By Mr. Grey:

Ques. Mr. Farnum, what is your business?

Ans. City Engineer of the City of Camden.

Ques. How long have you been such?

Ans. About fifteen years.

Ques. Are you familiar with the neighborhood of Front and Second streets, Market and Cooper streets, 20 Camden?

Ans. Yes, sir.

Ques. I show you a paper; what is that paper, that blue paper?

Ans. This is a map of that portion of the city from Arch street to Penn street, west of Second.

Ques. Will you examine that map or tracing, Mr. Farnum?

Ans. (Witness complies.)

Ques. You have seen it before, have you? 30

Ans. Yes, sir.

Ques. Did you make it?

Ans. No, sir.

Ques. Who did make it?

Ans. A gentleman that works for the Victor Talking Machine Company, Glassman. I compared it with the City Atlas.

Ques. What does it attempt to portray?

Ans. The lots and blocks of that portion of the city between Arch and Penn streets, west of Second street.

Ques. Anything else?

Ans. It gives the house numbers, and the names of the owners of the principal manufactories; the names of the streets; the location of the Victor power house, which is colored in blue; the location of 117 Market street, which is colored in red.

10 Ques. Does that map correctly portray the things which it does purport to portray?

Ans. Reasonably correct—taken from the City Atlas, and then was copied from the city records.

Ques. Wherein is it incorrect?

Ans. Only that, being on a small scale, it cannot show to an inch the dimensions. Within the limits of the scale it is correct.

Ques. What is the scale?

Ans. 100 feet to the inch.

Ques. Does that appear on the map?

20 Ans. Yes, sir.

Mr. Grey: I offer that map or drawing in evidence.

The Vice Chancellor: Is there any objection?

Mr. French: I would like to cross-examine.

The Vice Chancellor: You may do so.

30 Cross-examination.

By Mr. French:

Ques. What are the small lines within the lot lines—what do they indicate?

Ans. They indicate the outlines of the buildings.

Ques. I notice the outline of the building on 115 Market street shows an offset, so that there is an area-way towards 117 Market street; does that correctly represent that situation?

Ans. There is no areaway on the east side; the two story building runs back further than is indicated there.

Ques. That is, there is no areaway on the east side of 115 Market street?

Ans. No, sir.

Ques. Then that is incorrect in that regard?

Ans. In that particular point.

10

Mr. French: I object to the map.

By Mr. Grey:

Ques. Is the map incorrect in any other respect?

Ans. I think the general part of the map is correct; I won't say as to every area, three foot area or alley, whether it is on the east or west of a building, but for any purpose that the City Atlas is good for, this map, being a copy of it, is also good; it shows the correct location of the manufactories in relation to one another, and also the dwelling houses or buildings.

20

Ques. But it doesn't show correctly areaways?

Ans. Oh, the question of the detail of areaways and frame sheds, and so forth, are minor affairs, and when they prepare the Atlas they are not as careful of those points as they are with the main buildings, because it is very little account whether they are on or off, whether a shed is shown on the City Atlas or not.

30

Ques. Well, is the outline correct as to the main buildings shown?

Ans. Yes; shows the correct location of 117 Market street, and also of the Victor Talking Machine land and the power house, in their relative positions, so that one not familiar with the city would instantly recognize the relative locations.

By the Vice Chancellor:

Ques. Did you compare this with some official record of the city of Camden?

Ans. I compared it with the City Atlas, which was made from the official records of the office under our supervision.

Ques. Under your own supervision?

Ans. Yes, sir.

10 Ques. And how does this compare with the official or city record, of which you have spoken?

Ans. It compares very favorably, excepting I did not compare it in regard to the sheds and areas to see whether those minute things were strictly accurate or not; the main essential features were the ones I looked at.

Ques. What do you refer to as the "main essential features"?

Ans. The main buildings, the house numbers, their relative sizes and locations, the width of the streets, and the names of the owners.

20

Mr. French: I may say I have no objection to this map being offered for illustration, for the help of the Court; but I do object to it as evidence to show the location of these particular buildings, because that may be quite an important bit of evidence in this case. If the map is incorrect in one particular it may be incorrect in a dozen, I don't know; and while it may be offered as a matter of illustration, as a matter of evidence I object to it.

30

(After argument by Mr. Grey.)

The Vice Chancellor: I will allow it in as an illustration.

By the Vice Chancellor:

Ques. Will you mark on the map the location of the premises 106 Market street, if it is not there now?

(The witness marks the location of 106 Market street on the map with a cross in black ink, and the Court puts the figures "106" opposite it.)

The map was thereupon marked Exhibit D3.)

Ques. Mr. Farnum, I notice on this Exhibit D3, that there is delineated a building next to 106, which I assume to be 110, because it is two buildings in one, and then the building which has been referred to as the City Hotel, and what is next to that on the plan? **10**

Ans. Union place.

Ques. Why is Union place not opened as a street; why is it closed up, just like all the delineated blocks there?

Ans. That is a semi-open street, and it is disputed by the property owners.

Ques. And for that reason you closed it up as if it were a private lot, did you, instead of an open street?

Ans. That is the way it was shown on the map.

Ques. But, as a matter of fact, that is an open way—never mind who owns it; it is an open way? **20**

Ans. Yes, sir.

By Mr. Grey:

Ques. Did you lay out the lines on the ground for the new power house of the Victor Talking Machine Company?

Ans. I gave the lines for, I think, the first power house, about two years ago.

Ques. But since then? **30**

Ans. No, sir. I gave them the east line and the south line of what they then owned, which takes in the portion indicated in blue?

Ques. On D3?

Ans. On D3.

Ques. Is that location correctly located on the map, Exhibit D3?

Ans. Yes, sir.

Ques. And it is colored what?

Ans. Colored blue.

CHARLES P. LIPPOTT, sworn.

By Mr. Grey:

10

Ques. Where do you reside?

Ans. At 123 Market street, Camden, and 2008 N. Seventh street, Philadelphia.

Ques. What portion of the time are you at 123 Market street, Camden?

Ans. Just about one-half; three or four nights of the weeks I am in Camden; three nights of the week in Philadelphia, or *vice versa*.

20 Ques. How long have you been occupying the premises, 123 Market street?

Ans. Just about a year.

Ques. What portion of the premises do you occupy?

Ans. The extreme rear of the building.

Ques. On what floor?

Ans. Second floor.

Ques. How many rooms do you have there?

Ans. Only the one, a sleeping room.

By the Vice Chancellor:

30

Ques. Is that the house in which Mr. Morgan lives also?

Ans. Yes, sir.

By Mr. Grey:

Ques. What windows are there in that room?

Ans. The north wall is a blank wall; there is one window, opens on the areaway between the houses 123 and 125, or, in other words, on the east of the building.

Ques. What is there on the west side?

Ans. On the west side of my room?

Ques. In the way of windows; yes?

Ans. There is a bath-room with a window opening directly north.

Ques. How many windows are there in the room, all together?

10

Ans. One window.

Ques. You sleep in that room, do you?

Ans. Yes, sir.

Ques. Have you been disturbed by noise or vibration in that room for this time you have occupied it?

Ans. I have never been disturbed.

Cross-examination.

By Mr. French:

20

Ques. Are you an employee of Mr. Morgan?

Ans. Yes, sir.

Ques. You work for the Victor Talking Machine Company on contracts of Mr. Morgan?

Ans. I work for Mr. Morgan on any work that he might succeed in getting, whether it is the Victor Talking Machine or other work.

Ques. What nights do you sleep at 123 Market street?

Ans. They vary; sometimes I am there Monday night, sometimes Tuesday and Wednesday; then I am over in Philadelphia; I alternate. 30

Ques. Don't you generally sleep in Camden on Saturday and Sunday night?

Ans. Saturday night I am home; Sunday night I am in Camden.

By the Vice Chancellor:

Ques. By "home" you mean Philadelphia?

Ans. Philadelphia; yes.

10 MRS. MARY PRETTYMAN, sworn.

By Mr. Grey:

Ques. Mrs. Prettyman, where do you live?

Ans. 121 Market street.

Ques. Camden?

Ans. Yes, sir.

Ques. How long have you lived there?

Ans. About two years and a half.

20 Ques. And what part of the premises do you occupy?

Ans. Why, the second story rooms back, two rooms.

Ques. Do you use any other part of the premises for any purposes?

Ans. All the downstairs.

Ques. By "all the downstairs" do you mean all the first floor?

Ans. Yes, sir.

Ques. And any other portions of the house upstairs?

Ans. Well, I have the whole house; I have got boarders.

30 Ques. Then you really use the whole house?

Ans. Yes, sir; I am all over the house.

Ques. And how many boarders have you had in the last year?

Ans. Oh, I have now, I guess, twelve or fifteen.

Ques. What room in the building do you use for your own sleeping room?

Ans. Why, the second story back.

Ques. Where is that room located; is it the extreme back of the building, or where?

Ans. No, where the archway comes under.

Ques. And whereabouts is that in the buildings, beginning with the front room on Market street, on the second floor?

Ans. Well, it is the next room to that.

Ques. The next room back of that?

Ans. Yes, sir.

Ques. Has it any windows in it?

10

Ans. Yes, sir.

Ques. Where are they located in it?

Ans. Why, it looks back on the alleyway.

Ques. Toward the north, away from Market street?

Ans. Yes, sir.

Ques. What can you see when you look out that window?

Ans. I can see the back yard and the Victor Talking Machine building.

20

By the Vice Chancellor:

Ques. The one that has the tall chimney on it?

Ans. Yes, sir; I can see the chimney, looking out of that window.

By Mr. Grey:

Ques. Have you observed any vibrations or noises in your use of the building?

30

Ans. I have not.

Ques. Well, do you hear trolley cars when they go by on the street?

Ans. Sometimes.

Ques. Have you observed any noises coming from the Victor Talking Machine plant?

Ans. I have not.

Ques. Is your sleep disturbed at night?

Ans. It is not.

Cross-examination.

By Mr. French:

Ques. How many boarders did you say you had?

10 Ans. I have now about fifteen.

Ques. How many boarders did you have on the 11th of May, 1906?

Ans. Well, my boarders come and go; sometimes I have maybe ten or twelve, and sometimes fifteen or twenty.

Ques. While the plant of the Victor Talking Machine Company was in operation you had ten or less than ten, hadn't you? While they were operating at night?

20 Ans. Oh, that didn't make any difference.

(Question repeated.)

Ans. I have had sometimes more, while they was working.

Ques. Didn't you, on the 11th of May, make an affidavit in this case that you had then ten lodgers?

Ans. Yes, I did, and maybe the next day I had four or five more.

30 Ques. Well, did you, the next day, have four or five more?

Ans. Well, I cannot exactly say that, but I have a great deal more now.

Ques. The plant of the Victor Talking Machine Company has not been operating at night since the 1st of June, has it?

Ans. I believe not.

Ques. Are your boarders largely employees of the Victor Talking Machine Company?

Ans. No, sir.

Ques. Some of them?

Ans. I have only a few men that take their dinner, from the Victor Talking Machine Company.

By the Vice Chancellor:

Ques. Do they lodge in the house?

Ans. No, sir.

10

Ques. Are your boarders of each sex, some men and some women?

Ans. Only two women in the house.

By Mr. French:

Ques. Wasn't there a lodger that came to your house, or a boarder, that left when they began to run at night?

Ans. Not that I know of. He left because he was going to housekeeping.

20

Ques. This man with a heavy moustache?

Ans. He was going to housekeeping.

LEON MILLER, sworn.

By Mr. Grey:

Ques. Where do you live, Mr. Miller?

30

Ans. 121 Market street—five weeks; previous to that for five years at 125.

Ques. How long had you been at 125—for the last five years?

Ans. Yes, sir.

Ques. Where do you live now?

Ans. At 121 now.

Ques. What portion of the premises 121 do you occupy?

Ans. Second-story back.

By the Vice Chancellor:

Ques. And you have only been there five weeks, have you?

10 Ans. Yes, sir.

By Mr. Grey:

Ques. Speaking of 121 Market street, what floor is your room on?

Ans. Second floor, middle room.

Ques. How many rooms are there on that floor?

Ans. On the second floor?

Ques. Yes.

20 Ans. Four room.

Ques. Where is your room, speaking from the Market street end of the building?

Ans. Very near in the centre of the building.

Ques. Has your room any windows in it?

Ans. Two.

Ques. Which way do they open?

Ans. West.

Ques. What do they open on?

Ans. They open on a vacant lot there.

30 Ques. By "west" you mean toward the Delaware river?

Ans. The Delaware river; yes, sir.

Ques. Since you have been in that building, have you noticed any vibrations or disturbing noises there?

Ans. No, sir.

Ques. Coming from outside the building?

Ans. No, sir.

By the Vice Chancellor:

Ques. You sleep in that room, do you?

Ans. Sleep there; yes, sir.

By Mr. Grey:

Ques. Has your rest been disturbed, your sleep?

Ans. No.

Ques. Now, before you went into 121 Market street, 10
you lived at 125 Market street, as I understood you, for
five years prior to the time of your going into 121 Mar-
ket?

Ans. Yes, sir.

Ques. When you were in 125 Market street, what room
did you occupy?

Ans. I had the furthest back room on the second floor.

Ques. How many windows are there in that room?

Ans. Two in that room.

Ques. which way did they face?

Ans. Toward the river, west. 20

Ques. What do those windows look out upon?

Ans. Vacant lots; that is, the yard.

Ques. The yard of 125?

Ans. Yes, sir.

Ques. How far would you think that room was from
the wall of the Victor Talking Machine plant?

Ans. That was the nearest room in the whole row of
houses there—about forty feet.

Ques. What portion of the day did you occupy that 30
room?

Ans. Night-time.

Ques. You slept there, did you?

Ans. Yes, sir.

Ques. Was your sleep disturbed by noises coming from
the Victor Talking Machine plant?

Ans. Never,

Ques. Did your bed shake or rock at night?

Ans. Never.

Ques. Did the room shake and vibrate, so far as you know?

Ans. No, sir.

Cross-examination.

By Mr. French:

10

Ques. You were asleep, weren't you?

Ans. Asleep; yes, sir.

Ques. What is your occupation?

Ans. Furniture mover.

Ques. Teamster?

Ans. Yes.

Ques. Out in the open air all day?

Ans. Yes, sir.

Ques. Work pretty hard?

Ans. At times; yes, sir.

20

Ques. Sleep well at nights?

Ans. Always.

JOSEPH MATLACK, sworn.

By Mr. Grey:

30

Ques. Mr. Matlack, where do you live?

Ans. 125 Market.

Ques. How long have you lived there?

Ans. Going on to eight years.

Ques. What portion of the premises do you occupy?

Ans. Why, we have a whole house, except the front office there where Mr. Smith has an office.

Ques. What is that office used for?

Ans. Which, the front one?

Ques. Yes.

Ans. Why, real estate.

Ques. Do you sleep on the premises?

Ans. Yes, sir.

Ques. What room do you occupy at night?

Ans. Front, next to the road, Market street.

Ques. Have you observed any vibrations of that building?

Ans. Not that I ever noticed.

Ques. Are you disturbed by any noises emanating from the Victor Talking Machine power plant when it is operating? **10**

Ans. Nothing in particular.

Ques. Is your rest disturbed at night by such noises?

Ans. No, sir; only the wagons and cars going by; that is the only noise I hear.

By the Vice Chancellor:

Ques. On Market street? **20**

Ans. Yes, sir; on Market street.

By Mr. Grey:

Ques. You eat on the premises, do you?

Ans. Yes, sir.

Ques. Breakfast, dinner and supper?

Ans. Yes, sir.

Ques. Do you have plates and china and glassware there? **30**

Ans. Yes, sir.

Ques. Do those plates and chinaware rattle together?

Ans. Only when they are washing dishes, I guess, is all I ever heard them.

Cross-examination.

By Mr. French:

Ques. Keep a boarding house there?

Ans. Yes, sir.

Ques. Employee of the Victor Talking Machine Company, are you?

Ans. No, sir.

10 Ques. Is your brother an employee of the Victor Talking Machine Company?

Ans. My brother is, yes.

Ques. Do you hear any noises at all from the Victor Talking Machine Company?

Ans. I have heard it, yes.

Ques. What do you hear?

Ans. Oh, I just hear a sort of a whizzing noise, if I am particularly looking for it; but if I don't think anything about it I don't notice it. It never bothered me.

20 Ques. What is your occupation in the daytime?

Ans. Awning work, upholstering.

Ques. Do you carry on the work there at 125?

Ans. Yes, sir.

Ques. Are your boarders employes of the Victor Talking Machine Company?

Ans. We haven't any.

30 FRANK SAGE, SWORN.

By Mr. Grey:

Ques. Mr. Sage, where do you live?

Ans. 125 Market street.

Ques. How long have you lived there?

Ans. Five years.

Ques. What portion of the premises have you occupied?

Ans. Second floor back.

Ques. And do you mean the rearmost room of the second floor?

Ans. No, it is the second story back.

Ques. Where do the windows open in that room?

Ans. To the west.

Ques. How many are there?

Ans. One.

Ques. Do you sleep there at nights?

Ans. Yes, sir.

10

By the Vice Chancellor:

Ques. There is one room between your room and the rear of the house?

Ans. Yes, sir.

By Mr. Grey:

Ques. Does that room vibrate or shake when you are in that room? 20

Ans. I never took notice of it; no, sir.

Ques. Have you been disturbed by noises coming from the Victor Talking Machine plant?

Ans. No, sir.

Ques. How about your rest there at night; has that been disturbed by any such noise?

Ans. Not at all.

Ques. Or any vibration?

Ans. No, sir.

30

Cross-examination.

By Mr. French:

Ques. What is your occupation?

Ans. Paper hanging.

Ques. Carry on the business there at 125 Market street?

Ans. No, sir.

Ques. There only at night?

Ans. Only at night; yes, sir.

WILLIAM PATTERSON, SWORN.

10

By Mr. Grey:

Ques. Where do you live?

Ans. 121 Market street.

Ques. How long have you lived there?

Ans. About fourteen months now.

Ques. What room do you occupy?

Ans. The rear bed room on the second floor.

Ques. Is that the room furthest away from Market street on the second floor?

Ans. Well, the bath room is furthest.

Ques. Then comes your room?

Ans. Yes, sir.

Ques. Your room has windows in it?

Ans. Two.

Ques. Where do they open?

Ans. West.

Ques. Both on the west side of the room, are they?

Ans. Yes.

30 Ques. Is there any opening from your room northward, or door, or anything of that kind?

Ans. We have a door in the areaway; then there is a window in the back of the areaway.

Ques. Where does that window open?

Ans. It opens toward the north.

Ques. What time of day do you occupy that room?

Ans. Well, generally from about ten o'clock to four.

Ques. Of what time, daytime or nighttime?

Ans. Daytime. I sleep in the daytime.

Ques. What is your occupation?

Ans. Railroad conductor.

Ques. What are your hours as such conductor?

Ans. I go to work at six at night, and quit at six in the morning.

Ques. Do you sleep in this room in the daytime?

Ans. Yes, sir.

Ques. Has your rest there been disturbed by vibrations or noise? **10**

Ans. No, sir.

Ques. Are you disturbed by any noises coming from the Victor Talking Machine plant, to the northward of your room?

Ans. No, sir.

Ques. When you are in bed does the bed shake, quiver or vibrate excepting from some motion of your own?

Ans. Never that I have noticed. Well, a trolley car, I feel them more than anything I have noticed; that **20** is the only thing I ever noticed.

By the Vice Chancellor:

Ques. How many years have you been accustomed to work at night and sleep in the daytime?

Ans. About 28 years.

Cross-examination.

30

By Mr. French:

Ques. You say you are a railroad conductor?

Ans. Yes, sir.

Ques. On a steam railroad?

Ans. Pennsylvania.

Ques. Used to working on a freight train, too; passenger or freight?

Ans. Freight—yard work.

MARTIN H. NOLL, sworn.

By Mr. Grey:

10

Ques. Where do you reside?

Ans. I live at 124 North Second, now.

Ques. How long have you lived there?

Ans. About three weeks.

Ques. And where did you live before that?

Ans. 128 Cooper street.

Ques. How long did you live there?

Ans. About three years.

Ques. What style of building is 128 Cooper street?

Ans. A little frame.

20

Ques. What room in that house did you occupy?

Ans. What do you mean; for a bed-room at night?

Ques. Did you have the whole premises?

Ans. Yes, sir.

Ques. And what room did you use as a sleeping room?

Ans. Why, the second-story back.

Ques. Is that the rearmost room from Second street, on the second floor?

Ans. Yes, sir.

Ques. How do the windows open from that room?

30

Ans. There is one opens at the south, and one to the west.

By the Vice Chancellor:

Ques. Looking out of those windows, could you, from either of them, see the building of the Victor Talking Machine Company that has the high stack connected with it?

Ans. Yes, sir; very plainly.

Ques. And what is there in the way of buildings or structures between the room in which you sleep and that building that has the tall chimney?

Ans. Well, there was nothing outside of a couple of fences there, or something about that high (indicating); no height at all.

Ques. No buildings?

Ans. No, sir.

By Mr. Grey:

10

Ques. While you occupied premises No. 128 Cooper street, did you observe any vibrations of that building?

Ans. Not to my knowledge, at all.

Ques. Were you disturbed by any noises there emanating from the Victor plant?

Ans. Nothing.

Ques. Was your sleep disturbed at night by any noises from the operation of the Victor Talking Machine plant?

Ans. No, sir.

20

Cross-examination.

By Mr. French:

Ques. What is your occupation?

Ans. Electrician.

Ques. In the premises 128 Cooper street, you were a tenant of the Victor Talking Machine Company, were you not?

Ans. Not at first; later I was.

Ques. When they began operating this plant, you were, weren't you? 30

Ans. Yes; I think we were.

Ques. You did not hear any of the noises at night described by the witnesses as the dropping of these plates on the iron tables?

Ans. No, sir; I never noticed them at all.

HENRY G. MILES, sworn.

By Mr. Grey:

Ques. Mr. Miles, where do you live?

Ans. I live at 101 North Second.

Ques. How long have you lived there?

Ans. I have lived there between twenty-nine and thirty years—not exactly, I don't say exactly, but from twenty-

10 nine to thirty.

Ques. What is your business, Mr. Miles?

Ans. Watchman in the National State Bank.

Ques. Where is that bank?

Ans. Northwest corner of Second and Market.

Ques. Is that next to your premises?

Ans. Right next to my property—next back.

Ques. You know the general location of the Victor Talking Machine plant, do you?

Ans. I do.

20 Ques. Does your house vibrate or shake, day or night?

Ans. Not any at all.

Ques. What is the construction of that building?

Ans. Frame; foundation on the front part of the ground, and on piers in the back, only a cellar under the front room; the two back rooms are right on piers on the ground.

Ques. What is there between the rear of your premises and the Victor Talking Machine plant, in a northwesterly direction?

30 Ans. Well, there is nothing at all, not in a northwesterly direction. Right direct back is Browning's house; about west northwest is the Victor Talking Machine plant.

Ques. And do you know where the smokestack is on the Victor Talking Machine plant?

Ans. I do.

Ques. About what direction is that?

Ans. About west northwest,

Ques. Have you been disturbed in the use and occupation of your premises by any noise emanating from the Victor Talking Machine plant?

Ans. I have not.

Ques. Day-time or night-time?

Ans. Day-time or night, either one.

Ques. Have you been sick lately?

Ans. I have.

Ques. When?

Ans. The third day of May I was taken down with pneumonia and laid for five weeks. **10**

Ques. Those five weeks you spent where?

Ans. Well, there was six weeks before I went to work; I spent four weeks in the front part of the house and two weeks in the extreme back.

Ques. On what floor were you?

Ans. On the second floor.

Ques. When speaking of the room in the front of the house, you mean the room on Second street?

Ans. On Second.

Ques. What windows are there in that room? **20**

Ans. Three.

Ques. Which way do they look?

Ans. One on the south and two on the east.

Ques. What does the one on the south look toward?

Ans. The National State Bank.

Ques. Does it look out on the rear wall of the National State Bank?

Ans. The rear wall; yes, sir; right on the alleyway.

Ques. How far does that wall extend towards the west, towards the Browning property? **30**

Ans. Forty foot.

Ques. Almost the depth of your lot?

Ans. All the way of the depth of the lot except about a foot or so, just that little alleyway.

Ques. While you occupied that room in your sickness were you disturbed by noises from the Victor plant?

Ans. Not in any way, shape or form.

Ques. Day or night?

Ans. Day or night.

Ques. When you moved back into the rear room you slept in that rear room, did you?

Ans. I did.

Ques. Is that room upon a structure over a cellar?

Ans. No, sir; right on the ground.

Ques. How many windows are there in that room?

Ans. There is two windows and a door.

10

Ques. Which way do they open?

Ans. One door leads out to the southward, and the two windows to the westward, right directly to the Talking Machine Company.

By the Vice Chancellor:

Ques. Can you see the building of the talking machine plant that has the tall stack from these back windows?

20

Ans. I can see it, very near all the way to Front street.

By Mr. Grey:

Ques. Can you see the smokestack?

Ans. I can see the smokestack.

Ques. You say the door opens outward; what does it open on to?

Ans. On to a little porch on the alleyway.

30

Ques. On the second story?

Ans. Yes, sir.

Ques. How far would you say the Victor Talking Machine plant, where the smokestack is—not the exact smokestack itself, but the building where the smokestack is—how far is that building from the room which you occupied the last two weeks of your sickness in the rear of your house?

Ans. Well, between sixty and seventy feet.

Ques. While you were occupying this room for those two weeks were you disturbed, in the daytime or nighttime, by noises from the power plant?

Ans. Not in any way at all.

No cross-examination.

10

MRS. MARGIE CHANDLER, SWORN.

By Mr. Grey:

Ques. Mrs. Chandler, where do you live?

Ans. 111 Market street.

Ques. How long have you lived there?

Ans. Two years last January.

Ques. Do Mr. Starr and Mr. Horner occupy the second floor of that building?

20

Ans. Yes, sir.

Ques. Do you live in the building all the time?

Ans. Yes, sir; I have two rooms on the first floor and three on the third.

Ques. Where are your rooms located on the first floor?

Ans. All the way back.

Ques. All the way back to the rear end from Market street?

Ans. Yes, sir.

30

Ques. What are those rooms?

Ans. Kitchen and dining room.

Ques. And which is to the rearward, toward the Victor plant?

Ans. The kitchen.

Ques. What rooms do you occupy on the third floor?

Ans. Three, all the way back.

Ques. All the rooms that there are on the third floor?

Ans. No, there are some front; I do not use those.

Ques. These three rooms in the back, what do you use them for?

Ans. One for a sitting room, and two for bed rooms.

Ques. Where is the sitting room located?

Ans. Front—it is not all the way front, it is the front one of the three.

10 Ques. You mean towards Market street?

Ans. Yes, sir.

Ques. What is the next room, immediately northward toward the Victor plant, used for?

Ans. Sleeping room. My little girl sleeps there.

Ques. And the one to the rear of that, toward the north?

Ans. That is where I sleep.

Ques. The room where you sleep, how many windows has it in it?

Ans. Two.

20 Ques. Facing how?

Ans. One north and one west.

Ques. And the one where your little child sleeps?

Ans. That has two.

Ques. And they both look towards the west?

Ans. Yes. One of mine is towards the north.

By the Vice Chancellor:

Ques. He means the two in the little girl's room?

30 Ans. Yes, those are west.

By Mr. Grey:

Ques. How old is the little girl?

Ans. Twelve.

Ques. Now, referring to the dining room and kitchen, do you keep chinaware there?

Ans. Yes, sir.

Ques. And glassware?

Ans. Yes, sir.

Ques. Have you observed any vibration of the building which rattles those things?

Ans. No, sir; never.

Ques. Have you been disturbed in the use of the dining room and kitchen by any noise from the Victor plant?

Ans. Never; no, sir.

10

Ques. On the third floor—referring to your sleeping room—how long have you been sleeping there?

Ans. Why, I have been sleeping there about three months—not all the way back, but I have always slept in the next one to that.

By the Vice Chancellor:

Ques. The one the little girl has now, I presume?

Ans. Yes, sir.

20

By Mr. Grey:

Ques. Since you have used that third story rear room have you been disturbed at night by any noises from the Victor plant?

Ans. No, sir; never.

Ques. Has your sleep been disturbed?

Ans. No, sir; never.

Ques. How about the little girl?

Ans. No, sir; she is never disturbed by anything.

30

Ques. When were you first asked whether you were disturbed by noises or vibrations from the Victor plant?

Ans. Well, I don't just remember what day it was, but Mr. Seligman came to me and asked me to sign against it, and I said no, I wouldn't, for it never annoyed me.

Cross-examination.

By Mr. French:

Ques. Mr. Seligman had no paper with him, did he?

Ans. I couldn't say that; he asked me if I would sign, and I said, "No."

Ques. Didn't he ask you whether you heard noises?

Ans. Yes, sir; and I told him "No."

10 Ques. And he didn't ask you to sign anything after you said you didn't, did he?

Ans. Oh, no; not then.

Ques. Well, had he asked you to sign?

Ans. Yes, sir; he asked me if I would sign.

Ques. That is, he asked you to sign before he asked you whether you heard the noises or not?

Ans. Yes.

20

JOHN A. RIGGINS, sworn.

By Mr. Grey:

Ques. You are an attorney-at-law of the State of New Jersey?

Ans. Attorney; yes, sir.

Ques. Where do you practice law?

Ans. 127 Market street.

30

Ques. That is the Browning building?

Ans. Browning building; yes, sir.

Ques. How long have you practiced law there?

Ans. About a year and a half.

Ques. What offices in the building do you use, what rooms?

Ans. The second floor, front.

Ques. Are you a member of the firm of Berry & Riggins?

Ans. Yes, sir.

Ques. What offices does your firm use?

Ans. They use three offices, one office fronting on Market street, and then the middle office, and a back office, which faces the rear of the property 127.

Ques. Towards the north?

Ans. Towards the north; yes.

Ques. And is there an elbow there—do the offices occupied by you extend further eastward than the rear buildings do?

Ans. Yes. 10

Ques. How are the windows in your room; how many of them are there?

Ans. Two windows facing Market street, and one window facing east.

Ques. And how are the windows in the room towards the north?

Ans. There are two windows facing north and one window facing the bank.

Ques. The National State Bank?

Ans. National State Bank. 20

Ques. Since you have occupied those rooms, have you noticed any vibrations of the building?

Ans. No, sir; none whatever.

Ques. Were you disturbed by any noises from the Victor Talking Machine plant, or from that direction, north of your offices?

Ans. No, sir.

Ques. What noises do you hear?

Ans. Hear the trolley cars and the wagons; that is all I ever notice. 30

Ques. Before you occupied these rooms, were you in Camden in the day-time?

Ans. Yes, sir.

Ques. Where were you located then?

Ans. I was in the office of Norman Grey?

Ques. In my office?

Ans. Yes, sir.

Ques. 127 Market street?

Ans. Yes, sir.

Ques. And on what floor were they on?

Ans. On the first floor.

Ques. What were you doing there?

Ans. Studying law in the office.

Ques. And while you were studying law there, how many rooms did you go through or spend your daily life in?

10 Ans. Through all the rooms on the first floor, with the exception of the extreme rear room.

Ques. And how many rooms were there, beginning at Market street and going towards the north?

Ans. Five rooms.

Ques. Have you been in those rooms in the last four months?

Ans. Yes.

20 Ques. When you were studying law there, before you occupied the second floor rooms, did you observe any vibrations of the building, in these downstairs rooms?

Ans. No, sir; none whatever.

Ques. Since you have been upstairs, but have come down occasionally on the first floor into my offices, have you noticed any vibrations of the building?

Ans. None.

Cross-examination.

By Mr. French:

30

Ques. When did you cease to study law with Mr. Grey?

Ans. In the fall of 1904.

Ques. And where do you reside?

Ans. Pennsgrove, New Jersey.

MRS. CATHARINE HARTMAN, SWORN.

By Mr. Grey:

Ques. Mrs. Hartman, where do you reside?

Ans. 101 North Second street, Camden.

Ques. How long have you lived there?

Ans. Fourteen years.

Ques. What part of the premises do you occupy?

Ans. Second-story, middle room.

10

Ques. Is that the bed-room?

Ans. Yes, sir.

Ques. And has it windows?

Ans. Yes; two.

Ques. Which way do they open?

Ans. South.

Ques. Towards the rear wall of the National Bank?

Ans. Yes, sir.

Ques. And is there some space between the windows and that wall, some distance?

20

Ans. Oh, yes.

Ques. Is there a porch out at those windows?

Ans. Yes.

Ques. Towards the south?

Ans. No, the porch is from the back room.

Ques. Is there any opening from your room on to that porch?

Ans. No, sir.

Ques. Any door there?

Ans. No, sir.

Ques. You use that as a sleeping room, do you? 30

Ans. Yes, sir.

Ques. Since you have so used it have you been disturbed by any noises from the Victor plant at night?

Ans. No, sir.

Ques. Or in the daytime?

Ans. No, sir.

Ques. You have been throughout the house, have you, in all the rooms?

Ans. Yes, I work in the back room all day long.

Ques. What floor is that room on?

Ans. The second story back room.

Ques. And what do you do there?

Ans. Dressmaking.

Ques. Do you sew there?

Ans. Yes, sir.

10 Ques. And have you been disturbed there by any noise from the Victor plant?

Ans. No, sir.

No cross examination.

BRAMOND D. ARCHER, SWORN.

20 By Mr. Grey:

Ques. Where do you reside?

Ans. I reside at 218 Penn, but am employed at 105 Market.

Ques. Who employs you at 105 Market?

Ans. Charles W. Freeman.

Ques. And what is that building, 105 Market street?

Ans. Well, it is in Chew's printing building.

Ques. Is it part of the West Jersey Press building, so-called?

30 Ans. Yes, sir.

Ques. And it is on the first floor that you are employed?

Ans. Yes, sir.

Ques. Toward Market street?

Ans. Yes, sir.

Ques. How far back do the rooms extend in which you are employed?

Ans. About forty feet, I judge.

Ques. Is there more than one room?

Ans. Only one room.

Ques. And what is the front part of that room used for?

Ans. Tobacco and segars.

Ques. You are salesman?

Ans. Yes, sir.

Ques. And what is the rear part, toward the north, used for?

Ans. Pooi room.

10

Ques. What are your duties in the pool room?

Ans. Well, I attend to the table, and also to the store, in his absence.

Ques. Do those rooms vibrate?

Ans. Not that I ever noticed.

Ques. Are there any windows in the rear of any part of that room—any except toward Market street?

Ans. No, sir; blank wall.

Cross-examination.

20

By Mr. French:

Ques. The building is a large four story brick building, about forty feet front and 100 feet deep?

Ans. Well, I couldn't tell.

Ques. Well, is that about an apt description of it?

Ans. I don't know.

Ques. Do you know whether it is one story or two?

Ans. Oh, I know it is three stories, I think.

30

Ques. How many stores on the front?

Ans. Three, I think; one real estate office, and Mr. Chew's printing office, and 105 is the tobacco store.

Ques. Then there are also stores along on the Front street side, are there not?

Ans. I believe there is; yes, sir.

Ques. A heavy blank wall on the east of your particular room, with no openings in it?

Ans. A wall on the north; and then there is a partition between that and the other store.

Ques. Yes, but on the east, towards Mr. Dayton's house?

Ans. Yes, I judge there is a blank wall; yes, sir.

Ques. No opening in it, is there, no window or door?

Ans. That I couldn't say.

10

By the Vice Chancellor:

Ques. You surely know, in a place where you are employed every day, whether there is a window or door towards Mr. Dayton's house?

Ans. No window or door; no, sir.

By Mr. French:

20 Ques. Mr. Dayton's house is the large three story brick house, with a stone front, immediately adjoining you on the east, is it not?

Ans. Yes, sir.

Ques. You say one table you have in that room?

Ans. One table.

MRS. IDA HIRES, SWORN.

30

By Mr. Grey:

Ques. Where do you reside?

Ans. 134 Cooper street.

Ques. How long have you resided there?

Ans. Very near four years.

Ques. What is the character of the building; is it brick or frame, or what?

Ans. Brick.

Ques. How many stories high is it?

Ans. Two and a half.

Ques. And do you occupy or use the whole building?

Ans. Yes, sir.

Ques. In what part of it is your sleeping room?

Ans. Middle room on the second floor.

Ques. And has it windows in it?

Ans. Yes, sir; two.

Ques. Which way do they open?

Ans. On Second street.

10

By the Vice Chancellor:

Ques. The house is on the southwest corner of Second and Cooper, is it not?

Ans. Yes, sir.

By Mr. Grey:

Ques. Do you own that property, or your husband?

20

Ans. No, sir.

Ques. Did you, or your husband?

Ans. No, sir.

Ques. Who did own the property?

Ans. Mrs. William Calhoun.

Ques. Is she a relative of yours?

Ans. My mother.

Ques. Who owns the property now?

Ans. Victor Talking Machine Company.

Ques. How long have they owned it, about?

30

Ans. I think two years this November.

Ques. And since they have owned it, have you been tenants there?

Ans. Yes, sir.

Ques. Have you been disturbed in your use of the premises, either sleeping or awake, by any noise from the Victor Talking Machine Company?

Ans. No, sir.

By the Vice Chancellor:

Ques. Is it used entirely as a private dwelling, or for lodgers?

Ans. No, sir; private dwelling.

Ques. And from any part of your dwelling, can you see, out of the windows, the building of the Victor Talking Machine Company that has the tall stack?

10

Ans. Oh, yes.

Ques. Are there any buildings between the rear rooms of that building and the building of the Talking Machine Company that has the high stack—any walls between?

Ans. Oh, no; it is all yards.

Cross-examination.

By Mr. French:

20 Ques. Did you have some conversation with Mrs. Seligman about the swaying of your bed?

Ans. No.

Ques. Are you a sister of George Calhoun?

Ans. Yes.

Ques. Did he make some complaint about the noise and vibration there, or anything of that kind?

Ans. I don't know that.

30

M. LEON BERRY, ESQ., sworn.

By Mr. Grey:

Ques. Where do you reside?

Ans. Atlantic City.

Ques. And where do you carry on your avocation?

Ans. On the second floor of 127 Market street.

Ques. What do you do?

Ans. Practice law.

Ques. Attorney-at-law of the State of New Jersey?

Ans. Yes.

Ques. How long have you been on the second floor, or occupied the second floor of 127 Market street?

Ans. I think it is eighteen months.

Ques. That is the Browning building, is it?

Ans. Yes, sir.

10

Ques. You are the partner of Mr. Riggins?

Ans. Yes, sir.

Ques. Do you occupy three rooms on that floor?

Ans. Yes, sir.

Ques. One of those rooms is on Market street?

Ans. Yes, sir.

Ques. Which of the rooms do you usually occupy?

Ans. I have the rear room.

Ques. That is, towards the north, away from Market street?

20

Ans. Away from Market street; yes, sir.

Ques. Are there windows in that room?

Ans. Yes, sir.

Ques. Which way do they open?

Ans. There are two opening on the back and one on the side.

Ques. The ones that open in the back, you mean open toward the north?

Ans. Yes.

Ques. Toward the Victor Talking Machine plant?

30

Ans. Yes, sir.

Ques. Is there any construction between those windows and the Victor Talking Machine plant?

Ans. Between one of them; one of them is free, but one of them opens on a rear porch and there is a sort of an alcove between the rear part of the Browning building.

Ques. In your occupation of this room, have you been disturbed by noise from the Victor Talking Machine plant?

Ans. No, sir.

Ques. Does the room, or the walls or the floor vibrate, as far as you have observed?

Ans. I have never noticed it.

Ques. Before you occupied those rooms, where were you in the day-time?

10 Ans. I served my office time with you.

Ques. Studied law with me in my office?

Ans. Yes, sir.

Ques. Where were those offices?

Ans. They were pretty well back in the building, about three rooms.

Ques. What floor?

Ans. On the first floor.

Ques. And how many rooms were you in on that floor?

Ans. Two. Well, I was in all the rooms part of the time.

20 Ques. Where did you spend most of your day-time while you were studying law there?

Ans. In the fifth room back from Market street.

Ques. Have you been in those rooms since you have been upstairs?

Ans. I have.

Ques. Frequently?

Ans. Yes, sir.

Ques. How frequently?

30 Ans. Oh, I suppose on an average of once a day, any way?

Ques. How recently have you been there?

Ans. I was there yesterday.

Ques. And have you been there frequently in the last three or four months?

Ans. I have.

Ques. Did you observe any vibrations of the walls or floors of those rooms at any time?

Ans. No; I didn't notice any; no, sir.

Ques. Did you observe any change in that respect in the last few months from what it used to be when you were studying law there?

Ans. No, sir.

Ques. Which way do the windows from those rooms open?

Ans. On the side toward Third street.

Ques. Toward Second street?

Ans. Or Second street, rather.

10

Ques. That is the east side?

Ans. Yes.

Ques. And how many windows are there in those rooms?

Ans. There are four windows.

Ques. Two in each room?

Ans. Yes, sir.

Ques. And what do they open on to?

Ans. They open on to the side yard of the Brown-
ing property.

Ques. How wide would you say that was from the
window to the fence, eastwardly? 20

Ans. Oh, I should say twelve feet.

Ques. What is the building immediately eastward of
those buildings?

Ans. The National State Bank.

Ques. The rear end of the bank?

Ans. Yes, sir.

Ques. Since you have been in those rooms in the last
few months have you observed any noise, or been dis-
turbed by any noise there, from the Victor Talking Ma- 30
chine plant?

Ans. No, sir.

No cross-examination.

LOUIS F. GEISSLER, sworn.

By Mr. Grey:

Ques. What is your business?

Ans. I am General Manager of the Victor Talking Machine Company.

Ques. How long have you been such?

Ans. Since October 1st of last year.

10 Ques. 1905?

Ans. 1905.

Ques. And what are your duties as such manager?

Ans. As such I have a general supervision of the sales and methods of marketing the goods, and similar functions, principally.

Ques. Is it your duty to acquire orders?

Ans. Yes, sir.

Ques. For the products of the company?

Ans. Yes.

20 Ques. Since you have been manager have you changed the method of procuring the business of selling products

Ans. Decidedly, yes, sir; quite other systems have been introduced from those formerly employed.

Ques. When did you begin to introduce this different system?

Ans. Well, it was inaugurated by a reduction on prices of records on December 1st, 1905.

Ques. Were there still other changes in procuring orders?

30 Ans. Thereafter we instituted other changes, those changes necessitated by competition increasing here in this country and other sections—England.

Ques. What was the result of those changes in acquiring orders—did they increase, or what?

Ans. An enormous influx of new orders; yes, sir; it increased the orders several hundred per cent.

Ques. And when did the demand upon the plant for producing the products of the company to fill these orders commence—these increasing orders?

Ans. Well, it commenced about December 10th or 15th, almost directly after the inauguration of the new price list.

Ques. As a result of such increased demand was it necessary to increase the production of the company to fill these orders?

Ans. Decidedly. We had increased the capacity in preparation for this event, but totally insufficient was that increase. 10

Ques. What did it become necessary to do, in operating the plant, to increase the product of the plant?

Ans. Well, it became absolutely necessary to operate at night.

Ques. Operate it for longer hours that you had been?

Ans. Oh, yes, sir.

Ques. And the only time you could operate longer hours was at night?

Ans. Was at night. The obligation, and the increase, was also not only consequent upon the reduction of those prices, but on the inauguration of another system of the delivery of the records. 20

Ques. Will you describe that system?

Ans. Yes. On December 26th we sent out a notification that we should inaugurate a system of a simultaneous opening day throughout America, which is the 28th of the month.

Ques. Whom did you send those notices to, what class of people? 30

Ans. We sent those notices to probably ten thousand different merchants throughout the country.

Ques. And they were what you would call dealers?

Ans. Dealers; yes, sir; and distributors as well.

Ques. Go ahead.

Ans. That necessitated our delivering goods on a certain day, and rushing the pressing plant in anticipation of these shipments—for instance, beginning at San Francisco about the 5th of the month, and working from San Francisco east to New York City, day by day, they must be delivered simultaneously to open throughout America on the 28th of the month.

Ques. Succeeding the 5th of the same month?

Ans. Yes, sir.

- 10** Ques. Suppose that after this system was inaugurated the plant had not operated at night, what would have been the effect on you?

Ans. We should have violated our obligation to all our customers. We were bound commercially and morally to supply these products, as a newspaper or magazine's coming out on a certain day; and had we not done so we would have suffered very much indeed, financially and in prestige especially, as our competitors in other sections of the country were doing a similar thing, which we must be prepared to meet.

- 20** Ques. What portion of the business would have been affected by this method of distribution?

Ans. The record business exclusively.

Ques. The making and selling of records?

Ans. Yes.

Ques. Is there any period of the year when the business of selling the products of the company increases, as compared with some other period?

Ans. Oh, yes; yes, sir.

- 30** Ques. And have you periods of increasing demand and decreasing demand?

Ans. Decidedly. The summer months are considerably lighter than those of the fall and spring.

Ques. That was under the old system, before you inaugurated the new system, was it?

Ans. Yes, sir.

Ques. What is it under the new system?

Ans. Well, this new system has increased it so that our falling off this year, in consequence of this system, will not be so great as it was in previous years; although business is naturally lighter in the summer months, in June, July and August.

Ques. Has the capacity of the plant to produce records been increased from the 1st of the year 1906?

Ans. Very much, and constantly increased.

Ques. By what?

Ans. By installation of numerous new machines, and machines of greater capacity. **10**

Ques. For the production of records?

Ans. Yes.

Ques. Which machines are operated by power from the new power plant?

Ans. Yes, sir.

Ques. Which has been in operation since last fall—I want to distinguish it from the proposed new power plant not yet in operation.

Ans. Oh, yes; decidedly.

Ques. In producing records, can the plant produce records as economically at night time as it can in the daytime? **20**

Ans. No, sir.

Ques. What is the difference?

Ans. Well, in the first place, you don't get the output; and in the next place is the increased expense for operating the plant.

Ques. Is it to the advantage or disadvantage of the company to operate at night time, as compared with daytime, so far as economy is concerned? **30**

Ans. We'l, it is to our disadvantage.

Ques. In the course of the business is it necessary, in order to fill orders now in hand, that the plant should run at night—at this time, this month or next month?

Ans. No, sir.

Ques. What is the probability of a necessity of operating the plant at night to meet future orders?

Ans. Well, there is a possibility, but if we succeed in installing machinery as rapidly as we hope in making the extensions, it may not be necessary.

By the Vice Chancellor:

Ques. You mean machinery in the new power plant facing on Cooper street, which you haven't in now, the engines and machinery, or do you mean new machinery in the building that makes the actual discs themselves?

10

Ans. In both places.

By Mr. Grey:

Ques. From your knowledge of the business, and your experience in it, when will the orders likely increase so as to require the plant, with its present capacity and constitution, to operate again at night?

Ans. Not earlier than September.

Ques. Mr. Geissler, in case the company should not keep up with its orders, that is, in case it should not fill the orders at the times the company advertises it will fill orders coming in, what would be the effect upon the business of the company?

20

Ans. It would be very detrimental indeed; besides, working as we now are under our contract system, it is a question as to whether we would not be legally liable for not supplying goods on the date contracted for.

Ques. And, as a matter of business, can you retain customers whose orders you do not fill at the times you advertise to fill them?

30

Ans. No, sir.

Cross-examination.

By Mr. French:

Ques. What was to be opened on the 28th of this month, under this system?

Ans. The records were placed on sale throughout the country, and they were permitted to be marketed—opened for sale on that date.

Ques. That is, your system was a scheme by which, at a uniform date, the record of the same song, or whatever it was on this record, was to be sold simultaneously throughout the country?

Ans. Yes, sir.

Ques. How do you prohibit them from selling before that time?

Ans. We schedule our shipments so they won't arrive there so as to be opened before that time, as nearly as we can; but we prohibit them further by contract.

Ques. Then the business has fallen off in the month of June, 1906?

Ans. Yes, sir.

Ques. About fifty per cent. of these records are made in the nighttime, when you are operating at night?

The Vice Chancellor: He means about fifty per cent. of all that you made were made at night, during the time you were operating at night? **20**

Ans. I should say not that many.

Ques. Not that many?

Ans. No.

By Mr. Grey:

Ques. Mr. Geissler, in speaking of the greater economy of producing products and records by daytime operation rather than at night, you had regard, did you not, to the economy of the plant itself, the machinery and employees? **30**

Ans. Exclusively the cost of production, exclusively.

Recess until 2 o'clock, P. M.

Hearing of the cause resumed at two o'clock, P. M.

JAY M. WITHAM, sworn.

By Mr. Grey:

Ques. What is your business?

Ans. Consulting engineer.

10 Ques. And where were you qualified to become a consulting engineer?

Ans. I was educated by the United States Government at the Naval Academy at Annapolis, Maryland, beginning my studies in 1877. I remained in the service of the Government for eight years and a half, being a commissioned officer a portion of that time. At the conclusion of that time I resigned, and accepted the Chair of Engineering in a western university for six years.

20 Ques. Where was that located?

Ans. The State University of Arkansas.

Mr. French: I admit his qualification.

The Vice Chancellor: It is admitted that this witness is fully qualified as a consulting engineer.

Ques. Mr. Witham, have you any personal knowledge of the plant of the Victor Talking Machine Company?

Ans. I have.

30 Ques. And of other manufacturing establishments about this neighborhood, in Camden?

Ans. Somewhat; yes, sir.

Ques. What was your first acquaintance here in this neighborhood?

Ans. Why, I have been familiar with Camden ever since 1891, and I have worked for industries in Camden at different times since then.

Ques. In this immediate neighborhood, what manufacturing plants have you personally examined or been in?

Ans. Why, the Campbell Preserve Company; I was their consulting engineer when they made some improvements in the years 1899 and 1900.

Ques. What was the character of those changes and improvements?

Ans. That was with reference to their steam plant; they put in a new boiler and new chimney, and I think they put in a new engine; I am a little in doubt now as to whether they did or not. 10

Ques. Where is that plant in relation to the room where you are now sitting, on the third floor back of 106 Market street?

Ans. Almost in the rear.

Ques. How far away is the nearest wall of the plant, if you can tell by looking out the window?

Ans. I should say about thirty feet.

Ques. Do you know where the plant of the Electric Light and Power Company was located in this neighborhood? 20

Ans. Yes, sir.

Ques. Where was that?

Ans. Immediately in the rear of the building we are in.

Ques. And on what street was it?

Ans. Well, I think they owned property out to Front street.

Ques. Did you ever go into that building when it was operated and owned by the electrical company?

Ans. Yes, sir; several times. 30

Ques. What was the name of the company?

Ans. Why, I don't think I can tell.

Ques. Was it the Camden Lighting and Heating Company?

Ans. Yes; that was the name of it.

Ques. When were you in that building?

Ans. At sundry times in 1899 and 1900, and possibly 1901.

Ques. For what purpose was the building used in 1899 and 1900?

Ans. As an electric producing plant.

Ques. What was in the building?

Ans. Boilers, engines and dynamos.

Ques. Was the plant in operation when you were in it?

Ans. Yes, sir.

10 Ques. And what times of the day and night were you in the plant?

Ans. I don't remember of being there in the night-time, but I was there often in the day-time at different times when I went over to Campbell's.

Ques. What was the mechanism in the building; was it steam power or electric power?

Ans. Steam power.

Ques. What was it used for?

Ans. To produce electricity.

20 Ques. Describe briefly, in a general way, the character of the mechanism.

Ans. My recollection is that there were between a thousand and two thousand horse-power boilers, driving engines on the ground floor, which, in turn, drove dynamos on the upstairs floor.

Ques. And at what would you approximate the horse-power of the engines and dynamos?

Ans. Somewhere between one and two thousand horse-power.

30 Ques. How were the dynamos and electrical machinery coupled to the steam-producing mechanism?

Ans. By belts and shafting.

By the Vice Chancellor:

Ques. Can you indicate, on this Exhibit D3, where that electrical plant was at the time of which you were speaking?

(The witness indicates a place which the Court marks on the plan with the letter W.)

By Mr. Grey:

Ques. What other method is there of coupling engines and dynamos, to produce electrical manifestations to steam engines, than the one you have indicated by belting?

Ans. What is known as "direct connection."

Ques. What is that?

Ans. A direct connected outfit consists of an engine and a dynamo or generator in one unit—that is, the shaft of the engine is also the shaft of the dynamo—and on that shaft is placed the armature of the dynamo, and that rotates with the shaft of the engine, and as it rotates it rotates in and is surrounded by a fixed part of the dynamo known as the "fields." 10

By the Vice Chancellor:

Ques. Is that shaft parallel with the engine, or horizontal, or perpendicular? 20

Ans. That shaft is a part of the engine.

Ques. I realize that, but does it work perpendicularly, or does it work on a level with the engine?

Ans. It generally works horizontally—that is, its axis lies in a horizontal plane.

By Mr. Grey:

Ques. What is the difference in the different methods of coupling engines such as you have described—what is the difference in result? 30

Ans. The only difference, so far as economy is concerned is the slight loss that there is in transmission of power through a belt, due to slipping of the belt. The belt is noisier than the direct connected; that is, a belted dynamo will make more noise; the outfit will make more noise than a direct connected one.

Ques. And as to vibrations, is there any distinction?

Ans. No. If there is any distinction, it would be in favor of the direct connected, because with the belted outfit you would have two separate and distinct objects to vibrate; whereas with the direct connected you have only one concentrated body to vibrate.

Ques. When was your first association, if you had any, with the Victor plant?

Ans. The last of October, 1905.

10 Ques. Did you personally go into the plant at that time?

Ans. I did.

Ques. What did you do there?

Ans. I examined the plant from top to bottom in every department, and conducted a series of tests, measurements of power there, to determine the quantity of power required to operate the establishment.

Ques. Will you look at the Exhibit DI, and familiarize yourself with it?

20 Ans. (Witness complies.)

Ques. Do you find there a small square marked X?

Ans. Yes, sir.

Ques. From your knowledge of the plant, can you say whether or not that shows, relatively to the other objects in the map, the location of the power plant?

Ans. It does.

Ques. Was that where you made the examination and tests that you described, or rather, referred to, in the fall of 1905?

30 Ans. Yes, sir; and also in the room marked C in said exhibit.

Ques. At that time did you examine the 125 horse power engine?

Ans. Yes, sir; and tested it.

Ques. Describe how that engine is operated, or was operated under your observation.

Ans. Well, which one?

Ques. The 125 horse power engine.

Ans. That is an Ames engine running at 250 revolutions per minute, and it is belted to drive shafting and machinery through the different portions of the buildings B and D shown on Exhibit D1, and, in addition, a 500 light Westinghouse dynamo, which turns at 540 revolutions per minute.

By the Vice Chancellor:

Ques. And does what?

10

Ans. And furnished light for the building—furnished at that time light for the building.

By Mr. Grey:

Ques. You are now speaking of the situation as it was in the fall of 1905?

Ans. Yes, sir. The situation is the same to-day, with the exception that ordinarily the dynamo is not used.

20

By the Vice Chancellor:

Ques. That is, the dynamo connected with the engine in C?

Ans. Yes, sir; it is not used.

By Mr. Grey:

Ques. Now, describe the mechanism in what I would call the new power house, which is, as you see, located on this exhibit as X? 30

Ans. That consists of a Heinecke tile chimney with a flue 6 feet diameter and 125 feet high, and four horizontal tubular boilers about 150 horse power each, and one Ames engine, direct connected to a 150 kilo-

watt dynamo, both turning at about 195 to 200 revolutions per minute; also another Ames engine, set parallel with the first one and alongside, and direct connected to drive a 100 kilowatt dynamo, both turning at 210 revolutions per minute. Also in that room is a feed water heater, which is not a machine, but a fixed piece of apparatus; and a small Rand air compressor, which consists of an air pressing cylinder at one end and a steam driven cylinder at the other end, and a revolving flywheel, and that turns at about 95 revolutions per minute.

By the Vice Chancellor:

Ques. Which floor is that on?

Ans. That is on the second floor of X, in Exhibit D1.

By Mr. Grey:

20 Ques. In what direction of the compass does the shafting or rod operate on that second floor, north and south or east and west?

Ans. The shafts of the two electric engines lie in an east and west line.

By the Vice Chancellor:

Ques. Which way are the engines and generators— which way do they lie?

30 Ans. The centre line of the generators and the centre line of the engine shafts lie in an east and west line. The center line of the cylinders of the engines lie at right angles thereto, or north by south.

By Mr. Grey:

Ques. Are the cylinders perpendicular or horizontal?

Ans. Horizontal.

Ques. At what end or side of the room designated X on that plan are these engines and generators?

Ans. The cylinders are towards the south edge of the room. The two electric engines compose the centre portion of the room, as you go along its length.

Ques. That is, that last described mechanism is neither much to the eastward nor much to the westward of the centre of the room?

Ans. No.

Ques. Where is the smokestack, if there is one, in that building? **10**

Ans. It is outside of the building and to the south-west of the building.

By the Vice Chancellor:

Ques. Is the smokestack this square here that I now mark with an S?

Ans. It is.

By Mr. Grey: **20**

Ques. Please describe the mechanism on the ground or first floor of that building?

Ans. That consists of the boilers, which are already described, and also of some feed pumps for forcing water into the boilers, and some water pumps for pumping water through the buildings for manufacturing purposes; and two steam pumps, which are called "vacuum pumps," and are used only during the portion of the year when the building is being heated and in connection with the heating system of the building. Those pumps are all steam driven and move at slow speeds. **30**

By the Vice Chancellor:

Ques. You are not an employee of the Victor Company, are you?

Ans. Only in connection with their improvements to their new power house; I have been employed as their consulting engineer since last November or October for matters in connection with power.

By Mr. Grey:

10 Ques. When you first observed this power plant what was the relation of the building designated as X with the chimney?

Ans. The building X was tied to the chimney S referred to in Exhibit D1—bonded together.

Ques. What sort of attachment, what sort of bonds?

Ans. By brick work.

Ques. The building is what?

Ans. The walls are of brick and the floors of reinforced concrete.

Ques. The chimney is built of what?

Ans. Tile—brick tile.

20 Ques. What was afterwards done, if anything, in relation to the bonding of the chimney with the building?

Ans. They were cut apart—the building and the chimney.

Ques. Did you have anything to do with that?

Ans. It was by my advice they were cut apart.

Ques. Why did you so advise?

30 Ans. Because a chimney 125 feet high will sway in the wind about ten inches—that is, five inches each way—from the plumb line, when the wind is violent, and the effect of that swaying of the chimney would be to crush some of the bricks, open and close the joint between the building wall and the chimney, and crush the bricks. Furthermore, the chimney is subjected to a temperature much higher than the building itself; the temperatures in the chimneys are sometimes as high as 700 degrees Fahrenheit; so the chimney must be free to expand, regardless of the building.

Ques. Is that method of having the chimney separated from the power plant building the most modern method?

Ans. Yes, sir.

Ques. Has that been found to be the best method?

Ans. It is. It is the universal method.

Ques. How many stories high is this power building?

Ans. Two stories.

Ques. Are there windows in it?

Ans. There are.

Ques. On what sides?

Ans. On the north and south sides of the second story.

10

Ques. What is your opinion as to the character of the machinery, boilers, engines and everything that you have described in this power plant, as to its modernness and up-to-dateness?

Ans. They are representatives of the best makes of engines in the market, of their types.

Ques. Do you know anything about the foundation of this building, or of the first floor on which the boilers are placed?

Ans. Well, I know only by excavations which have been made around the building for walls and so on. The foundations are in the clay, in the soil, and the floor is built right on to the earth—that is, the first floor is reinforced concrete and rests on the earth.

20

Ques. How much, after October, or after that first visit of yours to the plant, did you observe this plant in operation?

Ans. I think I have seen the plant, since last October, in operation about one hundred times.

Ques. And covering what months?

30

Ans. Every month between last October and the present time.

Ques. Did you observe it both at day-time and night-time?

Ans. In the day-time only.

Ques. Have you observed it at all at night-time?

Ans. No; not directly myself.

Ques. Have you been in the power plant at night?

Ans. No.

Ques. Weren't you in the power plant in May or June of this year?

Ans. No; not at night.

Ques. How late in the evening were you in the power plant?

Ans. I have been there until six o'clock.

10 Ques. During your observation of the plant in the day-time, what load were the engines carrying?

The Vice Chancellor: Which engines?

Mr. Grey: I mean now the ones in X.

Ans. They were carrying about 220 horse-power, total—the two together.

By the Vice Chancellor:

20

Ques. And what are they capable of carrying?

Ans. 375 horse-power would be their rated capacity—total.

By Mr. Grey:

Ques. From the time you first observed the plant, in October, 1905, was the load put upon the engines increased or decreased?

30 Ans. The load has been gradually increasing, but not by any leaps and bounds—just a slow growth.

Ques. And how was the load increased?

Ans. By the installation of new machinery in various departments of the mill, one machine at a time.

Ques. Have you been in those departments?

Ans. Yes, sir; many times.

Ques. What machines are they; what character?

Ans. Some of them are machines which would be known as ordinary machine shop machinery, such as of the character of lathes; but most of them have been presses for the record department.

Ques. What is the effect upon the operation of the engines in increasing the load?

Ans. An engine that is run at rating runs steadier than an engine that is run at a much lower rate.

Ques. What do you mean by "rating"?

Ans. The rated power of the engine—the rate capacity of the engine. 10

Ques. What is the effect upon the vibratory activity of engines of the increasing of the load, or diminishing of the load?

Ans. So far as the speed of the engine goes, and any vibrations occasioned by the speed of the engine, they would be the same, because the speed is a constant thing whether the load is big or little; but as far as noises are concerned, an engine runs smoothest when it has got a good load on it.

Ques. And by "smoothest" you mean less loudly? 20

Ans. Yes.

Ques. Is there anything unusual or remarkable in the character of the engines and the power plant which you have described—is it different from power plants of that character such as you have seen elsewhere?

Ans. No.

Ques. Does it make any unusual noise, comparing it with other power plants of like character and power?

Ans. No, sir; it runs very smoothly.

Ques. Well, does it make any unnecessary noise? 30

Ans. No, sir.

Ques. You were in this power plant several times in April last, were you?

Ans. Yes, sir.

Ques. How many times?

Ans. Probably eight times.

Ques. And were you in the power plant in May?

Ans. Yes, sir; several times.

Ques. Were you there on the 31st of May?

Ans. Yes, sir.

Ques. Were you there on the 1st of June?

Ans. No.

Ques. On the 31st of May?

Ans. Yes, sir.

Ques. What times during that day were you there—
10 during the day and night on the 31st of May?

Ans. I was there in the morning and afternoon, both, of May 31st.

Ques. What time in the afternoon?

Ans. About two o'clock, I should think, or three.

Ques. Did you observe the load which the engines were then carrying in the power plant X?

Ans. I would say yes, because I don't think I ever go into the room without looking at the load as registered by the instruments on the switchboard.

Ques. When you were in the plant in April did you
20 observe the load the engines were then carrying?

Ans. Yes, sir.

Ques. Was there any difference in the quantity of load during those two times?

Ans. Very little—slightly increased.

Ques. As of which date?

Ans. In favor of the later date.

Ques. That is, there was more load being carried on the 31st of May, when you were there, than there was in April?

30 Ans. A trifle more.

Ques. Do you know why?

Ans. Because of the starting up of some new machinery.

Ques. Did you have anything to do with making any vibratory tests, or tests of vibration, or any portion of the neighborhood in the block where the Victor plant is?

Ans. I did.

Ques. When were any such tests made?

Ans. On the 31st of May, 1906.

Ques. What was your part in the test?

Ans. I co-operated with Dr. Hart and Mr. Wood in some tests that were made with an apparatus borrowed from the University of Pennsylvania known as the seismograph.

By the Vice Chancellor :

10

Ques. Is that the thing with which they measure the force of earthquakes?

Ans. Yes, sir.

By Mr. Grey :

Ques. What is an earthquake?

Ans. A tremor of the earth.

Ques. Must it be a large tremor, or may it be a very minute one? 20

Ans. Any tremor of the earth would be called an earthquake.

Ques. By scientific people?

Ans. Yes, sir.

Ques. Have you had any experience in testing tremors of the earth of this character?

Ans. Not tremors of the earth, but I have of buildings.

Ques. Will you describe the instrument which you say was called the "seismograph"? 30

Ans. Yes, sir; that consisted of a large mass of iron suspended, and so suspended as to have its centre of mass a neutral point free from motion. It also consisted of an apparatus driven by clockwork which propelled a piece of paper or a band of paper upon which you desire to get a record. That last apparatus rests

on the floor of the building which you wish to ascertain the vibrations of, and would move with that floor; and from the centre of the mass of the heavy suspended object was a pencil which marked and traced a very faint line on this moving paper, so that vibrations of the floor or building would record by a wavy line upon this paper, and the paper would truly record the intensity of these vibrations, and their frequency.

10 By the Vice Chancellor:

Ques. What was the purpose of the clock work?

Ans. To drive the paper.

Ques. Simply to run the paper under the pencil?

Ans. That is all.

Ques. And how did this thing rest upon the floor?

Ans. By its own weight.

Ques. Was it a thing like a crane that propelled this mass of iron?

20 Ans. Oh, the mass of iron was held by a crane, a tripod, like.

Ques. Like a surveyor's tripod?

Ans. Yes, sir.

Ques. How did it differ from the ordinary surveyor's plummet excepting the mass of it?

Ans. And the manner of suspension.

By Mr. Grey:

30 Ques. How did the suspension differ?

Ans. By having more suspension; a plumb bob for surveying would only have one suspension.

Ques. How many suspensions would the instrument have which you are describing?

Ans. Three or four.

Ques. You are describing the instrument actually used?

Ans. Yes, sir.

By the Vice Chancellor:

Ques. What do you mean by "three or four suspensions"?

Ans. I mean three or four different wires going down to carry the weight of the object.

Ques. Well, that would be equally influenced by currents of air, if they were strong enough, wouldn't it?

Ans. Yes, sir.

Ques. Anything that agitated the atmosphere, or the base on which it rested, sufficiently to move this thing would be recorded by the pencil?

Ans. Yes. Out in the breeze, for instance, we couldn't use it.

10

By Mr. Grey:

Ques. What was the weight of the thing that hung, to which one of the pencils was attached?

20

Ans. How much did it weigh?

Ques. About?

Ans. Well, perhaps sixty pounds; I don't remember.

Ques. Did you use any other instrument of observation?

Ans. I used the telescope also.

Ques. What is the method of using the telescope?

Ans. By focussing the cross wires of the telescope upon an object remote from me, and observing whether they are still with reference to each other.

30

Ques. What do you mean by the "cross wires of the telescope"?

Ans. I mean the wires which enable you to focus the telescope on a line.

Ques. On the line which you are surveying?

Ans. Which you are looking at.

Ques. Where are they?

Ans. They are inside of the telescope and at right angles to each other; and they are made very fine; sometimes they are made out of actual pieces of very fine wire, but more frequently they are made out of spider's web.

Ques. At which end of the telescope are they located?

Ans. They are located nearer the eye end.

Ques. Was there any mirror device, or any device by using a mirror, that was used?

- 10 Ans. Yes, sir; there was also what was known as the "optical lever" used, which consisted of a small mirror with one end suspended to the centre of this fixed mass I spoke of, this heavy weight, and the other end attached to the framework of the clock driven mechanism, which latter end would have the motion due to the building, and the upper end would be fixed in space. Then if you throw a beam of light onto that mirror it would be reflected from the mirror and go off and strike the wall, or a scale, and by noting the movement of the beam of light against the wall or against the scale you can, by a system of proportions, determine or measure accurately the extent of the vibration, if there is any.

Ques. That is a mathematical calculation from this data, is it?

Ans. Yes, sir.

Ques. Where did you make the tests with these instruments?

Ans. At the residence of Mrs. Prettyman, which I think is 121 Market street, Camden.

- 30 Ques. Just stop there a moment. On what floor and what room?

Ans. In the second story, in the room next to the bath room, and the bath room is the rear room of the building.

Ques. Of the second floor of the building?

Ans. Yes, sir.

Ques. Where else did you make tests?

Ans. This was the only place I made tests.

Ques. That is the only place where you made any observations?

Ans. Yes, sir.

By the Court:

Ques. These tests, I understood you to say, you made on the 31st of May of this year?

Ans. Yes, sir.

10

By Mr. Grey:

Ques. How far is that room from the power house of the Victor Talking Machine Company?

Ans. About sixty or seventy feet.

Ques. Do you know the premises 117 Market street?

Ans. I do. That is, I know the first floor front.

Ques. Was this room eastwardly or westwardly, or in what direction from 117?

Ans. Why, this building where Mrs. Prettyman lived, and this room, were both to the east of Mr. Seligman's place.

20

Ques. And do you know whether this room was north of the rear of his premises, or where?

Ans. It was north of the rear of his premises.

By the Vice Chancellor:

Ques. Further toward the Talking Machine factory?

Ans. Yes, sir; closer.

30

By Mr. Grey:

Ques. What time of the day did you make the test?

Ans. In the afternoon; I think we began the first record at five minutes after four.

Ques. Who was present?

Ans. Dr. Hart and Mr. Wood.

Ques. And which instrument did you first use?

Ans. I first used the telescope, sighted against the wall of Mr. Seligman's residence.

Ques. Which wall?

Ans. His east wall of the main part.

Ques. About where, in height above the ground, did you do it?

10 Ans. Third story—I sighted on a point on the third story.

Ques. How far, northwardly, on that wall was the telescope directed—that is, from Market street?

Ans. I sighted it on the end of the party wall between his property and the property next east, the north end of that wall. That party wall is built a little bit further north than his house proper.

Ques. Do you mean the north wall, or the east wall?

Ans. The east wall—the north end of the east wall.

Ques. To what was the telescope fixed?

20 Ans. On a line of mortar in the brick.

Ques. No, I mean the telescope—not the point you graduated it to, but the telescope?

Ans. I had it rested on the window sill of the room at Mrs. Prettyman's house.

Ques. Which window?

Ans. The window facing the west, and the northern one of the two that do face the west.

Ques. What was the result of the observations made by you through that telescope in that way?

30 Ans. The motion of Mr. Seligman's house was less, appreciably less, than the thickness of that cobweb or cross wire in the telescope.

Ques. And what would that mean in fractions of an inch?

Ans. Well, it would mean something less than one one-hundredth of an inch.

Ques. And what test did you next take?

Ans. We then made graphic records of the vibration with this seismograph—made two records, one north and south series of records, and the other an east by west record, and we also made—

Ques. Just a moment, please. Referring back, Mr. Witham, to the test made by the telescope which you described indicated a movement between the telescope and Mr. Seligman's wall of one one-hundredth of an inch, less than that, what did you mean by "less than that;" do you mean one-eightieth? 10

Ans. Of course it would be impossible to measure it, but it was a smaller movement than one one-hundredth of an inch.

By the Vice Chancellor:

Ques. Well, do you mean a one one-hundred-and-first or a one one-hundred-and-second?

Ans. I should say the movement was about one-half the diameter of that cobweb called the "cross wire." 20

Ques. You still have not answered the question that counsel wants to get at, and that is, when you say it was less than one one-hundredth of an inch do you mean that it was perhaps one ninety-ninth of an inch, or was it one one-hundred-and-first part of an inch?

Ans. I cannot give it to you in figures.

Ques. No, but when you say "less" which do you mean— does *less* go down toward nothing, or does it go up?

Ans. I mean smaller. 30

Ques. Do you mean one one-hundred-and-first part of an inch, or one ninety-ninth of an inch, when you say "less"? Which is less than one one-hundredth of an inch, one ninety-ninth or one one-hundred-and-first?

Ans. One one-hundred-and-first.

By Mr. Grey:

Ques. What do you mean by a "north and south record" as made by this seismograph?

Ans. The record of vibrations, if any, that would exist in a north and south line.

Ques. And how did you accomplish a test in a north and south direction—by doing what with the seismograph?

10 Ans. By moving the clockwork, moving what I call the "clockwork," so that the band of paper would travel in an east and west direction.

Ques. When the band of paper so traveled, and the pencils were placed in relation to it such as you have described, the pencils would then show upon the paper what, if there were vibrations at all?

Ans. If there were vibrations it would show a wavy line.

Ques. Of what vibrations?

20 Ans. It would show a wavy line like saw teeth.

Ques. Vibrations coming from what direction?

Ans. From north and south.

Ques. And in testing for vibrations east and west the apparatus was simply reversed?

Ans. That is it.

Ques. And placed so the paper should move in what direction?

Ans. So the paper would move north and south.

30 By the Vice Chancellor:

Ques. Standing in the house in which you did, and sighting your telescope along the side of the Seligman property, were you able to tell, with respect to whatever vibration you found, whether it existed in the house in which you were, or whether it existed in house toward which you sighted your instrument?

Ans. No, it would tell simply that there was that difference of vibration between the two, but it would not tell which was vibrating.

Ques. Would it give the total of the vibration of both, or would it only give the single factor of the vibration of one, or the difference between the two, if they were each vibrating?

Ans. If they vibrated together, it would give the difference; if they vibrated differently, it would give the difference at one time, and the sum at other times.

10

Ques. The sum of both at other times?

Ans. Yes, sir.

By Mr. Grey:

Ques. As to the seismograph test, about what time was that made?

Ans. That started, as I remember, at five minutes after four, May 31st.

20

Ques. Which test was made first?

Ans. The telescope test.

Ques. When did that start?

Ans. Well, that was probably about three o'clock.

Ques. In the afternoon?

Ans. Yes.

Ques. On the 31st of May?

Ans. Yes. It may have been half-past three.

Ques. Now, as to the seismograph test, was that in this same room?

30

Ans. Yes, sir.

Ques. All the tests were made in the same room at 121 Market?

Ans. Yes, sir; all the tests I am testifying to.

Ques. What is there between the windows on the west of this room and the east wall of Mr. Seligman's house, such as you could observe from the window?

Ans. There was nothing between them, from the room in Mrs. Prettyman's house that we occupied; there was no construction between them and Mr. Seligman's house; but looking, as I did, with the telescope towards that north end of the east wall of Mr. Seligman's house, I had too look over the roof of the intervening property.

Ques. Which was what—a one story building?

Ans. One story, as I remember it.

10 Ques. How long did the tests with the seismograph take place, while you were present, commencing at 4.05?

Ans. I think we took five minute records twice.

Ques. Do you mean that it took five minutes for the paper to pass under the pencil as the clockwork was put in operation?

Ans. Yes.

Ques. And how many times while you were there was the paper passed in that manner?

Ans. Two records.

Ques. And were the two records one in each direction?

20 Ans. Yes.

Ques. Have you those pieces of paper so passed?

Ans. Well, Dr. Hart has those.

Ques. (Paper handed the witness.) Do you recognize that paper?

Ans. I do.

Ques. What is it?

Ans. This consists of the records which were obtained at 121 Market street on May 31st, while I was present, one of which shows the north and south record, and the other an east and west record.

30

By the Vice Chancellor:

Ques. Is there anything on the paper to indicate which is which?

Ans. Yes, sir.

Ques. What?

Ans. Writing.

By Mr. Grey :

Ques. Which paper is the north and south record, or rather, which is the record taken to test north and south vibrations?

Ans. It is the lower one of the two, and is so marked.

The Vice Chancellor : It is already marked "N. & S."

Ques. That, then, is the paper marked "N. & S.," is it? **10**

Ans. Yes, it is marked "N. by S. Vibrations."

Ques. What is the other paper attached to that?

Ans. That shows the east by west vibrations, and is so marked "E. by W. Vibrations."

Ques. Can you recognize those two papers as the two which were run through the seismograph under these tests?

Ans. Yes, sir.

Mr. Grey : I offer those papers in evidence. **20**

The Vice Chancellor : Do you desire to cross-examine on them, Mr. French?

Mr. French : No, sir.

The Vice Chancellor : Any objection?

Mr. French : No, sir.

The Vice Chancellor : They may be admitted. **30**

(The two papers, attached, were thereupon marked as one exhibit, D4.)

Ques. The paper called "N. & S.," does that show the lead pencil marks of the operation of the seismograph?

Ans. It does.

Ques. What amount of vibration, if any, is indicated on that paper?

Ans. None whatever, so far as the naked eye can detect or as far as my eye can detect; but if you look at them through the microscope you can see the slightest little raggedness

Ques. Have you looked at them through the microscope?

Ans. Yes, sir; it is almost non-visible then.

10 Ques. What would you say was the amount of variation between the two lead pencil lines of the north by south paper?

Ans. I should say about five ten-thousandths of one inch.

Ques. Of those two lead pencil lines, one is the line marked by the pencil which is stationery in the apparatus, is it not?

Ans. Yes, sir.

Ques. And the other is the line marked by the pencil subject to vibration, is it?

20

Ans. Yes, sir.

Ques. Which is which, on the paper marked "N. & S."?

Ans. The light line on the diagram marked "N. & S. Vibrations," is stationary with reference to the paper, and is so marked on this diagram.

Ques. And the other line?

Ans. Is movable with reference to the paper, and is so marked; and that is true for both diagrams.

30

By the Vice Chancellor:

Ques. I do not understand what you mean by "stationary," with respect to the paper; just explain that to me?

Ans. Well, if when this piece of paper, this original piece of paper, is being moved by clockwork over that mechanism driven by clockwork, you should have a pen-

cil point come down and trace a line, that pencil point would move with the original paper and with this apparatus, and would be a straight line.

Ques. Why would it if it came toward this iron mass and the iron mass vibrated?

Ans. It is not that; that is another pencil.

Ques. What is that attached to?

Ans. That is attached to the mechanism that drives the moving paper.

Ques. It is on a carrier?

10

Ans. Well, it is a little arm that comes over.

Ques. Well, call it what you please, that is stationery at all times?

Ans. With reference to the paper.

Ques. Well, why would not vibrations which were severe enough to move the mass of metal be severe enough to move the clockwork apparatus and disturb the movements of the pencil?

Ans. Because the clockwork apparatus is a frame work solidly and firmly bolted and fitted together and rigidly fastened together, so that its pencil moves within it, and hence it moves with the paper on it, on the clockwork apparatus, and with reference to each other there is no motion.

20

Ques. Well, is not the clockwork apparatus in some way or other fastened to the legs that hold up the tripod?

Ans. Oh, no; that is not fastened to it in any manner whatever.

Ques. What supports the clockwork apparatus?

Ans. Why, the frame work that holds it, and all, rests on the floor, independently of the tripod.

30

Ques. Now, if the floor was violently agitated why would not the clockwork apparatus and the pencil that was attached to it agitate itself?

Ans. It does, but it all moves as one, just the same as if I walked from here to that door I am moving and everything in my pocket is moving, but my pocket knife, with reference to my body, is not changing.

By Mr. Grey:

Ques. As to the other paper on which the test is indicated, east and west, point out which of the lines is the one disclosing the vibration?

Ans. The upper line.

Ques. How much vibration does that line disclose as taking place when the test was taken?

Ans. None, so far as the naked eye can detect.

10 Ques. Did you examine that under the microscope?

Ans. I did.

Ques. Do the lines on the paper marked "E. & W." disclose the vibrations in an easterly and westwardly direction?

Ans. They do.

Ques. How do you ascertain the amount of the vibrations by examining and relating those two lines to each other?

20 Ans. Why, if the lines approach each other and then recede from each other that would show a vibration. If they are parallel with each other there would be no vibration.

Ques. How much vibration, by actual measurement or ascertainment, is disclosed by the two lines on the paper "E. x W."?

Ans. About in the neighborhood of five ten-thousandths of an inch—I mean five one-thousandths of an inch, and when I said about five minutes ago "five ten-thousandths" I meant "five one-thousandths."

30 Ques. "Five one-thousandths" each time?

Ans. "Five one-thousandths" each time.

Ques. Could such a vibration as that be observable by ordinary physical means?

The Vice Chancellor: Sensation, do you mean?

Mr. Grey: Yes, sensation.

Ans. No, sir.

Ques. By feeling or sight?

Ans. No, no. I endeavored at the same time these records were being taken, and before that, in that room, to ascertain the physical evidence by my body whether or not there were vibrations, and in order to do that I adopted two methods; one was to throw my legs rigid, when, if there were any appreciable vibrations, the sensation would be transmitted to me very much after the nature of sound being transmitted to a person if he holds a metal spoon between his teeth; and I detected nothing in that way. Another good way is to sit down on the floor.

10

Ques. Well, what did you do?

Ans. I did both, and could not determine any vibrations by either of those methods, although I have often followed those methods elsewhere and determined vibrations, in mills and office buildings.

By the Vice Chancellor:

20

Ques. Did you calculate the amount of vibration as indicated by the record N. x S.—you have been asked only with respect to the E. x W.

Ans. I said it was about five one-thousandths of one inch, as nearly as anyone could get it by looking at it.

Ques. Was there practically about the same amount of vibration in each direction?

Ans. The vibrations may have been different, but as far as these records disclose they were the same.

30

By Mr. Grey:

Ques. If they had been different would not the test show it?

Ans. Yes, but if the difference were, as it were, infinitesimal, they could not measure it.

Ques. You don't know whether there was any difference whatever, then, if it was so infinitesimal you could not measure it, do you?

Ans. I do not think there was any difference while these records were being taken.

By the Vice Chancellor:

10 Ques. Are these various notations on this Exhibit D4 in your handwriting?

Ans. Yes, sir; all except the signatures of the other members, or the others who were present.

Ques. Take the one that is labelled "N. x S.," what does "4.07 P. M." mean?

Ans. It means the time of day.

Ques. And all the other figures of a similar kind mean the time of day?

Ans. Yes, sir.

20 By Mr. Grey:

Ques. Mr. Witham, did you ever go in the premises 117 Market street?

Ans. Yes, sir; about probably eight or ten times.

Ques. What did you do there?

30 Ans. Bought cigars; and the last three times that I was there I endeavored to see if there were any vibrations, so far as the front room would disclose, and without any apparatus. I, while standing there, made my legs rigid, with an effort to detect, if possible, any vibrations, and did not notice any whatever.

Ques. Was there any difference in the way you were affected, as to vibrations or absence of vibrations, between what you observed in Mr. Seligman's front room and the room where these tests were taken?

Ans. No, sir.

Ques. When were you in Mr. Seligman's?

Ans. I was there on May 31st of this year.

Ques. What time of day were you there then?

Ans. I was there about two o'clock, I think.

Ques. Two o'clock in the afternoon?

Ans. About two o'clock in the afternoon. I was there twice also in the month, earlier.

Ques. At what time of day?

Ans. I think in the afternoon, in each instance.

Ques. How late in the afternoon, or early, approximately?

Ans. About two or three o'clock. 10

Ques. Do you know anything about how the chimney of the power plant was intended to be constructed before it was put up?

Ans. Yes, sir.

Ques. How was that?

Ans. It was intended to be a slip expansion joint between the chimney and the building—that is, the two were not to be bonded together, and a recess was to be left in the vertical side of the chimney, into which, loosely, would fit the end of a brick from the building proper, and without touching it, so that it would cut off the air from circulating through, but would permit freedom of vertical expansion between the two. 20

Ques. Mr. Witham, I think you said you were in the Victor power plant on the afternoon of May 31st?

Ans. Yes, sir.

Ques. Was it immediately before or after the observation of the tests?

Ans. It was before.

Ques. How long before? 30

Ans. About two hours, or an hour and a half.

Ques. And was the plant then operating?

Ans. It was.

Ques. Was there any comparison between watches, between you and any other person?

Ans. Yes, sir.

Ques. About the time of the making of the tests?

Ans. Yes, sir.

Ques. Describe what occurred as to that?

Ans. We set our watches together—that is, Dr. Hart, Mr. Wood, Mr. Wood's brother and Mr. Linfoot and I set our watches together.

Ques. Who is Mr. Linfoot?

Ans. Mr. Linfoot is an assistant to Mr. A. C. Wood, as is also his brother.

Ques. What did Mr. Linfoot have to do with this matter?

10 Ans. He was stationed in the engine room, marked "X" in Exhibit D1, to record the revolutions of the engines and compressor and the current sent out or work done by the engines at every fifteen minutes throughout the times of all observations taken by Dr. Hart, Mr. Wood and myself, or any of us, with instructions not to leave the room for a moment for any purpose whatever.

Ques. What do you mean by "comparing watches"—were they all set alike?

20 Ans. They were all set to agree with one watch.

Cross-examination.

By Mr. French:

Ques. Mr. Witham, if you sat on a chair, balanced yourself on a chair, and felt vibrations, what would that indicate to you?

Ans. It would indicate vibrations.

30 Ques. Well, from what source—would it be from the earth, or from the walls, or the pulsation of the wind, or what?

Ans. By the building.

Ques. It would be in the building?

Ans. In the building.

Ques. And if you lay in bed and felt vibrations, would the indications be the same?

Ans. Yes.

Ques. The seismograph, what does that register?

Ans. Vibrations.

Ques. Of what?

Ans. Of the object whose vibration is being ascertained; it may be the earth, it may be a building.

Ques. That is, if it is placed on the floor of a building, what does it register?

Ans. It registers the vibrations of the floor of the building.

Ques. Of the floor of that particular building?

10

Ans. Yes.

Ques. And don't have anything to do with the vibration of the earth under the building?

Ans. No, it don't register the vibrations of the earth then.

Ques. And it only registers the vibration of the particular floor upon which it is placed?

Ans. That is right.

By the Vice Chancellor:

20

Ques. What difference would there be between the amount of vibration of a wall of a building and of a floor in the same building?

Ans. The floor is a great deal more sensitive and would record more vibrations. I mean it would be more sensitive in indicating vibrations.

By Mr. French:

Ques. And then, would the extent of the vibration depend somewhat upon the character of the building and the way it was constructed—the building in which the tests were being made—and the solidity of the walls?

30

Ans. Do you mean the number of the vibrations, or the magnitude of the vibrations?

Ques. The magnitude of the vibrations, or their number?

Ans. Yes; I think so.

By the Vice Chancellor:

Ques. You think it would depend on the character of the building?

Ans. Yes, sir—that is, the amplitude of the vibrations, but not the frequency.

10 By Mr. French:

Ques. Did you have any record of the frequency of these vibrations?

Ans. Only as disclosed by these records.

Ques. And what did the record disclose as to their frequency?

20 Ans. Well, that is very hard to tell, because the lines are so continuous and parallel that only with a glass can you detect any difference whatever, and then only just a hint of a difference.

By the Vice Chancellor:

Ques. There was a very marked difference in your record between your telescopic test and your seismographic test?

Ans. Yes; it was something less than the diameter of the spider web.

30 By Mr. French:

Ques. I also understood you took a test with a beam of light?

Ans. Yes.

Ques. Were you present when that was done?

Ans. I was present when one test was made, and they continued the test after I left, and made a number of them.

Ques. Do you know the result of them?

Ans. Yes; it was about the same as the figure I gave a moment ago; it harmonized and agreed with that.

Ques. With the seismograph?

Ans. Yes.

Ques. It was connected with the seismograph?

Ans. Yes. It was something between one one-thousandth of an inch and a ten one-thousandths of an inch—something between those two.

Ques. Ten one thousandths and one one-thousandth? 10

Ans. Yes; in the neighborhood of five one-thousandths of an inch; in the neighborhood of that, as I remember the figure.

By the Vice Chancellor:

Ques. You said the result of the telescopic test was to find a vibration that you approximated at one one-hundredth of an inch?

Ans. Yes, sir.

Ques. And according to your reading of the seismographic records the vibration approximated five one-thousandths of an inch? 20

Ans. Yes. That is still smaller.

Ques. There was **more vibration**, in other words, on the wall by the telescopic test than there was by the seismographic test?

Ans. I don't think so. I don't think there was as much, for this reason—when I sighted my telescope at a spot on that wall over there, suppose that the wall is perfectly at rest and my instrument is perfectly at rest, I get a certain line. Now, let that wall commence to vibrate, and that line is changing and you get an angle and a proportion of triangles; so that the record would be greater with the telescope than it actually was, and it would have to be reduced in the proportion of two triangles to each; I made no such reduction, to that extent. 30

Ques. What I called your attention to was that according to your testimony the telescopic test showed a vibration approximately of one one-thousandth of an inch, which is certainly a different result than five one-thousandths of an inch shown by your seismographic test, and which is certainly a greater vibration.

10 Ans. When I testified about that telescope I did not intend to convey to your Honor's mind an actual measurement of the amount of vibration; I said that the difference of motion was less than the diameter of the spider web constituting that cross-wire; and then, when still further questioned, I gave the diameter of the cross-wire as, I thought, something less than the one one-hundredth of an inch; and then, still further, I said I thought it was
20 about one-half of that diameter. But if you want to reduce it down to what was the actual vibration, then you have to strike two proportional triangles, one of which is the distance from my eye to that wall, which is something like thirty feet, and the other is the distance from my eye to the cross-wire in the instrument, which is only
20 about three inches; so that actual distance which was indicated by the telescope on the wall would have to be reduced in the ratio of those two triangle; but I attempted to make no such reduction.

Ques. And you cannot say, off-hand, how that would compare with the seismographic test?

Ans. No; I think it would be less; I think it would be considerably less.

By Mr. French:

30

Ques. Now, the beam of light vibration is five one-thousandths of an inch—would that indicate the vibration of the floor or the wall?

Ans. The floor.

Ques. And the seismograph indicated a similar vibration?

Ans. Yes.

Ques. These dynamos or generators on the second floor of X move at a different number of revolutions per minute, do they?

Ans. Yes, sir.

Ques. In fact, when they are running?

Ans. Yes. They were never intended to run at the same speed.

Ques. And the difference is about, as I understand you to say, that one runs from 195 to 200 revolutions per minute, and the other is constant at 210?

10

Ans. About 210.

Ques. While those engines and generators and the compressor are running with a full load, is there any perceptible noise or vibration coming from them?

Ans. Why, only such as is incident to all instruments of that class.

Ques. Now, what vibration or noise is incident to all engines and dynamos of that class?

Ans. The dynamo itself has an armature that is revolving, and necessarily that armature must be kept cold or else it will very quickly short-circuit and burn out, hence it must be ventilated, and as it rotates air passes through between the portions of the fields of the dynamo, and, as it passes through, it makes a noise like a fan for exhausting the air in this room, or for circulating the air in this room. I have seen twelve-inch desk fans make more noise than either one of those engines does.

20

Ques. And will you describe the armature so I can understand it? I know nothing about this?

Ans. The armature is an enlargement on the shaft in the dynamo proper, which is fastened to the shaft and turns with the shaft, and from which the current is drawn off.

30

Ques. Now, is that armature a large piece of steel forged on the shaft, or bolted on the shaft?

Ans. No; it consists of strips of metal separated by strips of an insulating material.

Ques. Strips of copper?

Ans. Yes.

Ques. And how long are these strips on the shaft?

Ans. I think, for the larger machine, they would be about twenty-seven to thirty inches.

Ques. Each side of the centre of the shaft, do you mean?

Ans. Along the shaft—the total length along the shaft.

Ques. They run along the shaft, do they?

10 Ans. Yes, sir.

Ques. And how thick are they?

Ans. About one-eighth of an inch.

Ques. How many of them are there to make the diameter?

Ans. Oh, probably 100.

Ques. And then they revolve with the shaft?

Ans. Yes.

Ques. And separated by insulating material?

Ans. Yes, sir.

20 Ques. And do they touch anything?

Ans. Only touch the insulator.

By the Vice Chancellor:

Ques. Is that what you call the “field”?

Ans. No; the field is the stationary part in the interior of which this armature rotates.

By Mr. French:

Ques. What creates the current?

30 Ans. The engine—the power of the engine is changed into electricity by the rotation of this armature in the fields of the generator.

Ques. What is there in the field which takes up the current?

Ans. Nothing; the current is led off from the armature through cables to the switchboard, and then consumed.

By the Vice Chancellor:

Ques. The current is in the field and from that goes into the armature?

Ans. Yes. The current is a reduced current.

Ques. The armature is negative and the field positive?

Ans. You may call it that; yes.

Ques. The armature is negative and the field positive?

Ans. Yes.

Ques. And the two together make the electricity, which is gathered up into the armature and carried off into the factory—that is a layman's explanation? 10

Ans. Yes; that conveys the thought very well.

By Mr. French:

Ques. How large is this thing that is revolving?

Ans. This armature, I think is—the largest one—about sixteen or seventeen inches in diameter.

Ques. And twenty-seven inches long?

Ans. Yes. 20

Ques. And does that disturb the air to any extent?

Ans. Not a great deal, but that and the fly-wheel and the whole moving engine forces a circulation of air through the fields of the armature.

Ques. And what are the fly-wheels?

Ans. There is a fly-wheel and balance wheel.

Ques. Two of them; one to each engine?

Ans. One to each engine.

Ques. Do they cause quite a disturbance of the atmosphere? 30

Ans. They cause some disturbance.

Ques. Would the disturbance of the atmosphere in that room be communicated to the atmosphere outside, if the windows were open?

Ans. No more than if you had an engine in this room rotating, doing work, it would necessarily move all the

air to a certain extent, in this room, and if the windows were open—

Ques. It would move the air outside?

Ans. Certainly, to an infinitesimal extent.

Ques. So the agitation outside would depend on whether the windows were open or closed, to an extent?

Ans. Yes; to a very small extent.

Ques. Did you ever know engines or dynamos to cause vibrations in the atmosphere or in buildings or the earth?

10 I mean the operation of them?

Ans. Oh, yes; often.

Ques. What is it that causes it?

Ans. Why, the movement of the machine itself, and its various parts.

Ques. Well, does it depend upon the character of the construction of the machine, or the way it is constructed, or the operation of it, or the method of operation?

Ans. Yes.

Ques. On what does it depend?

20 Ans. It depends on the manner in which it is placed and the manner in which it is balanced; but however properly placed and perfectly balanced, there will always be some vibration with any machine of any kind whatever that has moving parts.

Ques. Then there is something in the balancing of an engine?

Ans. Yes.

Ques. And is there anything in the way they are constructed, so far as their base is concerned?

Ans. Do you mean the foundation?

30 Ques. Yes.

Ans. Well, if they are constructed on mushy foundation they will rattle themselves down into the mud. If they are constructed on rock they are going to stay there.

Ques. Well, would it make any difference, as to vibration, whether they were up in the second story of a building or on concrete foundation on the ground?

Ans. The amount of the vibration would be the same, but the effect of the vibration might be different.

Ques. Will you tell me what you mean by that?

Ans. I mean the amount of vibration is a function of the speed of the engine; now, that might be so remote from a building that it could not be possible to be felt, no matter if it is excessive or not; whereas, it might be, on the other hand, in a building, and be felt even if it was very small.

10

By the Vice Chancellor :

Ques. As to its communicability to the adjacent property, does it make any difference whether these machines of which you have been speaking are put on the first floor on concrete foundations, or whether they are put on the second or third, or some higher floor?

Ans. Well, I don't know; the vibrations are transmitted through the earth—that is, if you are speaking of vibrations felt fifty feet away.

20

Ques. Communicability, I said.

Ans. They are communicated through the earth. Now, if you have got an engine on a foundation dug into the earth, you certainly have got a less distance for those vibrations to travel to get to an object fifty feet away than if the vibrations have to go down the side walls of a building and go into the foundations of the building and then be transmitted fifty feet through the earth.

Ques. Is that your scientific opinion, or is that your off-hand opinion about it?

30

Ans. Well, that would be my judgment; I never thought much about just that question.

By Mr. French :

Ques. I think you said the speed of the armature was the revolution of the engine?

Ans. Yes.

Ques. I did not exactly understand, when you described how these cylinders revolve, whether the cylinders went east and west, or north and south?

Ans. The axis of the cylinder lies north and south, and the axis of the shaft lies east and west.

Ques. That is, the shaft lengthwise is east and west?

Ans. Yes.

Ques. And it is revolving north and south?

Ans. Yes; the thing that is on the shaft.

10 Ques. The armature is revolving toward the north or south, whichever way it is running?

Ans. Yes.

Ques. So the revolution is north and south?

Ans. Yes.

Ques. That is, so far as the generator goes?

Ans. Yes.

Ques. Now, what about the engine, the piston of the engine, or whatever the steam drives?

20 Ans. The piston of the engine moves in a straight line, a horizontal straight line, north and south.

Ques. The same way that the other revolves?

Ans. Yes.

Ques. If there were pulsations of the atmosphere, caused by the operation of any machinery, would this seismograph show it?

Ans. Not unless the effect of the pulsations was to cause a building or the earth to vibrate, and then it would show it.

30

DR. JOSEPH H. HART, SWORN.

By Mr. Grey:

Ques. What is your business, Dr. Hart?

Ans. I am a teacher in the University of Pennsylvania, and am also known as a consulting physicist.

Ques. What do you teach in the University of Pennsylvania?

Ans. Physics, and mechanical engineering.

Ques. How long have you been such an instructor?

Ans. Four years.

Ques. What did you do before that four years?

Ans. I was at the University of Chicago.

Ques. What did you do there?

Ans. I also taught for a while, and studied.

Ques. What practical experience have you had as a physicist or mechanical engineer? **10**

Ans. My title as consulting physicist means that I am able to do anything in the engineering line that an engineer is not supposed to do. I have had about three or four years practical experience in Chicago, Philadelphia and New York.

By the Vice Chancellor:

Ques. A sort of "supplier of deficiencies," are you?

Ans. Yes, sir.

20

By Mr. Grey:

Ques. Doing what—your practical experience, I mean?

Ans. Well, I did not mention this last year's work. I determined the specific and latent heat of ice cream for the Buffalo Refrigerating Machine Company; I constructed a rotary compressor for the Philadelphia Engineering Works; I got out a new formula for the A. B. Freeman Stained Glass Lamp Shade Company; I prepared a solution for the Toledo Automobile Company, for cooling cylinders. That, I think, represents the general type of my work. **30**

By the Vice Chancellor:

Ques. Does your profession require you to be learned, also, in that in which other engineers are required to be learned?

Ans. Yes, sir. I am a refrigerating engineer, and a members of the American Refrigerating Society, and am a practical mechanical engineer.

By Mr. Grey:

Ques. Have you conducted tests to ascertain vibrations of buildings?

10 Ans. I assisted Dr. Robert S. Ehrhart, of the University of Chicago, in a test in Chicago in a damage suit; I think it was the Union Trust Company vs. the Chicago Street Railway Co., in regard to the vibration of their high building.

By the Vice Chancellor:

Ques. The high building of the Trust Company, you mean?

Ans. Yes.

20 By Mr. Grey:

Ques. Any other test of that character?

Ans. That is the only vibration test I have had.

Ques. Did you conduct any tests in relation to the possible vibrations affecting the buildings in this neighborhood?

Ans. I did.

Ques. What buildings?

30 Ans. I made tests in the Prettyman house at 121 Market street; also in the Lambert & Todd Machine Shop on Front street, between Market and Cooper; and also in the power plant of the Victor Company in the exhibit marked "X."

Ques. Please look at Exhibit D1. You have been in the plant, then, of the Victor Talking Machine Company?

Ans. I have.

Ques. Do you know where the power house is located, approximately, relating to the rest of the plant?

Ans. I do.

Ques. Look at the little block marked "X" on that Exhibit D1; can you say whether or not that approximately locates the power house?

Ans. I can.

Ques. Does it?

Ans. It does.

Ques. Do you know the premises, 117 Market street? **10**

Ans. I do.

Ques. Do you recognize it as located anywhere on that map?

Ans. I do.

Ques. You referred to the workshop, or some shop of Lambert & Todd—what is that, and where is it?

Ans. It is a general machine shop.

Ques. Of what is it constructed?

Ans. I believe it is a combination brick and frame two story building.

Ques. Where is it? **20**

Ans. It is on the east side of Front street, about half way between Market and Cooper.

Ques. About where is it in relation to 117 Market street?

Ans. It is between northwest and north.

By the Vice Chancellor:

Ques. Look at Exhibit D3; can you tell about where the Lambert & Todd place is? **30**

Ans. (The witness designated a spot on the plan.)

Ques. The thing marked "Machine Shop" in the back of the Carriage Works?

Ans. I believe it is.

Ques. Referring to Exhibit D3, do you recognize the premises No. 117?

Ans. I do.

Ques. And how is that marked on that exhibit?

Ans. In pink.

Ques. Who accompanied you in making these tests?

Ans. Mr. Witham and Mr. C. A. Wood and two assistants, Mr. Walter Wood and Mr. Linfoot, were present on the afternoon of May 31st. Mr. Witham was not present during the night of May 31st, and morning of June 1st.

10 Ques. Referring to the tests taken at 121 Market street, you heard Mr. Witham's testimony?

Ans. I did.

Ques. And you were present in the room where he describes that test as taking place with the seismograph?

Ans. I was.

Ques. What other tests, if any, did you take there?

Ans. We made, in all, tests with four different instruments—that is, we attempted the seismograph test; we believed that it was not quite delicate enough to measure accurately; the records were approximately straight lines; we could detect a slight variation with the microscope, but a small inequality in the paper or in the pencil point was sufficient to distort this; so that we believed a more accurate observation was necessary. We used a smoked paper chronograph as a recorder on the second test, and the lines are much more accurate and more clearly defined and more appreciable to the microscope than they are on the seismograph record. Then we used a device which is one of the most delicate in physical science, known as the “optical mirror method.”

20

30

Ques. Just a moment—did you have anything to do with the telescope test?

Ans. I observed, after Mr. Witham, the vibration of the wall of Mr. Seligman's house. I then turned it on a portion of the wall, as near as I could estimate, of the house in which we were. The vibration in both seemed approximately the same.

Ques. Well, as to the testing by training the telescope on Mr. Seligman's wall, was the telescope placed as Mr. Witham described?

Ans. Yes.

Ques. When you took your observation through it?

Ans. It was.

Ques. And at what point on the wall did you direct the telescope?

Ans. The third floor.

Ques. I mean now, the Seligman wall?

Ans. Yes, the third floor, the rear end of the front half of the building—approximately the northwest corner of this one-half. 10

Ques. Do you mean the northeast or the northwest?

Ans. The northeast—pardon me.

Ques. What did you observe when you looked through that telescope?

Ans. There was a slight movement between the cross wires of the telescope and a line formed by the mortar in the bricks.

Ques. What did it amount to? 20

Ans. It amounted to a small fraction of the cross wires of the telescope.

Ques. Did you reduce, or do anything to bring that difference, whatever it was, into the proportions of any measurement like fractions of an inch?

Ans. I hardly thought it was necessary.

Ques. You did not, then?

Ans. I did not.

Ques. What, in your opinion, was the difference in the vibrations between the telescope and that point on the wall? 30

Ans. I mentioned to Mr. Witham at the time—

Ques. No, not what you mentioned to Mr. Witham. (Question repeated.)

Ans. Considerably less than one one-hundredth of an inch.

Ques. You mean by that a less fraction than one one-hundredth of an inch?

Ans. Yes.

Ques. What time of day did you take this telescopic test?

10 Ans. We started in at 3 P. M. on the afternoon of May 31st. We took observations with the plant in operation, in the Prettyman house. We then took observations from 7 to 9.30 in the Prettyman house with the Victor plant in operation and most of the other plants in the vicinity shut down. We then went to the Lambert & Todd machine shop and took observations from 9.30 until 11.

By the Vice Chancellor:

Ques. At night?

20 Ans. At night—with the Victor plant only in operation, as far as we could judge. We then returned, some time after 11, to the Prettyman house and took observations there until after 2 A. M. in the morning, June 1st. The Victor plant shut down at four o'clock.

By Mr. Grey:

Ques. What date?

30 Ans. June 1st, 1906. A few minutes before 5, while the plant was shut down, we took further observations in order to detect what vibrations, if any, existed, when all plants in the vicinity were shut down. And we then took observations after 7 in the morning, in the Prettyman house, with the Victor plant in operation again; and about 8.30 to 9 we went over to the power plant itself and took observations there until after 11.

By the Vice Chancellor:

Ques. 11 in the morning?

Ans. 11 in the morning of June 1st.

By Mr. Grey:

Ques. Did you take the telescopic test at three o'clock in the afternoon of May 31st?

Ans. We did.

Ques. What test did you next take up, in point of time?

Ans. We took the seismograph test. 10

Ques. At what time?

Ans. At 4.05.

Ques. After the seismograph test what did you next take up, in point of time?

Ans. We submitted the chronograph with the smoked paper in place of this white paper recording device, in order to get more delicate results, about five.

Ques. The tests which you took up about five, which you refer to, were with the seismograph?

Ans. With the seismograph. 20

Ques. But with different kind of paper?

Ans. Yes, sir.

Ques. Who was there when that test was taken?

Ans. Mr. A. C. Wood.

Ques. That was also in the room referred to in the Prettyman house?

Ans. It was.

Ques. Will you describe the test with this paper, when it began and how long it continued?

Ans. The test commenced about five; it extended 30 for about thirty to forty seconds, each test.

Ques. How many tests were taken?

Ans. Two—a north and south vibration, and an east and west vibration, in the same spot.

Ques. And was the seismograph operated with this paper in the same manner testified to by Mr. Witham?

Ans. Yes.

Ques. Have you a paper which was so run through the seismograph, or so operated in it?

Ans. I have.

Ques. Produce it, please.

Ans. (Witness produces two rolls or spools of black paper.)

Ques. What is that paper?

10 Ans. The paper is ordinary white paper, over which burning camphor has been smoked in order to produce a thin film of lampblack. This was then run through the ordinary recording instrument for moving it at a uniform rate of speed. There were three pointers in contact with the lampblack.

Ques. Are you now describing the three pointers in contact with the lampblack in the seismograph during this test?

Ans. Yes.

Ques. All right, proceed.

20 Ans. One pointer was attached to the fixed body in the seismograph.

Ques. When you say "fixed body" was that a body above the paper or below the paper?

Ans. Above.

Ques. And that body above the paper was suspended from the top of this tripod?

Ans. It was.

Ques. All right, proceed.

30 Ans. Another pointer which touched and left a record on this paper was attached to the moving body which was in direct contact with the floor. A third pointer was attached to a vibrating tuning fork, made to vibrate one hundred times a second, so that the frequency of these vibrations might be measured in comparison to that of the tuning fork.

Ques. Please indicate on that paper the three lines as you have described them made by these three point-

ers, so that they can be distinguished one from the other? Which have you, the east and west record, or the north and south record?

Ans. I have the north and south record.

Ques. Now, holding it so that the writing that is on it is toward your body, so you can read it, just describe which line is which? The nearest line, for instance, toward you there would be which one of the three pencils?

Ans. The lower line was made by the fixed point; and the next, about one-sixteenth of an inch from it, was made by the movable point, and the third line was made by the vibrating tuning fork. 10

Ques. Is that true with respect to the east and west ribbon, too?

Ans. I believe so.

By the Vice Chancellor:

Ques. You had better look at that, Dr. Hart, while the question is being asked you? 20

Ans. (Upon examining the east and west record.) It is.

Ques. Holding the writing toward you so you could read it in your natural position, then the lines are in the same relative position toward each other, are they?

Ans. Yes, sir.

Mr. Grey: I offer those two rolls in evidence.

(The two rolls containing the records are admitted in evidence without objection, and are marked the north and south record, Exhibit D5, and the east and west record Exhibit D6.) 30

By Mr. Grey:

Ques. Dr. Hart, what do those lines on the north and south paper indicate as to the presence or absence of vibration?

Ans. They indicate a very small vibration.

Ques. What amount is that vibration?

Ans. About one one-thousandth of inch, slightly more—a maximum of double that, and an average of one one-thousandth of an inch.

Ques. What is the purpose of the tuning fork in this apparatus?

10 Ans. The tuning fork made a wavy line, each one of which represented an interval of time, one one-hundredth of a second. By counting those up alongside of the wave made by the moving body you could get the exact time that a vibration took in the body, in the building.

Ques. Then, do those lines indicate how many vibrations there were of this character which was indicated as one one-thousandth of an inch?

Ans. It did.

Ques. During a certain period of time?

Ans. It did.

20 Ques. How many were there, for any period of time, indicated by the tuning fork?

Ans. They were approximately two hundred a minute.

Ques. Two hundred vibrations a minute?

Ans. Yes.

Ques. Is what you have just said about the roll of the north and south vibrations also true of the roll indicating the east and west vibrations?

Ans. Yes, sir.

By the Vice Chancellor:

30 Ques. The same amount of vibration east and west?

Ans. Yes, sir.

By Mr. Grey:

Ques. Is there any appreciable difference between the vibrations of the north and south roll and the east and

west roll, as indicated on the north and south and the east and west rolls? You say they were "the same,"—were they identical?

Ans. No; the east and west were slightly larger.

By the Vice Chancellor:

Ques. More vibrations east and west than there were north and south?

Ans. Yes.

10

By Mr. French:

Ques. Do you mean they were greater vibrations, or more frequent to the minute?

Ans. Greater vibrations.

By the Vice Chancellor:

Ques. Have you any knowledge, doctor, which will enable you to tell whether the direction of the force, the original impetus, has anything to do with the vibration?

20

Ans. I believe—

Ques. Answer my question first?

Ans. Yes.

Ques. You have some knowledge?

Ans. Yes.

Ques. Well, if the point from which a force comes is north of a given point, will the tests for vibrations in the given point show a greater amount of vibration north and south than it would east and west?

Ans. They would.

30

Ques. Would an initial originating force which caused vibrations in adjacent objects cause vibrations in those objects both ways, both north and south and east and west?

Ans. Not to any extent at right angles to the original vibration.

By Mr. Grey :

Ques. That is, the vibrations will be in the line of the force?

Ans. They will.

Ques. You said a moment ago that the vibrations indicated on this east and west roll, Exhibit D6, were slightly larger than the vibrations indicated on the other roll, D5—how much larger?

10 Ans. About fifty per cent. larger.

Ques. And what would that be, in proportion of an inch?

Ans. The maximum effect in a north and south direction was two one-thousandths of an inch, with an average of one one-thousandth; in a west direction there was a maximum effect of about three one-thousandths of an inch, with an average of about half of that.

Ques. What was the next test, in point of time, that you took up?

20 Ans. The optical lever test.

Ques. And about when did you take that up?

Ans. About 8.30 P. M.

Ques. Of May 31st?

Ans. May 31st.

Ques. And was that also in this same room in the Prettyman house?

Ans. It was.

Ques. Describe the apparatus used in that test?

30 Recess until Thursday, June 28, 1906, at 10 o'clock A. M.

CAMDEN, N. J., Thursday, June 28, 1906.

Hearing of the cause resumed at ten o'clock A. M.

DR. JOSEPH H. HART, recalled.

By Mr. Grey:

The question, which was unanswered at adjournment, repeated as follows:

Ques. Describe the apparatus used in that test?

Ans. The apparatus in that test consisted of a small mirror, vertical, fastened at the top to the fixed body, and at the bottom to the movable body; it also consisted of a telescope and scale for observing movements of the mirror. 10

Ques. Where did you fix the optical lever?

Ans. The optical lever was attached at two points, at the top to the fixed body, at the bottom to the movable body.

Ques. Well, but what was the fixed body in that room?

Ans. The seismograph pendulum.

Ques. What was the movable body? 20

Ans. The recording device.

Ques. Attached to what—where did it rest, this recorder?

Ans. On the floor.

Ques. To what was the scale affixed?

Ans. The scale and telescope were attached to a stand.

Ques. To what was the stand attached?

Ans. It rested on the floor.

Ques. How far apart were the scale and the optical lever? 30

Ans. In the Prettyman house, sixty-seven and one-quarter inches.

By the Vice Chancellor:

Ques. From each other?

Ans. Yes, sir.

By Mr. Grey:

Ques. In what part of the room was the optical lever attached to the floor, or rather, to the body to which it was attached

Ans. Approximately the centre.

Ques. And in what part of the room was the scale located?

Ans. The north end.

Ques. Was it near the wall?

Ans. Yes.

Ques. How does the apparatus so described indicate the vibrations, if there were any?

Ans. I can show that best by illustration.

Ques. Describe the illustration in words as you go along.

Ans. If this represents the mirror (indicating), any slight movement of the bottom means that the perpendicular of the mirror takes a different direction. The laws of reflection of a mirror are such that they are well known, and the reflection of any object in the mirror takes a different direction when the plane of the mirror is changed. By observing the direction which an object is reflected you can readily measure any change in the plane of the mirror.

Ques. You have not yet described, as I recollect it, anything about any light or reflection in the mirror, or device for making a reflection in the mirror.

Ans. The device for obtaining a reflection in the mirror was a scale—a scale approximately three feet long and divided into centimetres and millimetres (a centimetre being two-fifths of an inch, roughly, and a millimetre one twenty-fifth of an inch), was fixed vertically on that stand; by looking through the telescope one could see the reflection of the scale.

Ques. Where was the telescope?

Ans. The telescope was immediately over the scale. By looking through the telescope one could see the marks on the scale in the telescope reflected from the surface of the mirror. The cross wires in the telescope was a fixed point; any movement of the mirror resulted in a movement of the reflection, which caused a movement of the scale with respect to the cross wires. The cross wires were used as a fiducial point, and any movement could be measured on this scale.

10

By the Vice Chancellor:

Ques. What did the scale consist of; what was it made of?

Ans. Wood.

Ques. And on that was marked these squares of certain dimensions—is that correct?

Ans. No, a single roll, divided into centimetres and millimetres, approximately one hundred centimetres long.

20

Ques. Where was that placed with reference to the telescope and the instrument that held the mirror?

Ans. This would represent the mirror (illustrating); the lower motion would cause an oscillation. This (indicating) would represent the scale, up and down; the telescope was there, pointing at the mirror; by looking through the telescope one could see the reflection of the scale.

Ques. Then the scale and the telescope were at the north end of the room?

30

Ans. They were.

Ques. And you looked through the telescope, over the scale, at the mirror, and saw the reflection in the mirror of what was on the scale?

Ans. I did.

Ques. Then as the mirror oscillated, if it did oscillate, what you saw would change in the telescope?

Ans. It would.

Ques. So you would see something different from what you saw before it oscillated—is that correct?

Ans. It is.

By Mr. Grey:

Ques. What did you observe in making that test with the scale?

10 Ans. The cross wires apparently moved on the scale an average of one millimetre, or one twenty-fifth of an inch, with a maximum of two millimetres, or two twenty-fifths of an inch.

Ques. And what would that mean in actual movement of the movable point to which the lower part of the mirror was attached?

Ans. It meant that the movable body moved an average distance of thirty-five one-hundred-thousandths of an inch.

20 By the Vice Chancellor:

Ques. That is to say, there was that much vibration?

Ans. There was, at 8.30 at night.

Ques. When the lower part of this mirror was attached to what has heretofore been referred to as the "clockwork arrangement" which ordinarily rotates the paper, that clockwork arrangement did not continue in motion, did it?

Ans. It did not.

30 Ques. So why do you speak of that, then, as a "movable body"?

Ans. It is free to move with any movement of the floor.

Ques. Oh, but it had no inherent movement of its own?

Ans. It had not.

By Mr. Grey:

Ques. Was there anything further as to that test, doctor, that you observed?

Ans. Nothing—oh, pardon me—the effect of the trolleys was quite perceptible.

By the Vice Chancellor:

Ques. Well, in what way; what did it do?

Ans. It increased the vibration to about double the effect. 10

By Mr. Grey:

Ques. Did you keep any record of that test, Dr. Hart?

Ans. Merely personal notes.

Ques. What was the next test you took up?

Ans. We went to the Lambert & Todd machine shop.

Ques. What did you do at the Lambert & Todd place? 20

Ans. We set up the seismograph apparatus and obtained two records, one north and south and one east and west, in the northern part of the Lambert & Todd machine shop, second floor.

Ques. About how near, or far, was that from the power plant marked X on the Exhibit D1?

Ans. About 8 to 10 feet.

By the Vice Chancellor:

30

Ques. From the south wall of the power house?

Ans. From the south wall.

Ques. That is the nearest point to the power plant that the machine was?

Ans. It is.

Ques. Or, rather, the machine was 8 feet from the nearest point of the power plant?

Ans. It was.

By Mr. Grey:

Ques. Who was present at that test?

Ans. Mr. Wood and myself.

Ques. And what observations were made there?

10 Ans. Two records, on white paper, were obtained with the seismograph recorder.

Ques. Were they run off in the same manner as you have already described the seismograph as operated in the Prettyman house?

Ans. They were.

Ques. Have you those records?

Ans. I have.

Ques. Produce them, please.

20 (Witness produces a paper.)

Ques. What is the paper you produce?

Ans. The records obtained in the Lambert & Todd machine shop on the night of May 31st.

Ques. You produce a roll of paper, do you not?

Ans. I do.

Ques. And on that are attached two strips of paper?

Ans. They are.

Ques. Distinguish those slips of paper backed on that roll?

30 Ans. One of them is marked east and west, which distinguishes that, and the other is not marked, but is the north and south record.

Ques. Will you put on the one that is not marked "N. & S.," please, to show that that is the north and south record?

(Witness complies, by putting on the paper indicated the letters N. x S. in ink.)

Ques. What is there on the N. x. S. record?

Ans. Two traces in lead pencil.

Ques. And what are those tracings?

Ans. One tracing represents the mark left by the pencil attached to the moving body.

Ques. Which tracing is that?

Ans. The one furthest away from "N. x S."

10

Ques. And what is the other tracing?

Ans. The other is the mark left by the pencil attached to the fixed body.

Ques. Now, referring to the record "E. x. W.," what is that record on it?

Ans. That record also has two lead pencil tracings.

Ques. And are they of the same character as in the other record?

Ans. They are.

Ques. Distinguish them—which was by the pencil attached to the movable body, and which by the pencil attached to the stationary body?

20

Ans. They are not distinguished on the paper, but they bear the same relative position as on the other.

Ques. Can you tell which was the one made by the movable point, and which was the one made by the stationary point?

Ans. Not from the paper itself.

Mr. Grey: I offer those two records in evidence.

30

(The two records attached to the paper are admitted without objection and the paper is marked Exhibit D7.)

By the Vice Chancellor:

Ques. What do these figures, such as 10.46, 10.47 and 10.48 mean?

Ans. The exact time that the record passed the point.

By Mr. Grey:

Ques. Dr. Hart, what was the result, in figures, of the test exhibited on this record, Exhibit 7?

Ans. I did not measure that accurately.

Ques. What is the result, approximately?

Ans. Somewhat larger.

10 Ques. Larger than what?

Ans. Than in the Prettyman house.

Ques. And how much larger?

Ans. Possibly twice as large.

Ques. Can you distinguish, by examination of the lines with the naked eye, any indication of vibration?

Ans. I can detect variations in the width of the line.

Ques. That means that there is some vibration, does it?

Ans. That there is some motion; yes.

Ques. And what would you say that amounted to in figures, if you can fix it or approximate it?

20 Ans. A maximum of three times that in the Prettyman house.

Ques. That would be how much?

Ans. An average less than four one-thousandths of an inch.

Ques. The seismograph instrument would record vibrations in directions between north and south and east and west, would it not?

Ans. It would.

30 By the Vice Chancellor:

Ques. Not at the same time, however, would it?

Ans. It would record north and south vibrations when set in that position, and a component of any other vibration which was not absolutely east and west.

By Mr. Grey:

Ques. And the same is true when you reverse the seismograph and put it so as to test the east and west vibrations?

Ans. It is.

Ques. Will you describe the room in which the test was taken in the Lambert & Todd factory?

Ans. The room was the second story of the machine shop. It was filled with machinery of a general nature 10
for machine work.

By the Vice Chancellor:

Ques. Was that in operation?

Ans. It was not. It was a rather ramshackle building, somewhat in decay, the floor and the wall and windows.

By Mr. Grey:

Ques. How many rooms are there, in a general way, in this shop? 20

Ans. It consists of one first story and one second story room.

Ques. And the test was taken in the second story room?

Ans. It was.

Ques. Was any further test taken in the Lambert & Todd shop?

Ans. There was not.

Ques. What next did you do in the way of making a test? 30

Ans. We returned to the Prettyman house.

Ques. To refresh my memory, at what time did you take a further test in the Prettyman house?

Ans. We took tests in the Prettyman house from 11 P. M., May 31, to 2 A. M., June 1, 1906.

Ques. With what instruments?

Ans. With the optical lever, the majority of the time.

Ques. Well, with any other instruments at any other of the times?

Ans. No other instrument.

By the Vice Chancellor:

Ques. What, in your judgment, is the most precise test to which you resorted?

10 Ans. The optical lever.

By Mr. Grey:

Ques. And was the test taken with the optical lever between 11 and 2 taken in the same manner as you have already described it when it was taken theretofore?

Ans. It was.

Ques. Were the component parts of the apparatus put in the same locations as theretofore?

20 Ans. They were.

Ques. How many observations did you make between 11 o'clock and 2 with this optical lever apparatus?

Ans. The tests were made continuously. Mr. Wood and I sat on alternate sides of the telescope and took turns in observing the vibration.

Ques. What was the result of that series of tests between 11 and 2?

Ans. The scale appeared to move an average distance of one millimetre, with a maximum of two, the same as at 9.

30 Ques. And the actual vibrations thus indicated were then approximately the same as it was when you made the similar test at 9 o'clock?

Ans. It was.

Ques. What further tests were made? Were there any further tests made there after that time?

Ans. Between the hours of 5 and 7 tests were made in the Prettyman house.

Ques. And between 2 o'clock and 5—you are speaking of June 1st?

Ans. Yes.

Ques. Was there any test made anywhere else?

Ans. There was not.

Ques. What tests were made between 5 and 7?

Ans. The optical lever was used in the Prettyman house.

Ques. In the same location?

Ans. It was.

Ques. Was the apparatus arranged in the same way and observed from the same point? 10

Ans. It was.

Ques. What was the result of the test or the series of tests, if there were several?

Ans. The result was an average oscillation in the mirror of about one-half a millimetre, with a maximum of one millimetre.

By the Vice Chancellor:

20

Ques. Throughout the two hours?

Ans. For about one hour, from 5.30 to 6.30.

Ques. Then you did not make observations during the whole of two hours?

Ans. No, sir.

Ques. But during one hour between 5 and 7, beginning at half-past five and ending at half-past six—is that the fact?

Ans. Yes, sir.

30

By Mr. Grey:

Ques. Then the result you have indicated of one-half a millimetre was the average of a series of observations made from 5.30 until 6.30 on the morning of June 1?

Ans. That was the average appearance of the vibration.

Ques. What was the average of the actual vibration?

Ans. The actual vibration was less, was about one-half of that at 2 A. M.

By the Vice Chancellor:

Ques. About half of what it was at 2 A. M., you mean?

Ans. Yes.

By Mr. Grey:

10

Ques. Will you give us what it was?

Ans. It averaged about twenty one-hundred-thousandths of an inch. The trolley car would increase this four fold.

Ques. Why do you say the trolley car would? Do you know whether it did or not?

Ans. It did. The trolley car did increase this to four fold.

Ques. What was the next test taken?

20 Ans. One other seismograph was taken at 6.56 A. M.,
June 1.

Ques. Where?

Ans. In the Prettyman house.

Ques. In the same room?

Ans. In the same room.

Ques. And in the same way as theretofore taken by the seismograph?

Ans. In the same way.

30 Ques. With the same locations of the points of the instrument?

Ans. With the same locations.

Ques. What was the result of the test—was that one test or a series?

Ans. That was one test.

Ques. And in what direction was the machine set?

Ans. East and west.

Ques. Was it set in any other direction?

Ans. It was not.

Ques. What was the result of that test?

Ans. Apparently no motion whatever.

Ques. Was the Victor plant then running?

Ans. It was not.

Ques. Did you keep any record of that?

Ans. I did.

Ques. Have you it here?

Ans. I have.

Ques. Produce it, please.

(Witness produces a paper, being a roll on which were attached two strips of paper.) 10

Ques. What are the two strips?

Ans. One contains the record in an east and west direction, obtained in the Prettyman house with the seismograph at 6.56 A. M., June 1.

Ques. How long was that record exposed to the seismograph?

Ans. Four and a half minutes.

Ques. And was that four and a half minutes before 6.56, or beginning at 6.56? 20

Ans. Beginning at 6.56.

Ques. Then the record closed when?

Ans. 6.30 A. M.

By the Vice Chancellor:

Ques. How can it begin at 6.56 and close at 6.30?

Ans. That is a mistake.

Ques. What time did it begin? Take the record and look at it carefully and tell us what time you began and what time you ended. 30

Ans. The record began at 6.36 A. M. and ended within a few seconds of 6.40.

Ques. The other paper that is on this roll has nothing whatever to do with this particular test that you are now testifying about, has it?

Ans. It has not.

By Mr. Grey:

Ques. On the record marked "E x W" are there lines appearing?

Ans. There are.

Ques. Are those lines made in the same way as the lines on the other records are made?

10 Ans. They are.

Ques. One is the fixed line and the other is the line to indicate vibration?

Ans. They are.

Mr. Grey: I offer that in evidence.

By the Vice Chancellor:

20 Ques. You offer, of course, only so much of this roll as has been testified to, that is, as to the east and west test made that morning?

Mr. Grey: That is all.

The Vice Chancellor: Is there any objection?

Mr. French: No objection.

(The roll was thereupon admitted in evidence and marked Exhibit D8.)

30

Ques. What is the next test made, doctor?

Ans. We took the apparatus over to the power plant, second floor.

Ques. The power plant of the Victor Company?

Ans. Yes, sir.

Ques. What time was the test commenced there?

Ans. 9.47 in the morning.

Ques. Of June 1st?

Ans. June 1st.

Ques. Where did you set the apparatus up in the power plant?

Ans. In the southeast corner, about 8 feet from the easterly wall, and about the same distance from the southern wall.

Ques. Why did you select that place?

Ans. We received information that the greatest vibration was at that point. 10

Ques. How did you set the seismograph up there?

Ans. In a north and south direction.

Ques. And did you also set it up in an east and west direction?

Ans. I do not know.

Ques. Can you tell by reference to any memoranda?

Ans. We have no record of it.

By the Vice Chancellor:

20

Ques. No record of any east and west test; is that what you mean?

Ans. I do.

By Mr. Grey:

Ques. Did you keep a record of the north and south test?

Ans. I did.

Ques. Produce it, please. 30

Ans. (Witness produces paper, being the same roll as that which was heretofore produced, and upon which the east and west record previously admitted in evidence is contained, and which is marked Exhibit D8, and the witness identifies the other strip of paper on

D8 as the record of the north and south test made in the power plant at the time indicated.)

Ques. There are two lines on that paper of a similar character to those on the other records?

Ans. There are.

Ques. What do those lines indicate?

Ans. One line represents the tracing of the pencil attached to the fixed body; the other is the tracing left by the pencil attached to the movable body.

10 Ques. Distinguish which line is which.

Ans. The one nearest the edge of the roll, the outside edge of the roll, is the tracing left by the movable body.

Ques. What amount of vibration is indicated by that test?

Ans. Approximately six one-thousandths of an inch.

Ques. Was the plant in operation when the test was taken?

Ans. It was.

20 Ques. Dr. Hart, referring to this series of tests, can you tell by comparison of the tests, or otherwise, what amount of vibration was due to the operation of the Victor plant?

Ans. I can.

Ques. Will you state it, please?

The Vice Chancellor: Where? When he was actually in the Victor plant, do you mean?

30 Ques. Take the Prettyman house first; indicate it as the tests appeared when made in that house.

Ans. In the Prettyman house the vibration in the daytime was about one one-thousandth of one inch, average; at night, at 9 P. M. stretching to 2 A. M. of June 1st, the vibrations averaged about one-third of this, thirty-five one-hundred-thousandths of an inch. In the morning of June 1st, between 5.30 and 6.30, with the Victor plant shut down, the vibrations in the Pretty-

man house averaged about twenty one-hundred-thousandths of an inch, slightly more than one-half the vibration at night with the Victor plant in operation. The difference is probably due to the action of the Victor plant.

By the Vice Chancellor:

Ques. State the difference in figures.

Ans. The difference, fifteen one-hundred-thousandths of an inch, was probably due to the vibration of the Victor plant. 10

Cross-examination.

By Mr. French:

Ques. Now, these vibrations were constant, were they not?

Ans. They were not.

Ques. While you were there? 20

The Vice Chancellor: Whereabouts, Mr. French?

Ques. Wherever you put them?

Ans. Nowhere were they constant.

Ques. What varied them?

Ans. In the Prettyman house, walking across the floor would vary them; a trolley passing would cause a large variation; any disturbance in the immediate vicinity would cause a variation. 30

Ques. But when the trolley car had ceased passing and you were not walking about the house, and there was no movement, the variations were constant, weren't they?

Ans. They were not.

Ques. They were not like pulsations; they were not regular?

Ans. In the Prettyman house they had an average oscillation of about thirty-five one-hundred-thousandths of an inch, with a maximum of about double that.

Ques. That was the difference, that was the space of the vibration; but I mean the time of the vibration; you had a tuning fork at one of those operations, didn't you?

Ans. I did.

10 Ques. And as I recollect it, you stated that that indicated that there was 200 of those to the second or minute?

Ans. To the minute.

Ques. 200 to the minute—well, that was a constant, uniform vibration of 200 to the minute, wasn't it?

Ans. Not entirely. That varied also.

Ques. Well, what was the variation?

Ans. About 20 per cent.

Ques. When did the variation occur?

Ans. Constantly.

20 Ques. Do you mean there were constantly trolley cars passing?

Ans. I mean the variation in frequency appeared to vary constantly, independent of outside effect.

Ques. Well, then, the tuning fork did not correctly indicate two hundred to the minute?

Ans. The tuning fork indicated one hundred vibrations to the second. Alongside of this were a series of irregular vibrations which added up about two hundred to the minute.

30 Ques. So there were two hundred vibrations to the minute?

Ans. Sometimes that would fall twenty per cent., sometimes it would increase twenty per cent.

By the Vice Chancellor:

Ques. Was there ever a time during the test in the Prettyman house when there was no vibration whatever?

Ans. There was not.

Ques. Well, there was some constant vibration all the time?

Ans. There was constant vibration all the time.

By Mr. French:

Ques. When a trolley car passed the vibration made by that ended after the car had passed, didn't it?

Ans. In about five to ten seconds.

Ques. When you walked across the floor the increased vibration ceased when you stopped walking and the floor ceased vibrating from the impetus you had given it?

Ans. When it had ceased vibrating.

Ques. Now, what are the vibrations caused by the running or operations of dynamos and engines where they are in a building on the second floor?

Ans. There is a vibration of the foundation, due to the alternate motion of the pistons; there is a vibration in the air due to the pushing of the air through the dynamos; there are a few extra vibrations in the air produced by the movement of the separate parts of the engine with respect to each other.

Ques. Now, first, the vibration in the engine, or foundation—that is communicated to the earth if it is in contact with the earth, is it not?

Ans. It is.

Ques. And if the engine is put on a concrete base set in the earth and permanently imbedded there, would it vibrate?

The Vice Chancellor: Which?

Mr. French: The earth, from the operation of the machinery.

The Vice Chancellor: (To the witness.) Will the adjacent earth vibrate, is what he wants to know?

Ans. It will.

Ques. Much or little?

Ans. It depends upon the character of the earth.

Ques. Does it also depend upon the character of the engine and machinery?

Ans. Not to a very great extent.

Ques. Does it depend upon the balance of the machinery?

10 Ans. Partly.

By the Vice Chancellor:

Ques. Do you mean to say that a one-horse power machine, on a concrete foundation, would produce the same effect on the adjacent earth—never mind how it was centered—as a two thousand-horse power engine?

Ans. It depends on the degree of compactness and rigidity and elasticity of the foundation.

20 Ques. You do not understand my question: Assume, with respect to the test being made, all other conditions are identically similar excepting that upon one occasion you ran a one-horse power engine, and on another occasion you ran a 2,000-horse power engine, would the effect upon the earth adjacent to the foundation be identical?

Ans. It would not.

By Mr. French:

30 Ques. If there is a vibration at all, the foundation vibrates, don't it?

Ans. It does.

Ques. From the movement of the engine and dynamo?

Ans. It does.

Ques. And if that foundation vibrates, the adjacent earth, depending upon its character, vibrates uniformly with the foundation?

Ans. Not uniformly; no, sir.

Ques. Well, state how it does.

Ans. It depends upon the character of the earth. It has a function—it may vibrate three or four times as rapidly or possibly half as fast, possibly one hundred times as fast as the engine, depending upon the quantity of the earth, its shape, elasticity and various other factors.

Ques. Is it not like people walking over a bridge and starting a movement?

Ans. In degree.

Ques. That is what occurs to my mind and why I am asking these questions. 10

Ans. The various factors which affect it in bridge work, or anything in an iron structure or material, with a high co-efficient elasticity, is much greater than it is with ordinary earth—so much so that you can hardly compare their effects.

Ques. Then there is more vibration through iron and stone, or steel and stone, than there is through earth?

Ans. As far as they extend.

Ques. Now, if the foundation on which this engine was raised is elevated from the earth a distance, is not the vibration increased with the elevation of the force that moves? 20

Ans. It is and it is not.

Ques. That seems to me to be this case. Will you explain how it is and how it is not?

Ans. The vibration in the earth is not increased. A building with the machinery in the second floor would vibrate somewhat as a pendulum, with the base as a support of a reversed pendulum. The effect on the earth is very much diminished. The actual vibration or movement of the engine itself is much larger. 30

Ques. Now, suppose there were two engines running at different speeds, would that increase or lessen the vibration?

Ans. There would be a periodicity about the vibration; at one point it would be increased, and at another point diminished in time.

Ques. Would arranging the engines, one in one way and one in another, balance those vibrations, in a measure?

Ans. Yes.

Ques. What do you mean by the balance of machinery, the balance of an engine running?

- 10 Ans. The balance of an engine is largely the balance of the fly-wheel. The piston is attached to one side of the fly-wheel, which makes the fly-wheel heavier on that side, and an extra piece of metal must be attached diametrically opposite on the fly-wheel to make the fly-wheel balance with respect to its own centre.

Ques. Now, what would be the effect if it is not exactly balanced?

Ans. The vibration will be increased.

Ques. And lessened, as it is balanced?

Ans. Yes.

- 20 Ques. So that the engineer in charge of machinery can, in a measure, correct vibration; is that right?

Ans. Not the engineer in charge.

Ques. Well, which engineer does?

Ans. The designing and consulting engineer.

Ques. Well, but suppose, after it has been erected and it is discovered that the balance is not exactly true, how is it corrected?

Ans. By consultation with an expert.

- 30 Ques. No; but how does the expert correct it—how is it physically done?

Ans. By restoring the balance.

By the Vice Chancellor:

Ques. By putting more metal on the side that needs it, I presume he means.

Ans. I do.

By Mr. French:

Ques. Now, in the last part of yesterday's examination you were speaking of the "east and west roll," "north and south roll" and "east and west vibration," and I got them a little mixed; I wish you would straighten that out. They may be all right on the record but I did not exactly understand them.

10

The Vice Chancellor: What is it you want him to straighten out?

Mr. French: The part where he testified that one was about fifty per cent. larger than the other.

The Vice Chancellor: You are speaking now of the tests made in the Prettyman house, are you not?

Mr. French: The tests made in the Prettyman house in the afternoon. 20

Ans. The east and west vibration—the roll is so marked—represents the actual movement of the Prettyman house in an east and west direction. The roll marked "N x S" represents the actual movement in the Prettyman house in a north and south direction.

Ques. Now which was the greater of the two movements, the east and west movement or the north and south movement? 30

Ans. The east by west movement.

Ques. At that time?

Ans. It was.

Ques. Was there any carpet on the floor in this Prettyman house?

Ans. There was a strip of carpet which we threw under the bed.

Ques. There was nothing under this instrument?

Ans. There was not.

Ques. Now, what was the character of the floor?

Ans. It was wood.

Ques. Ordinary pine boards?

Ans. I believe so.

Ques. Old or new?

10 Ans. In a fair state of preservation.

Ques. Smooth or rough?

Ans. At one time they were finished boards. They had been weathered somewhat.

Ques. And were, in a measure, warped?

Ans. Yes.

Ques. Now, what rested on the floor in these experiments with the seismograph?

Ans. The seismograph recording apparatus.

Ques. And will you describe that to me?

20 Ans. I would prefer to show you a photograph.

Ques. Oh, well, so I will understand it.

(The witness produces a photograph.)

By the Vice Chancellor:

Ques. Let me ask you, before you go into the matter of the photograph: The recording part of the seismograph was not the only thing that rested on the floor, was it?

30 Ans. The tripod holding the pendulum rested on the floor.

Ques. So the things resting on the floor were the posts that formed the tripod and the recording part of the machine?

Ans. Yes, sir.

By Mr. French:

Ques. (Referring to the photograph produced by the witness): In the photograph which you have produced, the instrument, or part of the instrument having two heavy black places on it, was the part that rested constantly on the floor, was it?

Ans. Yes, the sides of the instrument.

Ques. What is the block below that?

Ans. That was merely there to photograph with. 10

Ques. Neither of the blocks that appear in the photograph have anything to do with what was done in the Prettyman house?

Ans. I believe smaller blocks were inserted to raise it slightly.

Ques. Then, in the Prettyman house the instrument did not rest directly on the floor, but on blocks placed on the floor?

Ans. That is correct.

Ques. What was the character of those blocks? 20

Ans. The blocks were 8 x 8 x 1 inch.

By the Vice Chancellor:

Ques. Made of what?

Ans. Pine.

By Mr. French:

Ques. And one inch was the thickness through? 30

Ans. The thickness.

Ques. And eight by eight square?

Ans. Yes, and the wide side of the block rested on the floor.

Ques. Now, where in the photograph is the recording device?

Ans. This white ribbon goes over (indicating); this pointer, fastened to the recording device, leaves a

trace. Another pointer from the pendulum goes down on the white paper and leaves another trace.

Ques. This photograph you show me does not represent the pendulum?

Ans. It does not.

Ques. What is the opposite side here, opposite the post, with the two black squares on it—still part of the same?

Ans. Yes. Here is the end view; this is the three-
10 quarter view, and that is the front view (indicating three photographs now produced).

Ques. Then the stationary device resting on two blocks consists of two uprights with a cross-bar?

Ans. With eight or ten cross-bars.

Ques. And these eight or ten cross-bars contain a clockwork arrangement that moves the paper?

Ans. Yes.

By the Vice Chancellor:

20 Ques. In a rotary fashion?

Ans. It does.

By Mr. French:

Ques. Now, that whole device is supposed to move with the oscillation of the floor?

Ans. Of the floor.

(The three photographs produced and identified by
30 the witness are marked for identification as follows: the photograph from which counsel has been examining the witness, being the front view, is marked T; the end view is marked E, and the three-quarter view is marked F.)

Ques. Those are correct photographs of the same instrument that you used in the Prettyman house when making these experiments?

Ans. They are.

Ques. Only that the blocks on which they rested are not the same, and the tripod is not the same?

Ans. The tripod is not the same.

By the Vice Chancellor:

Ques. Well, was it a similar tripod?

Ans. Yes.

By Mr. French:

10

Ques. Now, the tripod here is not a tripod, is it; it is a quadripod?

Ans. It would be called a tripod.

Ques. It has four supports?

Ans. It has.

Ques. Did the instrument you used in the Prettyman house have the same four supports?

Ans. It had three.

Ques. And what sort of a base did the instrument you used in this Prettyman house have? 20

Ans. The base of the tripod?

Ques. Yes.

Ans. Three iron points fastened to the legs of the tripod, which stuck in the floor.

Ques. Similar to what surveyors use?

Ans. It was, but much heavier.

Ques. But these shown on the photograph are very heavy pieces of wood?

Ans. They are.

30

Ques. Now, the thing suspended from that tripod was what?

Ans. The pendulum.

Ques. Is this the pendulum shown here in this photograph marked F?

Ans. It is.

Ques. What does it consist of?

Ans. It consists of a heavy circular frame with weights attached to the upright rod.

Ques. And where is the pencil?

Ans. At the centre of gravity of the pendulum.

Ques. And does that pendulum move with the vibration, or is it stationary?

Ans. It is stationary.

Ques. And that is the one that makes the stationary
10 line?

Ans. It is.

Ques. Why would not that show a movement of the floor, resting, as it does, for support on the floor?

Ans. The only way in which a movement can be transmitted to the pendulum is through the support and through the threads which hold the pendulum. Any slight motion of the top of the tripod must be transmitted through a flexible cord, which rapidly absorbs any vibration.

20

By the Vice Chancellor:

Ques. Suppose that this instrument were set up without the recording part of it, and a violent agitation of the floor should be induced, wouldn't it agitate this mass of metal that is suspended from the tripod?

Ans. It would not.

Ques. What would happen to that impetus or force?

Ans. The top of the pendulum, of the support,
30 would move.

Ques. The top of the tripod?

Ans. The top of the tripod would move, but it would not move the pendulum.

Ques. What would happen to the force; where would it go; why wouldn't it communicate itself to the cords which hold the pendulum and so move the pendulum?

Ans. It would be a wavy motion along the cords only, which would rapidly disappear.

Ques. It would dissipate itself, you think, along the cords before it got to the mass of metal at the end?

Ans. It will.

By Mr. French:

Ques. Vibrations in different directions neutralize one another, do they?

Ans. I will hardly say that. They neutralize themselves.

10

By the Vice Chancellor:

Ques. What is the effect at the common point of meeting—suppose a vibration is generated in the north and another one is generated in the east, and they meet at a given point, what happens at the point of meeting?

Ans. If they meet at right angles their effect is the geometrical sum of the two; if they meet on the same plane, their effect may be the difference between the two, or it may be the sum of the two, depending upon the relative times of starting and the distance they have gone. 20

By Mr. French:

Ques. Then the vibrations registered by this seismograph may be the sum of two vibrations, or the difference between two?

Ans. It may; unless they are exactly in the same place, in the same period, it will necessarily record both the sum and the difference of any vibrations. 30

By the Vice Chancellor:

Ques. At the same time?

Ans. In successive intervals of time.

By Mr. French:

Ques. In the experiments you made in the Prettyman house and in the Lambert & Todd shop and in the power house, did you use the optical mirror that you spoke of excepting on one occasion?

Ans. We did not use the optical mirror in the Lambert & Todd shop. We used it for a number of hours in both the Prettyman house and in the power house.

10 Ques. Now, that optical mirror, as I understand it, was used in connection with this seismograph?

Ans. It was.

Ques. Was the seismograph set up just as it is now?

Ans. It was.

Ques. Was this seismograph set up with the optical mirror in just the same way as it was without the optical mirror?

Ans. It was.

Ques. The records were taken in the same way?

Ans. They were not.

20 Ques. On a paper?

Ans. No records were taken on paper with the optical mirror.

Ques. Then there was no paper used with the optical mirror?

Ans. There was not.

By the Vice Chancellor: •

30 Ques. The mirror was put in place of the paper, wasn't it; that is to say, the same machinery which holds the paper was utilized on this occasion to hold the mirror?

Ans. It was.

Ques. But it was not rotated?

Ans. It was not rotated.

By Mr. French:

Ques. Where the paper is on the seismograph was a fixed mirror, is that right?

Ans. Not exactly.

Ques. State exactly where the mirror was put.

Ans. If this (illustrating) represents the pendulum, and this the recording box or block of metal, the mirror was attached to the center of gravity of the pendulum, at the upper part, and the lower part was attached to a fixed point on the recording device. **10**

Ques. Then the upper part of the mirror was attached to the stationary pendulum, or what you say was stationary, and the lower part was affixed to the part that would move with the oscillation of the floor?

Ans. It was.

Ques. Now, did you have a light, an artificial light?

Ans. We had.

Ques. Where did you place that light? **20**

Ans. We used that to illuminate the scale.

Ques. And it was where the scale was?

Ans. It was.

Ques. And the scale was how far from the mirror?

Ans. Sixty-seven and one-quarter inches.

Ques. And was that on an arm, or something?

Ans. It was on a frame.

Ques. What was that frame attached to?

Ans. The frame consisted of a heavy base with an upright column, which rested on the floor. **30**

Ques. So, then, the same movement shown in the seismograph would also be shown in the frame; is that right?

Ans. It is.

Ques. They were both resting on the floor and would both be moved at the same time?

Ans. Yes.

Ques. Why would not the mirror move and the scale move at the same time?

Ans. They both moved, but the mirror placed in this position moved the beam that way (indicating), the scale moved that way (indicating) about less than a fraction of one one-thousandth of an inch, each one. You observed a movement up and down the scale; the effect was that the difference between the two varied from sixty-seven and a quarter inches to sixty-seven and a quarter inches minus one one-thousandth of an inch.

10

By the Vice Chancellor:

Ques. Suppose you had fixed this same instrument to the deck of a ship which was rolling, could you determine the amount of the roll with this instrument? What I want to know is, where the base of your scale and the body to which the lower part of your mirror is attached are each moving with the same force and in the same plane, could you observe and record accurately the amount of oscillation of the body to which they were each attached, like the deck of a ship?

20

Ans. I could.

By Mr. French:

Ques. Have you any opinion as to why the east and west vibrations in the Prettyman house are greater than the north and south vibrations?

30

Ans. I have.

Ques. What is it?

Ans. It is due to the shape of the building.

Ques. Will you explain that, please?

Ans. Yes. If this card is held up this way (illustrating) it is much easier to vibrate in this direction than it is in this (indicating).

By the Vice Chancellor:

Ques. A tall body, in other words, will vibrate more towards its thin side than toward its length?

Ans. It will.

By Mr. French:

Ques. I think you said you set up your machine in the Lambert & Todd shop within eight or ten feet of the wall of the tower plant marked X? 10

Ans. That is my impression.

Ques. You don't know that then?

Ans. There was a wall within eight or ten feet, with windows in it, and I believe it was the Victor machine shop and power house.

Ques. Was it nearer the stack marked S than it was to the power house marked X?

Ans. I believe it was, yes.

Ques. Well, was it right up against the stack?

Ans. I don't know. 20

Ques. There were no windows facing north then?

Ans. There were.

Ques. What did you see when you looked out the north window?

Ans. I saw a brick wall, I believe, about four feet off, with several windows in it.

Ques. Was not that brick wall the south wall of the building marked B on Exhibit D1?

Ans. I don't know.

Ques. How far was the window from the brick wall that you saw? 30

Ans. Probably six feet.

Ques. Now, how far was your machine inside of the room?

Ans. About three feet.

Ques. Did you take vibrations both ways in the Lambert & Todd shop?

Ans. I did.

Ques. Did you describe in your examination in chief which were the greater of the two?

Ans. The north and south were the greater.

Ques. Well, that is also a building longer north and south than it is east and west?

Ans. It is.

Ques. Did you give the extent of the vibration in the Lambert & Todd shop?

10 Ans. Only approximately.

Ques. Yes, I remember now. You did not make any clear calculation of it?

Ans. I did not.

Ques. Have you testified to all the tests you have made with respect to these vibrations of the Victor Talking Machine Company plant?

Ans. To the best of my knowledge, I have.

Ques. What is the advantage of having a solid stiff foundation for machinery?

20 Ans. It prevents the machinery from falling to pieces with its own vibration.

By Mr. Grey:

Ques. What is the shape of the building 121 Market street; the Prettyman house?

Ans. It is rectangular. The front part is, I believe, larger than the rear. It is about four times as long as it is wide.

30 By the Vice Chancellor:

Ques. Four times as long north and south as it is wide east and west?

Ans. Yes, sir.

By Mr. Grey:

Ques. What is the shape of the building at 117 Market street; the Seligman house?

Ans. It is a somewhat similar building.

Ques. Do you mean in shape?

Ans. In shape.

Ques. You mean it is longer than it is wide?

Ans. It is.

Ques. What is the shape of the Lambert & Todd machine shop? 10

Ans. It is more nearly square.

Ques. How do you account for the vibration exhibited in the Lambert & Todd machine shop being the greater north and south than they were east and west?

Ans. The effect of the Victor plant was greater in the north and south direction. The vibrations east and west were probably due to other causes, a portion of them.

Ques. Did the proximity of the Lambert & Todd machine shop to the Victor power house have anything to do with it? 20

Ans. It did.

Ques. The seismograph and the optical lever are two distinct methods, are they, of ascertaining vibrations?

Ans. They are.

Ques. And it was a rare convenience to use a portion of the seismograph in the optical lever test, was it?

Ans. It was.

Ques. Are there any better methods known to science for testing vibrations in buildings than the seismograph method and the optical lever method that you have described? 30

Ans. There are not.

Ques. For what other purpose is the seismograph used when ascertaining vibrations in buildings?

Ans. It is used to record movements of the earth's crust.

Ques. Dr. Hart, what determines the number of vibrations per minute exhibited in a building?

Ans. I don't know. It is probably due to the shape and structure of the building that permits it to have what we call a certain "periodicity."

WILLIAM G. LINFOOT, sworn.

10

By Mr. Grey:

Ques. Mr. Linfoot, what is your business?

Ans. Draughtsman.

Ques. Have you been in the Victor Talking Machine power house in Camden?

Ans. I have.

Ques. When were you there?

20 Ans. I was there from four o'clock in the afternoon of the 31st of May until one o'clock A. M. the 1st of June.

Ques. The following day?

Ans. Yes, sir.

Ques. What happened while you were there?

Ans. Well, the engines were running, and we kept a record of the output of the engines and the revolutions of the engines.

Ques. Where is that record?

Ans. I believe Dr. Hart has it.

30 Ques. Did you keep it?

Ans. I kept it; yes, sir.

Ques. I hand you a book, and ask you what that is?

Ans. This is the record that I kept.

Ques. Is that in your handwriting?

Ans. Yes, sir.

Ques. And the notes made in it were made by you at the time?

Ans. Yes, sir.

Ques. Tell us what load the engines were carrying during the time that you made the observations?

Ans. The combined electric horse power was 184.

Ques. At what time?

Ans. All the time—averaging that.

Ques. If that was the average, what was the most horse power they disclosed, and what was the least?

Ans. Well, I have not got the maximums here, I only have the average.

Ques. What would you think that would indicate; how much maximum and how much minimum?

10

Mr. French: I object, because he wants him to state what he thinks was the maximum. He has stated the average, and he says he don't know what the maximum was.

The Vice Chancellor: I do not think the witness has shown any knowledge. He says the only thing he observed was the thing he recorded. I will rule out the question, in the present state of the testimony, as to this witness' knowledge concerning the maximum.

20

Cross-examination.

By Mr. French:

Ques. How did you ascertain this average?

Ans. I averaged up the readings; I took the readings every fifteen minutes, and I took the average of all those readings.

Ques. What are the readings that you took the average of?

30

Ans. The readings of the amperes and volt meters.

By the Vice Chancellor:

Ques. In other words, are those dials that record the amount of electricity that is being passed through them?

Ans. Yes, sir.

By Mr. French:

Ques. And from those readings you calculated the horse power at 183; is that it?

Ans. Yes, sir.

Ques. The readings are reduced to horse power?

Ans. Yes, sir.

By the Vice Chancellor:

10

Ques. And was that for the combined generators?

Ans. It was.

Ques. Were the windows of the power house open or closed?

Ans. They were open.

Ques. Do you know anything about the electric light system of the plant?

Ans. No, sir; I do not.

Ques. Whether that was going or not?

20 Ans. I do not. I know the lights were lit that night.

ALBERT W. ATKINSON, SWORN.

By Mr. Grey:

Ques. What is your business, Mr. Atkinson?

Ans. Superintendent.

30 Ques. Of what?

Ans. Victor Talking Machine Company.

Ques. For how long?

Ans. From the beginning of the business.

Ques. Three or four years?

Ans. Yes; ten years.

Ques. Then you were connected with the business before it was incorporated, were you?

Ans. Yes, sir.

Ques. What have been your duties the last year?

Ans. My duty has been, the last year, to look after the manufacturing of the talking machines.

Ques. And in doing that, what do you do, what is your daily business?

Ans. To see that the output is maintained as per schedule.

Ques. Are you, then, in charge of the manufacturing portion of the business?

10

Ans. The manufacturing of the motors.

By the Vice Chancellor:

Ques. Not of the records?

Ans. No, sir.

By Mr. Grey:

Ques. What have you to do with the operation of the machinery in the plant?

Ans. I have charge of the factory at 114 North Front street and also of the power plant. 20

By the Vice Chancellor:

Ques. The power plant marked X on Exhibit D1?

Ans. Well, our power plant; I don't know what that X is.

Ques. Look at the map and tell us; familiarize yourself with the map, and when you say you were in charge of a certain thing tell us whether it was what I have asked you.

Ans. The power plant marked X, yes; I am in charge of. 30

By Mr. Grey:

Ques. What has been the character of the operation of the plant in the last four or five months in the day time? Has it been operated at fair capacity, or very little capacity, or full capacity, or what?

Ans. Well, that is varied, or liable to be varied, on account of the load, because the load fluctuates.

(Question repeated.)

Ans. At a normal capacity, fair.

Ques. Has there been any difference in the operation of the plant, as to its capacity and output, in the last three or four weeks, from theretofore this spring?

10 Ans. The output has been gradually increased.

Ques. As the output is increased does that call upon the plant to produce more power?

Ans. Yes, sir.

Ques. Was there any difference in the operation of the plant on the 31st of May of this year from the usual operation of the plant weeks and weeks since then?

Ans. Between what times?

Ques. On the 31st of May, during the daytime.

Ans. There has been a continual increase in the power required.

20 Ques. Was the plant running in its normal way on the 31st of May?

Ans. Yes, sir.

Mr. French: I object; that is a leading question.

The Vice Chancellor: Your objection comes too late. Do you want to move to strike it out?

Mr. French: No.

30

The Vice Chancellor: Withdraw the objection, then, if you do not give any reason for it.

Mr. French: Well, I did give the objection that it was a leading question, but I did not do it quick enough. I move to strike out the answer.

The Vice Chancellor: I will strike out the question and the answer.

Ques. Mr. Atkinson, how was the plant operating on the 31st of May?

Ans. Normally.

Ques. How was it operating on the 1st of June, the day following the 31st of May?

Ans. I should say normally.

Ques. How was the plant operating in the nighttime of May 31st and June 1st, or rather, the night of May 31st and the early morning of June 1st? 10

Ans. The load was not as great at night as it was in the daytime.

Ques. What have been the hours of the operation of the plant, each twenty-four hours, in April, May and June of 1906, up to and including June 1st?

Ans. I cannot give you the exact dates, but I can approximately.

Ques. I asked you what were the hours of operation. 20

Ans. About from 7 in the morning until 5.15 at night for four days in a week; on the fifth day from 7 o'clock in the morning until 5.30 in the evening; on Saturday from 7 o'clock in the morning until 12 at noon.

Ques. And on other days than Saturday was there any stoppage of the plant for lunch or noon recess?

Ans. We stopped at 12 noon until 12.30.

Ques. And when the plant was operating at night what were the hours?

Ans. We did not stop for lunch. There was a force that came on at night, came on at 4 o'clock, and the power continued right on. 30

Ques. 4 o'clock what time of day?

Ans. 4 o'clock in the afternoon.

Ques. And continued on until when?

Ans. Continued on until 4 o'clock in the morning.

Ques. Has the plant been operating this week?

Ans. Yes.

Ques. What days this week has the plant been operating?

Ans. Every day this week.

Ques. Monday?

Ans. Yes, sir.

Ques. Tuesday, Wednesday?

Ans. Yes, sir.

Ques. To-day?

10 Ans. Yes, sir.

Ques. What hours of the day?

Ans. From 7 A. M. until 12 noon; from 12.30 until 5.15 P. M. at night.

Ques. During the days you have mentioned that the plant was in operation this week has the operation been in the normal way?

Ans. Yes, sir.

Cross-examination.

20 By Mr. French:

Ques. What do you know about the operation of the engines and dynamos?

Ans. I know that they are under my charge, and they are operated by a man under my supervision.

Ques. Are you in charge of those continuously from 7 A. M. until 4 P. M. the next day, if they work at night?

30 Ans. They are under my supervision; yes, sir.

Ques. And you are there?

Ans. No, sir.

Ques. What hours are you there?

Ans. I am generally there from eight to half-past eight in the morning until 5.15 at night; at other times I am not there, but then it is optional whether I am there or not, because I have other people to look after it.

Ques. Then when you are speaking of the normal operation of the plant you are speaking of it as you understand it?

Ans. Yes, sir.

Ques. And from reports to you?

Ans. From sheets I receive; yes, sir.

Ques. And not from any personal knowledge of your own?

Ans. I know what the power plant will develop; the sheets I receive tell me whether the thing is carried on, or whether the thing is being taken care of as it ought to be; that is simply a daily report to me from the people that have charge of it. 10

By the Vice Chancellor:

Ques. Are these sheets automatically indicated by the machinery itself, or are they indicated by people putting something on the sheets?

Ans. They are indicated automatically.

Ques. They are a reading of the amount of electrical power that the machines have generated during given hours, are they? 20

Ans. Yes, sir.

By Mr. French:

Ques. You have no personal knowledge of the way the machinery was run May 31st or June 1st, have you?

Ans. Only by referring to my records.

Ques. What day of the week do they work until 5.30 in the afternoon? 30

Ans. Friday.

Ques. On Saturday, you say, until 12?

Ans. Yes, sir.

Ques. And on other days until 5.15?

Ans. Yes, sir.

Ques. That has been regular since the 1st of the year?

Ans. Yes, sir.

Ques. The night work ended on the morning of June 1st of this year, did it not?

Ans. I believe it did.

Ques. Who has charge of the repairs and the engines in the power plant marked X?

Ans. I do.

10 Ques. What, if any changes or repairs or alterations have been made in those engines since the 1st of March of this year?

Ans. Well, in the large engine a new piston was substituted for one that was broken; that was repaired.

Ques. Any other change?

Ans. Not to my knowledge.

Ques. Any fixing up the engines so that they will run smooth?

Ans. We look over them continuously to see that they are kept in proper running order.

20 Ques. Try and keep them up to the standard of running order?

Ans. To keep them up to the standard that we know we can get, and service out of them during the day that they are supposed to run.

Ques. And that is 375 horse power?

Ans. Yes, sir.

Ques. Now, prior to the first of June you ran at night, didn't you?

Ans. Yes, sir.

30 Ques. And why did you run at night?

Ans. Because we had sufficient work that we could not get out in the daytime.

Ques. And since the 1st of June you have not run at night—this month you have not run at night?

Ans. No, sir.

Ques. And why was that?

Ans. Because I had orders to stop.

Ques. Then your business had not fallen off, so it was not necessary to stop?

Ans. I could not answer that; I do not know.

By Mr. Grey:

Ques. Mr. Atkinson, you were about the power plant on the 31st of May, were you not?

Ans. As far as my knowledge serves me, I was.

Ques. Did you know that there was a test of some character being made at that time?

10

Ans. I did; I knew there was something going on; I didn't know just what was being done; I saw some people around there with some instruments, but further than that I didn't know what they were doing.

Ques. On that day was the power plant in normal operation?

Ans. Yes, sir.

Ques. You spoke of records which were automatically made by the engines; are these they? (Showing witness number of circular paper records.)

20

Ans. Yes.

Mr. Grey: I offer those records in evidence.

Mr. French: I object, on the ground that they do not reveal anything. I do not know whether they registered correctly or not, or what the device is that registers them.

The Vice Chancellor: You may cross-examine as to that.

30

Mr. French: I haven't information enough to cross-examine.

The Vice Chancellor: I will admit them.

(The number of circular paper records identified by the witness were marked as one exhibit, D9.)

ALBERT C. WOOD, sworn.

By Mr. Grey:

Ques. Mr. Wood, what is your business?

Ans. Mechanical engineer.

Ques. Where were you on the 31st of May and the 1st of June, 1906, in relation to the Victor Talking Machine plant?

10 Ans. I was co-operating with Dr. Hart in the determination and measurement of vibrations in the Prettyman house.

Ques. Were you in the power plant on the 31st of May and 1st of June?

Ans. I think I was; yes, I was in the power house on the 1st of June, and I think I was there in the morning of May 31st.

Ques. What time did you go in the power house on the 1st of June?

20 Ans. About some time before two o'clock in the morning.

Ques. How long did you stay there?

Ans. I stayed there until after four in the morning. I laid down and took a nap between two and four.

Ques. And do you know what time the plant was operating while you were there, and what time it was not?

30 Ans. The plant was operating up until a little after four o'clock in the morning, to the best of my knowledge. I was asleep part of the time, and cannot testify as to that time.

Ques. Well, what time were you awake?

Ans. I was awake, about, I suppose, twenty minutes of four.

Ques. And do you know what time the plant stopped?

Ans. It stopped, I think, about five minutes after four in the morning.

Ques. You were awake then, were you?

Ans. Yes, I was awake.

Ques. Did you compare your watch with the watch of Mr. Witham and Dr. Hart?

Ans. I did, I set it.

Ques. At that time?

Ans. Yes, on the afternoon of May 31st.

Ques. How long did you stay in the plant after the plant stopped, before five?

Ans. I went outside and waited for Dr. Hart.

10

Ques. How long afterwards was that?

Ans. Dr. Hart, I think, arrived about half-past five in the morning, and we went over to the Prettyman house and made some observations.

* Ques. Do you know when the plant started to operate after 4.05—when it started up again on the morning of June 1st?

Ans. It started up about two minutes before seven in the morning.

Ques. And were you present at the test made as described by Dr. Hart about 9.47 or 9.46 on the morning of June 1st?

20

Ans. Yes, sir.

Ques. Was the plant still in operation at that time?

Ans. It was.

Cross-examination.

By Mr. French:

Ques. You made observations prior to this, in the Prettyman house, did you not?

30

Ans. I did, sir.

Ques. And on the 12th of May, 1906?

Ans. I did.

Ques. And obtained results of vibrations at that time?

Ans. Yes, sir.

Ques. How great were the vibrations on the 12th of May, 1906?

Mr. Grey: I object. It is not cross-examination.

(Question withdrawn.)

Ques. You made an affidavit in this case, did you not?

10 Ans. I did.

Mr. French: May I call Mr. Wood as my own witness?

The Vice Chancellor: Certainly. If Mr. Grey hasn't any objections I will have you reserve it until the rebuttal. Mr. Grey has the right, if he desires to exercise it, to have you call him in your own case as rebuttal?

20 Mr. French: And I will ask him to stay here.

The Vice Chancellor: All right. Stay here, under your subpoena, until the Court dismisses you, Mr. Wood.

ALBERT C. MIDDLETON, affirmed.

By Mr. Grey:

30 Ques. Mr. Middleton, you are connected with the Victor Talking Machine Company?

Ans. Yes, sir.

Ques. Did the stenographer read to you a transcript of the testimony of Mr. Seligman so far as it related to statements in an interview with you at the office, or some other place, of the Victor Talking Machine Company?

Ans. He did.

Ques. You were not in the room when the testimony was given?

Ans. I was not.

Ques. Did you have any interview with Mr. Seligman at the plant of the Victor Talking Machine Company at about the time that he states?

Ans. I did not.

Ques. Did any conversation such as he describes taking place between you and him at the plant of the Victor Machine Company take place between you? 10

Ans. No, sir.

Cross-examination.

By Mr. French:

Ques. You had no conversation with Mr. Seligman about the noise and vibrations at this point?

Ans. I do not understand that question.

(Question repeated.)

20

Mr. Grey: I object. The direct examination was as to the place where that conversation took place; now, if this is some other place it is not cross-examination.

The Vice Chancellor: I will admit it.

Ans. Yes, sir.

By the Vice Chancellor:

Ques. You did have conversations with Mr. Seligman, your answer means? 30

Ans. Yes, sir.

By Mr. French:

Ques. When did you have those conversations?

Ans. I should judge it was some time in October; I never fixed it in my mind.

Ques. October, 1905?

Ans. 1905.

Ques. Where?

Ans. One day, going by his office, he called me in his office—

By the Vice Chancellor:

Ques. The cigar store, do you mean?

10 Ans. The cigar store.

By Mr. French:

Ques. What was the conversation?

Ans. He called me in and wanted to show me the fact that our new power plant was vibrating his building and causing a great deal of trouble and annoyance. He took me out into a small—

Ques. All I want is the conversation.

20 Ans. I cannot repeat to you the conversation without describing to you the position in which I was.

Ques. Go ahead.

Ans. He took me out into a small veranda, glass partitioned on two sides, adjoining his building, right back of the post office. It does not go to the extreme end of the building. And he showed me there that occasionally the windows, which were very ramshackle and very loose, rattled. That is about all the conversation I ever had with him.

30 Ques. This building was an area way that came in from the north alongside of the back building of his house, wasn't it?

Ans. Yes; next to 115.

By Mr. Grey:

Ques. Did you observe any vibration in the house or ground there, Mr. Middleton?

Ans. I did not.

By the Vice Chancellor:

Ques. When you say that he showed you they rattled, how did he show you they rattled?

Ans. The windows would rattle similarly as they would in this room or out in a frame house occasionally when a slight puff of wind would strike them, or a wagon would go up the street, or something like that; there was no continuous vibration, as I could see. 10

Ques. Is it your recollection that you never had any conversation with Mr. Seligman at any other time or place than the one you have just described?

Ans. Yes, sir. Beg pardon, I did not have a conversation, but I had some correspondence.

By Mr. Grey:

Ques. Do you mean that you never spoke to Mr. Seligman and he never spoke to you on any subject in any manner whatever excepting as you have described, or only that you never had any conversation with him on this subject of the Victor Talking Machine plant and its operation? 20

Ans. I had.

Ques. Which do you mean? (Last question repeated.)

Ans. That is rather a complicated question.

Ques. Mr. Middleton, did you ever have any conversation other than you have described, with Mr. Seligman at all? 30

Ans. Many.

Ques. Did you have any further conversation with him in reference to the operation of the Victor Talking Machine plant?

Ans. Not since the new power plant was erected.

By Mr. French:

Ques. Did not Mr. Seligman meet you on Front street just above Market in January of this year?

Ans. No, sir.

Ques. And tell you that he wanted to see Mr. Johnson, and Mr. Johnson was not there, and he talked to you about it?

10 Ans. No, sir; Mr. Seligman has never spoken a word to me in reference to this matter, except the one conversation that I first referred to.

(Question repeated.)

Ans. No, sir.

20 Mr. Grey: My case is finished, excepting that I would like to call Mr. Johnson, the president of the company, to testify in regard to statements made by Mr. Seligman as to conversations between him and Mr. Johnson.

The Vice Chancellor: Is it your idea that the case should be postponed until the fall that you may do that?

30 Mr. Grey: Well, if that evidence is to be given any weight, I want to have an opportunity to meet it; it is in the record, and I cannot tell what weight this Court or some other Court might think should be given to that testimony unanswered. I cannot see how we can say—either your Honor or ourselves—that no weight can be given to that evidence.

The Vice Chancellor: If you thought it was weighty, why didn't you take Mr. Johnson's testimony when you should have taken it, before he went to Europe.

Mr. Grey: Because, as already suggested, I could not then deny what had not yet occurred in evidence.

The Vice Chancellor: Oh, it had occurred in evidence; Mr. Seligman had testified to it in an affidavit that had been in your possession for some weeks.

Mr. Grey: Yes, sir; but the evidence testified to by Seligman on the stand is wider than the affidavit.

The Vice Chancellor: Well, if you are going to take the risk of having Mr. Johnson go to Europe you will have to take the risk of Mr. Seligman's testimony that you had knowledge of. 10

Mr. Grey: Well, I am making this motion under the suggestion that I made at the opening of the case, that I might have to do it; and under the Court's ruling that I might make the application when the time came, if it should come. 20

The Vice Chancellor: And I deny the application, on the ground that you should not have permitted Mr. Johnson to go to Europe, if he was so essential to your case, without taking his depositions upon any knowledge that he had concerning this suit. It is not right to the parties that this case should be further postponed. The motion is denied. 30

COMPLAINANT'S REBUTTAL EVIDENCE.

WILLIAM T. STEINMETZ, sworn.

By Mr. French:

Ques. You live in the city of Camden?

Ans. Yes, sir.

10 Ques. Are you an officer of the city?

Ans. I hold the position of Building Inspector of the city of Camden.

Ques. Do you know the power plant of the Victor Talking Machine Company, marked on this Map X, and the adjoining stack?

Ans. I have been in that building; yes, sir.

Ques. Have you had any communications, oral or written, with the Victor Talking Machine Company respecting that power plant and stack?

20 Ans. Not directly; no, sir.

Ques. Well, in what way?

Ans. It was first called to my attention by the Chief of the Fire Department.

Ques. Never mind what he said, but in response to what the Chief called your attention to, what did you do?

Ans. I went there and examined the building.

Ques. What did you find?

Ans. That there was a vibration above the first floor.

Ques. What did you do?

30 Ans. Why, I notified the Victor Talking Machine Company to brace that portion of the wall which they had cut loose from the stack.

Ques. Did you say anything to them about ordering the stack loose?

Mr. Grey: I object; I think it ought to be testified as to whom he spoke to, if anybody.

The Vice Chancellor: Yes, the other is too indefinite.

Ques. Did you say anything to any officer of the company, or employee of the company, about cutting loose the stack?

Ans. No, sir; that was never done under my order.

No cross-examination.

10

ISAAC SELIGMAN, recalled.

By Mr. French:

Ques. These vibrations that you have complained of, what times did you feel them?

Ans. Just as soon as the machinery went in motion on the second floor of the power house. 20

Ques. When do they stop?

The Vice Chancellor: When do what stop?

Mr. French: The vibrations.

Ans. Just as soon as the machinery stops.

Ques. Do you know Mr. Middleton?

Ans I do.

Ques. In January of this year did you have a conversation with him respecting the absence of Mr. Johnson and your desire to see Mr. Johnson about these vibrations, on Front street? 30

Ans. I went to the—

Ques. State whether you did or not.

Ans. I did.

Cross-examination.

By Mr. Grey:

Ques. The way you know when the power plant starts is by the vibrations in your house, is it?

Ans. By the vibrations; yes, sir.

Ques. And the way you know when it stops is by the vibrations stopping, is it?

10 Ans. Yes, sir.

GEORGE EDWARD SMITH, SWORN.

By Mr. French:

Ques. Mr. Smith, what is your profession?

Ans. Consulting engineer.

20 Ques. Where are you engaged in business?

Ans. In the Provident Building, Fourth and Chestnut, Philadelphia.

Ques. How long have you been a consulting engineer?

Ans. Since the 1st of September, for myself.

Ques. Of what year?

Ans. Of 1905.

Ques. Before that what were you engaged in?

30 Ans. I was engaged with the William Cramp Ship and Engine Building Company, as marine designer and draughtsman.

Ques. How long were you there?

Ans. I was there four years and a half.

Ques. And before that what was your business?

Ans. I was Chief of the Engineering Department of the Baltimore Dry Dock Company, Baltimore.

Ques. And where is that located?

Ans. In Baltimore.

Ques. And what does it do; what is its business?

Ans. The business is the repairing and building of ships and machinery.

Ques. What other experience have you had in mechanical engineering?

Ans. Experience with the Neafie & Levy Ship and Engine Building Company of this city (Philadelphia); with the Newport News Shipbuilding Company, of Newport News, Virginia; with the Jeanesville Iron Works of Jeanesville, Pennsylvania, at present at Hazleton; and my college work at Glasgow University, Scotland. 10

Ques. What was the character of your work at the Neafie & Levy Engine Company?

Ans. It has been largely in the design and location of the engines and machinery, both in the preliminary locations, and afterwards on board the ships, seeing that they were located correctly.

Ques. And since you have been a consulting engineer what character of business have you been engaged in? 20

Ans. The installation of certain power plant work, and in heating and ventilation, and the measurements and designs of certain ship parts and wooden shipbuilding as well.

Mr. French: Have you any cross-examination?

Mr. Grey: No.

Ques. Did you make an effort to ascertain whether there were any vibrations in the house of Isaac Seligman, No. 117 Market street, Camden, shown on Exhibit D1? 30

Ans. I did.

Ques. State what you did. First state when you did see the place?

Ans. This was on June 18th of this year, Monday.

Ques. At what time in the day?

Ans. It was between four and five thirty-five.

Ques. In the afternoon?

Ans. In the afternoon.

Ques. Now, state what you did.

Ans. I set up an instrument which I had previously made, which consisted of a tripod, which was set up on the second floor; from the tripod was hung a weight of about thirty pounds, and through the centre of this weight
 10 there was a hole. On the floor there was a casting which had a stem which came up through the weight, the weight being hung directly over the stem. Fastened to the stem there was a hinged arm, in which there was a small centre-punch mark. On the top of the stem there were two cuts at right angles to each other, which, in setting up, were placed one north and south, the other east and west. Between the cup and the centre-punch mark was placed a little steel pointer with a point on one end and a hatchet shape on the other about three-quarters of an inch
 20 long. On this was fixed a mirror. The arm was broken and I used a Bateman Jet placed inside of what would practically be a section of a stovepipe with a small narrow slot through which the light could be emitted. On top of this hood or stovepipe itself was a cover to keep the light from shining up against the ceiling. The light was so arranged to shine through this oblong opening and reflect on the mirror. Between the mirror and the light there was a separate screen put with an opening of smaller size through which the light filtered, so that none but parallel rays of light would strike the mirror. From
 30 the mirror the light reflected on to a screen of white paper, and it was so arranged that any vibrations would give an up and down motion to the light on this white paper, the band of light being three thirty-seconds or five sixty-fourths, as I recall it; I can tell by looking at my records.

Ques. If you have a record of it consult your record and have it accurate. This record was made at the time, was it?

Ans. (Producing memorandum.) This is a proof from the record made at the time. It was five sixty-fourths of an inch. The instrument had been previously set up, and all the different positions taken for distances of the light and the screen from the mirror so that it could be located to give a most advantageous image. If everything was perfectly still there would be no motion of the mirror, but with a movement of the house the thirty-pound weight, hanging free on light piano wires, would remain stationary, whereas the tripod and the floor, with the stem which was fastened to the floor, would move in a direction according to the vibration. By setting the mirror with the hatchet edge of the steel backing in the east and west direction any north and south motion of the building would be reflected by a vertical motion on the white screen, and any side motion would not have very much effect; it would move slightly sideways, the light, and I paid no attention to that part of it. Then, by setting it in the other direction, at right angles to that, the vibrations in the easterly and westerly directions were obtained.

Ques. What room did you put that in?

Ans. That was on the second floor in the room next to the back room. It had two windows in it and was closed against the areaway, which is shown on this Exhibit D1.

Ques. Did you have an arm connected with this in any way—this apparatus?

Ans. Any arm in what respect? No; there was no arm. The reflections were of light. There was no movement of anything except this small mirror three-quarters of an inch back of it.

Ques. What part of the room was this tripod placed in?

Ans. It was placed right close to the door leading into the hall going downstairs.

Ques. And where was the screen placed?

Ans. The screen was placed about the center of the room and against a support there, leaning against a bed in the room.

Ques. When did you commence your observation?

Ans. Commenced the observations at 4.15.

Ques. When did you cease your observations?

Ans. About 5.30.

Ques. State what you observed?

10 Ans. I observed that during the time which the mirror was set up and getting the reflection there was an up and down movement, during ordinary times, of about eleven sixty-fourths of an inch from the top of the beam of light to the bottom edge of the beam of light, and subtracting the width of the beam, which was five sixty-fourths of an inch, it allowed a true movement of approximately three thirty-seconds of an inch. And from this I figured the amount of vibration.

Ques. What would the amount of vibration be, figuring from that?

20 Ans. The distance of the mirror from the screen was eighty inches; the length of the back of the mirror was three-quarters of an inch, and as the angle of reflection of the light where the light struck the mirror and where it left the mirror would double; in other words, as where the light struck the mirror would equal the angle at which it left the mirror, the actual ratio of the beam would be about 213 times—in other words, the measurement of the movement of the beam of light would be 213 times the actual movement of the floor.

30 Ques. And that made how much of a vibration?

Ans. That would have made a vibration, under normal conditions, of about one twenty-two hundredths of an inch.

Ques. Now, what was the character of those vibrations?

Ans. The vibration was, in general, regular—that is, a mean could be taken which was observed, but the amount of vibration would increase and decrease slightly in different periods.

Ques. What would cause that increase and decrease?

Ans. My opinion of the matter is that it would be caused by the difference in speed of the engines, which would set up nodes and annodes in the two vibrations; at one time the combined vibration caused by the two engines would be apparent, at other times the engines would counteract each other and there would be less vibration. 10

Ques. Was that these vibrations east and west, or the north and south vibrations?

Ans. Those were the north and south, I refer to.

Ques. Could you state from this observation that apparently two engines were running at different speeds?

Ans. So I would judge, from another observation at the same time.

Ques. What was the other observation? 20

Ans. The other observation was a side movement, which was magnified, and a reflection of the beam showing an east and west movement of the mirror, which was, as far as I could make out, caused by a slight twisting of the weight, or rather, not of the weight, but a slight twisting of the floor, and which affected the mirror. And I counted these vibrations, making different observations of it, and they averaged approximately 190, as near as could be observed; it could not be counted absolutely.

Ques. 190? 30

Ans. 190 vibrations per minute; and that was at times a little above 200, and then it would go apparently below, where the vibration would be very short. The vibration was short and long, indicating from that that there were two engines running, to my mind.

Ques. Of the same speed?

Ans. Of a little different speeds. If they had been of the same speed the vibration would have continued in the same manner.

Ques. Did a passing wagon or the trolley cars affect these vibrations in any way?

Ans. I noticed no increased vibration of a passing wagon; but when trolley cars went by there was a very material increase for a very short period.

10 Ques. How long did this continue, this north and south vibration?

Ans. This north and south vibration was continued until about a few minutes before five, when I set it up in the east and west direction, just turning the mirror in an east and west direction.

By the Vice Chancellor:

20 Ques. With what did you observe the reflection of the mirror on the white screen—with your naked eye, or with some instrument?

Ans. I observed it with the naked eye, and made marks at the top and bottom of the beam.

Ques. And then made your measurements afterwards?

Ans. Made my measurements afterwards.

Ques. There was no scale, in other words, on this white paper?

Ans. No scale whatever.

30 Ques. Was this an invention of your own, or was it something someone else had invented?

Ans. Well, it was one that I simply designed myself for this particular case. It is a usual system used in making any small measurements for electric galvanometer tests, and also—

Ques. No, I don't mean that—the whole instrument, was that your own idea?

Ans. Yes, my own idea, with the assistance of my assistant—between the two.

By Mr. French:

Ques. You said this continued until about five o'clock?

Ans. A little before five o'clock I changed to the east and west observation.

Ques. What was the result of the east and west observation?

Ans. The result of the east and west observation was a very small movement, and one that I could make very little of. There seemed to be about a sixty-fourth movement—that is, when you made the necessary subtraction of the width of the beam—but it was a mere tremor and not measureable. 10

Ques. Did you change it again to the north and south?

Ans. I did not change it again to the north and south.

Ques. Did you notice at all when the vibrations ceased?

Ans. The tremor in the east and west direction ceased about 5.18. 20

By the Vice Chancellor:

Ques. How appreciable a difference, when you were testing north and south, did the passage of a trolley car make, in figures of inches, or proportions of inches?

Ans. The observations I made were that they were about four times—that is, the actual observation was one four-hundred-and-sixty-seventh part of an inch.

Ques. If the normal north and south was one twenty-two-hundredths of an inch, what would it be when the trolley car went by? 30

Ans. It would be one four-hundred-and-sixty-seventh part of an inch when a trolley car went by.

By Mr. French:

Ques. Will you describe the character of these vibrations, whether they were irregular or rhythmic? State what they were like.

Ans. The vibrations in a north and south direction, in general, were regular, but the intensity of the vibration varied; there was some variation; they apparently increased and decreased, but I think that that could be put down to the personal observation, that is, the vibrating of light is very hard to observe accurately, so the running a little above or below the 190 would simply be due to the personal error.

- 10 Ques. State the difference in vibration and movement of the earth between engines placed on a solid concrete foundation on the ground, and those on the second floor of a building on a reinforced concrete foundation.

Mr. Grey: I do not think the witness is qualified on this point.

The Vice Chancellor: You may cross-examine.

- 20 By Mr. Grey:

Ques. What experience have you had, Mr. Smith, in regard to the foundation of machinery in buildings?

Ans. I have located the machinery in connection with the pumps, which have a concrete and brick foundation; and in connection with high speed engines—well, the engines on board of a ship of course are on a steel foundation.

- 30 Ques. What experience have you had in either observing or locating engines on land on a concrete foundation, as compared with some other foundation?

Ans. Personally I have only observed them in connection with others—that is, I personally have not been called on a case. I, in connection with other engineers, have observed the installation, and the results of troubles from vibrations, as well as in my work at college.

Ques. Where have you made such observations with others?

Ans. The observations were made in connection with some of the engines in Baltimore of the Baltimore Dry Dock Company, in connection with the compressor, air compressor; and at the location of engines at the Newport News plant.

Ques. Stop at the Baltimore plant for a moment. Where were those engines located?

Ans. Those engines were located in the power house, which is on the right hand side of the dry dock. 10

Ques. Was it on firm ground, or on a wooden construction over water?

Ans. That was on piling.

Ques. On piling over water?

Ans. On piling, with concrete above.

Ques. What floor were those engines on?

Ans. Those were on the first floor.

Ques. How about the Newport News engines?

Ans. At Newport News they were also on the first floor. 20

Ques. On what foundation?

Ans. They were on brick foundation, brick and cement.

Ques. And was it on the ground, or on piling, or what?

Ans. There was some piling in there, but not very much; it was mostly driven into the ground.

Ques. Any other places?

Ans. At Jeanesville—the location of pumps; some of them were located in the mines, the pumps, and the hoisting engine located at the surface. In that case they were on brick foundations and were simply built into the ground, of course, the ground being firm. 30

Mr. Grey: That is all that I desire to cross-examine. I do not think the witness is qualified.

The Vice Chancellor: I will hear Mr. French as to how he thinks he has shown that the witness has any

knowledge about the effect of vibrations of engines erected above the ground floor. He does not seem ever to have observed them.

By Mr. French:

Ques. Have you ever observed any engines or dynamos above the ground floor?

Ans. Do you mean in making—

10 Ques. Under any circumstances? Pardon me, one question: In this cross-examination have you been speaking of matters where you have been called on as an expert, or to assist experts?

Ans. I mean I have been in observation in connection with them at different times.

Ques. In building them?

Ans. Generally, because I had drawn up the plans for the foundation, and was simply observing the erection and the results.

20 Ques. Now, have you ever drawn up any plans for or observed any engines on the second floor of buildings?

Ans. I have not drawn any plans or located them. I have seen several plants where they were on the second floor, but as far as making observation I did not make any test as the result of the observation of the second floor work.

Mr. French: I justify the question only from his expert mechanical engineering knowledge—that because of that he is competent to express an opinion as to the vibration.
30

The Vice Chancellor: His last answer shows that he should not be called upon for an opinion about a matter that he has never made such observations as he could base an opinion upon. That is what I understood his last answer to imply.

Mr. French: Probably your Honor misunderstood me. I mean that his education has been such that he is competent to express his opinion as to the difference in vibration between these two methods.

The Vice Chancellor: You may ask him about that.

Ques. Do you know, as a student, the difference between the construction of engines on an elevated floor and on the ground, as to affecting vibrations?

Ans. I do.

10

Ques. State what that is?

Mr. Grey: I object to that.

By the Vice Chancellor:

Ques. Is that a matter about which you can express an opinion founded upon your studies with equal force and effect with an opinion founded upon experience after you had ceased your student labors and became a practiced engineer?

20

Ans. I think, sir, it is; but the question itself is one that cannot be answered absolutely truly in any case; it is a matter in each individual case to be considered.

Mr. Grey: I understand by that last answer the witness has disqualified himself to testify as an expert.

The Vice Chancellor: No; he says he knows the general principles, but that they will have to be applied to each individual case—that is what you mean?

30

The Witness: Yes, sir.

By Mr. Grey:

Ques. What studies have you made, Mr. Smith, which will entitle you to base an opinion, which would be of any use, as to vibrations caused by engines on the second floor, as distinguished from engines on the first floor?

Ans. The studies of mechanics and engineering at the Glasgow University.

Ques. What character of studies? What are they about? Where did you get any data, if you have had no experience or observation on that subject?

Ans. The data is largely considering the moments of force—in other words, the intensity of the vibration which would come of machinery in different positions in relation to solid foundations, or with relation to a fixed data line.

10

Ques. You mean, having hypothetical data given you, you made calculations?

Ans. We made calculations of the tendency toward vibration, not of the vibration, because that could not be measured excepting in the actual case.

Ques. Now, what hypothetical data have you used?

Ans. In the college work the work was largely from lectures of the professor in charge, who was Dr. Bower, of the University.

20

Ques. On what subject?

Ans. On the subject of mechanics. They called it simply the "Engineering No. 1 Course," and so on; but the course of lectures was general, upon general engineering subjects.

Ques. And was there any specific subject relating to vibrations caused, or that might be caused, on a second floor, as distinguished from engines on a first floor?

Ans. The subject was largely as to the effect of vibrations.

30

Ques. Caused by what?

Ans. Vibrations which might be caused by anything, or carried by any force.

Ques. And vibrations in what medium?

Ans. Vibrations both in solid medium and in air.

Ques. Are there any text-books that you studied on that subject?

Ans. Well, I can't run back—it will occur in several text-books; I cannot definitely lay my finger on any special one, because it was all in the lecture work.

Ques. Can you name any one text-book that you used?

Ans. Cottrell's *Mechanics*.

Ques. I mean, covering this subject?

Ans. My recollection is that there was some in that book; that that book was one of those.

Ques. You mean that in that book there was some discussion of the comparative vibrations caused by engines on the first floor as distinguished from engines on some other floor? 10

Ans. No, I have said it did not refer to that, but simply to the effect of the moments of force.

Ques. Did you ever do any experimental work, or make any calculations comparing the effect of engines on a first floor and on a second floor?

Ans. No, I did not.

Ques. What was the name of the professor there?

Ans. Dr. Barr.

Ques. Did he ever give you any lectures exactly on that subject, discussing and disclosing how vibrations coming from engines on a second floor would affect the ground, as compared with vibrations coming from engines on a first floor? 20

Ans. Not in regard to engines. We simply had the general subject of vibrations.

Mr. Grey: I think the witness is not qualified.

The Vice Chancellor: I will permit him to answer the question. 30

By Mr. French:

Ques. What, in your opinion, is the difference in vibration in the adjacent earth, caused by engines upon a reinforced concrete floor, on a second floor of a building, and similar engines on a concrete floor on the first floor of the same building?

Mr. Grey: I suppose that is a hypothetical case. There is nothing in the case here to which that question relates, because the question does not cover the facts in the case.

The Vice Chancellor: What fact does it omit, or what fact does it contain that it should omit?

10 Mr. Grey: The engines in this hypothetical case are located on the first floor under certain circumstances. The question does not disclose to the witness the capacity of the engines, or the weight or power, or anything about them. It seems to me that the hypothetical part of the question that does not relate to the case is as to the first floor, and the possibility of what might happen if the engines are put there.

The Vice Chancellor: He may answer the question.

20 Ans. In answering that question, as I understand it, the engines are exactly the same, above and below, and under those circumstances, if there were vibrations in the engine, the distance from the second floor to the first floor would tend to make a certain amount of elasticity, giving a certain amount of elasticity to the foundation, and the vibrations would become more apparent in the case of the engine, and, becoming continuously more apparent, the vibration would be longer—not more rapid, but longer—than it would in the other case. It is a case where the exact conditions of the power
30 plant would come in, and could not be determined except in that case, because one foundation may be put up thoroughly solid and of such length that the vibrations would counteract each other; that is, there would be no pendulum effect; whereas, right on the ground, where the foundation is very solid and can be observed in the construction, the materials put in could be ob-

served in such way that it makes a thoroughly solid foundation, there is no chance for the vibration to intensify itself.

By the Vice Chancellor:

Ques. I understand you, then, that it is possible that there would not be any difference?

Ans. It is possible there might be no difference, and it is possible there might be considerable difference.

Ques. Is it possible that it might be less?

10

Ans. It is hardly possible that it might be less, for the reason that the foundation could hardly be as strong on that second floor, where it was simply a concrete foundation on columns, as where it was built right into the earth. There must be a certain amount of elasticity.

Ques. You think it could not be less?

Ans. It could not be less.

Ques. There would not be any loss of power in traveling the distance between the second floor and the ground, in your opinion?

20

Ans. There would be a certain loss of power in traveling from the second floor, but the probability is that the elasticity of the building would tend to increase the amount of the vibration. It might run below, or it might and probably would run above.

Ques. Do you think that the vibration of the adjacent earth would be caused by the contact of the side of the building at its meeting place with the earth, or would it be communicated through the foundations of the building?

Ans. Communicated through the foundations of the building.

30

By Mr. French:

Ques. Did you hear the testimony of Dr. Hart with reference to the motions of the Prettyman house east and west, rather than north and south; the east and

west vibration of the Prettyman house being greater than the north and south vibration?

Ans. I did not hear it directly; I was in the room, but I did not catch it; it was simply repeated to me.

Mr. French: I want to know what this witness' opinion is about that.

The Vice Chancellor: Just ask some question then.

10

Mr. French: I am afraid I cannot frame in a question just what Dr. Hart said.

By the Vice Chancellor:

Ques. Assuming that it is a fact that in a given house there was three times the amount of vibration east and west that there was north and south—what, in your opinion, would cause the difference?

20

Ans. The variation could hardly be determined in a general way. Under these particular circumstances I would judge that the vibration is not truly in the north and south direction, but is slightly in the other direction; and as I understand the Prettyman house is longer in the north and south direction, and also is pretty well built into adjoining houses at one end, it would tend to decrease the vibrations in the north and south direction; whereas, the building in the east and west direction is narrow, and the variations might be intensified.

30

By Mr. French:

Ques. While you were making your observations in the Seligman house, could you tell whether the Victor plant was in operation, other than by your observations of your mechanism?

Ans. Yes.

Ques. How did you tell?

Ans. By the sound, which was very apparent.

Ques. Could you tell when the Victor plant shut down?

Ans. The sound disappeared; that is, the particular sound which we could hear at the time—what was apparently the hum of the dynamos and the exhaust from the exhaust pipe.

10

Cross-examination.

By Mr. Grey:

Ques. Mr. Smith, how is the Seligman house as to dimensions—which way is it longer and which way narrower?

Ans. It is longer in the north and south direction?

Ques. And do you know whether any of its walls are the walls of any other building?

20

Ans. The division wall between that and the house in the westerly direction is apparently a party wall.

Ques. Mr. Smith, familiarize yourself with Exhibit D1, will you, please?

Ans. Yes, sir.

Ques. Mr. Smith, suppose that there were engines and dynamos on the place marked X on Exhibit D1, and the mechanism is operating, as to shafting rods, and so forth, in a north and south direction, where would any vibrations caused by such operation, or, rather, in what direction would any vibrations caused by such operations, affect the surrounding earth?

30

Ans. The general effect would be in a north and south direction, although, due to unbalance of parts, there would probably be some east and west, which might be greater or less according to the actual conditions of the engine itself.

Ques. You mean there would be no vibration excepting by unbalance of parts?

Ans. In the easterly and westerly direction.

Ques. But in the north and south there would be some anyway?

Ans. There would be unbalance of parts and a certain swaying of the machinery in such direction; it would be due to the swaying of certain parts of the machinery.

10 Ques. Having regard, now, to the space to the eastward of the Seligman house and directly south of the power plant location X, would the vibrations in such place to the eastward of the Seligman house be apt to be more or less than those observable at the Seligman house?

Ans. They might be more or they might be less.

Ques. Why should they be either more or less?

Ans. It would depend entirely upon the character of the soil between the power plant and the house itself, the place of observation.

20 Ques. Suppose the character of the soil was the same, whatever it was, what would be your answer?

Ans. If it was the same, the probability is that in that short distance the difference would not be observable.

Ques. Would not be observable by what?

Ans. By any ordinary means of measurement.

Ques. Or by sensations in the human body?

Ans. The difference would not be.

Ques. Would not be observable by sensations in the human body?

Ans. By sensations in the human body.

30 Ques. Suppose the engines in the place marked X were operating at this speed, one engine at 250 revolutions a minute, another engine at 195 revolutions per minute, another one at 200 revolutions a minute, and an air compressor at 95 revolutions per minute, and that there are other things like feed pumps operating in the same room at lower revolutions, what would you say would be the timing of any vibrations caused by such operation at the Seligman property—would that require calculation?

Ans. It could not be told exactly, because each individual engine would have a different amount of vibration, and the exact effect of that on the general vibration could not be determined by a calculation.

Ques. Well, suppose, in the Seligman house, you observed 190 vibrations a minute; from that 190 vibrations a minute can you tell and do you know that there were operating in the Victor plant at X at that time engines of the character and speed that I have named?

Ans. I do not. I know nothing of the engines at all. 10

Ques. Well, now, knowing that engines of that number and speed per minute were so operating, can you say that the 190 vibrations a minute were caused by those engines, or, rather, by that operation of those engines?

Ans. I judge they were so caused from the observation of the panting, or, rather, the exhausting of the steam from the engines, which pulsated, apparently, the same number of times per minute as the observations.

Ques. The amount of vibrations from the 250 revolutions would be very slight— 20

Mr. French: I do not think the statement is 250 revolutions. My recollection is one of these engines ran at 200 revolutions and the other from 195 to 200.

The Vice Chancellor: That is my recollection of it. I would have called his attention to that long ago if I thought he was doing anything more than testing this witness's mechanical knowledge. If you desire to quote testimony literally, then I think Mr. French's recollection is correct; I think one of those was 210 and the other was between 190 and 200. 30

Mr. Grey: There was also an engine of 125 horse power, with 250 revolutions a minute.

The Vice Chancellor: Who testified to that?

Mr. Grey: I think Mr. Haddon did, and I think Mr. Witham did.

Ques. Look at C on D1, the place marked C?

Ans. Yes, sir.

Ques. Now, suppose there is in C an engine of 125 horse power, revolving at the rate of 250 revolutions a minute; and that there is in X an engine on the second floor operating at 195 revolutions per minute, and also
 10 another one operating at 200 revolutions per minute, and an air compressor at 95 revolutions per minute; can you, by ascertaining 190 vibrations a minute in the Seligman house, say that those vibrations were caused by engines of the character and operating at the speeds that I have named?

Ans. It can only be judged, because as a vibration is not a tangible article it cannot be traced; it can be judged by the general character of the case, and the observation of the exhaust.

20

By the Vice Chancellor:

Ques. Let me ask you: If you have not ever ascertained anything at all about what was to the north of Mr. Seligman's property, and had gone in there and made the exact tests that you did make, could you have formed any judgment that was worth while as to what caused the vibrations you observed?

Ans. I could have formed a judgment that it was caused
 30 by at least two engines which were apparently of speeds different but near.

Ques. But nothing else?

Ans. Nothing beyond that.

By Mr. Grey:

Ques. You mean speeds different from each other, but near to each other?

Ans. Different from each other, but near to each other, in all probability, from the character of the vibration.

Ques. But could you say that the vibration was not caused by some larger collection of engines at some other location?

Ans. I could not say it was not caused by a large collection of engines in some other position; all I could say is that, from the location of the testing point and the location of the power plant, they were apparently from there—and from the observations of the exhaust from the power plant. 10

Ques. Do you now whether the Lambert & Todd Machine Shop was operating at the time you did make these tests, or not?

Ans. I do not.

Ques. Do you know what other engines in the neighborhood were in operation, or were not in operation?

Ans. No, I do not. The observations were made at such an hour that the probability is that other engines of their character would be operating. 20

Ques. In other words, it was done during the business part of the day when factories that do run would be running—is that your answer?

Ans. Yes, sir.

Ques. Mr. Smith, did you measure the exhaust from the Victor pipe? You said something about measuring exhaust, didn't you?

Ans. I said that from the sound of the exhaust.

Ques. What "from the sound of the exhaust"?

Ans. That the sound of the exhaust was apparently of the same frequency as these vibrations, as near as we could observe. 30

By the Vice Chancellor:

Ques. Every time there was a puff of the exhaust there was a vibration, as you call it?

Ans. Well, that would be the result, but of course the observation was that the frequency of the pulsations was approximately the 190, which was the result of our several vibration measurements.

Ques. You did not measure or observe any vibrations when the plant was not operating, did you?

Ans. I observed when the plant stopped operating there was apparently no movement of the light beam, except under some unusual circumstances, as a trolley passing, or something of that kind.

10

By Mr. Grey:

Ques. Well, did you make any north and south test after the plant had ceased operating?

Ans. No north and south test after the plant had ceased operating, but the observations were entirely made on the small vibrations in the east and west direction.

20

By Mr. French:

Ques. What is the annoying part of the vibrations in Mr. Seligman's house?

Mr. Grey: I object to that.

The Vice Chancellor: Do you ask him that as an expert?

30

Mr. French: I ask him as a man who was there. He felt them.

The Vice Chancellor: I know; but is there such a thing as a normally "annoying thing"? I don't know.

Mr. French: I cannot very well answer without explaining the question.

The Vice Chancellor: I know; but it seems to me you may ask this gentleman, not because he was an expert, but because he was there like anybody else who might be there, what the effect on him was, if you want it; but I do not think you can ask him what the annoying thing was. It might be very pleasant to one man and not to another.

Ques. Did you observe vibrations in the Seligman home by vibrations in the body?

Ans. I noticed a very slight vibration which was very continuous, but, under the exact circumstances when I took it, I was not there long enough for it to become unpleasant; but I could easily see how it would be unpleasant, as any continued vibration, no matter how slight, has an effect upon the nerves that sort of unstrings one; that is the only expression I know to use. In addition to that question I would simply say that what I observed myself that caused the trouble was the sound vibration, which was most annoying to me personally.

10

20

By Mr. Grey:

Ques. Mr. Smith, you were annoyed, were you, by this noise?

Ans. By the noise, yes.

Ques. You spend a good deal of time, do you not, among engines and dynamos in manufacturing plants?

Ans. Yes.

Ques. That is part of your business, is it?

Ans. Yes.

Ques. And that annoys you?

Ans. Under those circumstances, I am usually running around. I will correct that statement in saying I was annoyed; I will say this, that I could feel the effect of the thing very apparently.

30

By the Vice Chancellor:

Ques. The effect of what thing?

Ans. The effect of the sound vibration.

Ques. What is the effect of the sound vibration—do you mean on the ear?

Ans. On my ear, on myself; and as to the effect on other people, each individual case of course has got to be taken into consideration. It does not disturb
 10 me to any very great degree.

ALBERT C. WOOD, recalled.

Ques. I show the witness an affidavit signed "Albert C. Wood," being one of the affidavits filed May 14, 1906, in this case, and dated the 12th of May, 1906, and ask you is that your signature?

20 Ans. It is.

Ques. And did you make and swear to that affidavit?

Ans. I did.

Mr. French: I offer the affidavit in evidence?

Mr. Grey: I object to it.

The Vice Chancellor: How do you vindicate the right to offer the affidavit?

30 Mr. French: Because it is an affidavit that the defendant himself put in in this case with respect to vibrations measured in No. 121 Market street.

The Vice Chancellor: Do you mean as an admission, practically?

Mr. French: Practically as an admission of what he says he found there.

The Vice Chancellor: This is not the defendant.

Mr. French: It is a person employed by the defendant to do that. However, I will take it by testimony.

The Vice Chancellor: Well, if Mr. Grey objects to it I do not see that I can admit it.

Recess until 2 o'clock P. M.

10

Trial of the cause resumed at two o'clock P. M.

ALBERT C. WOOD, recalled.

By Mr. French:

Ques. Mr. Wood, did you make some test for vibration for the Victor Talking Machine Company on the 12th of May, 1906? 20

Ans. I did, sir.

Ques. Where?

Ans. At 123 Market street.

By the Vice Chancellor:

Ques. Is that the Prettyman house?

Ans. The house next to it, to the east. 30

By Mr. French:

Ques. And any other place?

Ans. No, sir—or, yes; I will correct that—in the office building at 119 Market street.

Ques. With a mechanical device of what kind?

Ans. With a form of seismograph, consisting of a heavy weighted pendulum, with a lever for magnifying the vibrations.

Ques. What did you find the vibrations to be at 123 Market street?

10 Ans. As I remember it, the vibrations in the room on the second floor of 123 Market street, where we made these observations, showed a maximum, or were a maximum, under ordinary conditions, of about two one-thousandths of an inch, or one five-hundredth of an inch, and ordinarily were very much less than that. The pointer of this mechanism which we used vibrated through a space less than one thirty-second of an inch.

Cross-examination.

By Mr. Grey:

Ques. Did you hear Mr. Witham's testimony and Dr. Hart's testimony in this case?

20 Ans. I have.

Ques. Is the instrument which you used on the 12th of May as accurate as the instrument used by Mr. Witham and Dr. Hart in their tests in the room 121 Market street?

Ans. It is not as accurate as the optical lever instrument which we used in those tests.

Both sides close.

