



Accomplishments and Plans
of
The Port of New York Authority

Address by

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Counsel, The Port of New York Authority

Before the
American Association of Port Authorities

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Address by Julius Henry Cohen, Counsel, The Port of
New York Authority, before the American Association of Port Authorities, St. Louis, Mo.,
October 6, 1927



The Port of New York Authority is very much of a youngster in the family of port authorities, since its sixth birthday was only celebrated on the 30th of last April. Compared with the Port of London Authority or the Mersey Docks and Harbour Board, the Port of New York Authority is just an interesting youngster "coming along". It only began to walk, as a matter of fact, five years ago, when the necessary legislation enabled it to get upon its feet. However, on Wednesday, September 21st, 1927, an historic event of great significance took place on both sides of the Hudson river. It was the official celebration of the breaking of ground for the construction by the Port Authority of the great bridge that is to span the Hudson, with towers reaching into the sky 625 feet, one hundred feet higher than the Washington Monument; the largest span in the world, twice that of the Camden-Philadelphia bridge, and that is confidently believed will be the most beautiful structure of its kind in the world. Upon this occasion the Governors of two states, United States Senators and other public officials were present. Editorial comment was made in all of the important newspapers of the port district.

This is one of four bridges being built by the Port of New York Authority. It is building three other bridges connecting the States of New York and New Jersey. Two will be finished next year. These bridge structures alone involve a capital expenditure of approximately one hundred million dollars. The Port Authority has outstanding bonds of its own issue amounting to thirty-four million dollars, and in the course of the next five years will approximate bond issues aggregating not less than one hundred millions.

Of course, the bridges are not the only terminal improvements which the Port Authority has under way, and the figures alone do not indicate the gigantic character of these physical undertakings. They are, however, commonly referred to as *accomplishments*. And to the man in the street these physical and visible evidences of the work of the Port Authority are the things which make it a living, vital public institution. But in this group one may be permitted to go beneath the surface and to think a little more deeply than does the man in the street. We come here each year to exchange experiences and to learn from those experiences. In this company, merely to recount the physical or financial accomplishments of the Port of New York Authority would not be an adequate presentation. In the few moments allotted to me I purpose to deal with *accomplishments* of a wholly different character, to speak of matters which are usually considered only at meetings like this one.

First of all, I shall deal with what I regard as the most signal accomplishment of all. Permit me to make a detour for a moment, upon the assurance that I shall come back to the main highway. Anyone who has followed the development of American public opinion on economic questions must be cognizant of a very important change which has come over that opinion during the last decade, just about the period that has passed since the creation of the Port Authority was first considered by New York and New Jersey. The Sherman anti-trust law represented perhaps the fullest expression of American public policy of its time in dealing with economic questions. Stated most succinctly, it is based upon the assumption that the freest form of individual competition is the surest guarantee of successful national economic development. Today we hear discussion all over the country of needed changes in the Sherman anti-trust law. This discussion proceeds from a new conception of American economic policy. The great economies that have been achieved through large scale production, through consolidations, through the application of the chain store principle, through the cumulative effect of many savings accomplished by the elimination of duplication of effort, have brought American public opinion to the point where the accent now is upon the policy of large scale cooperation. There is a reason for the word *corporation* and its resemblance to the word *cooperation*. It is the bringing together of many units under a single managerial head. I have indicated that this was a change in American public opinion, but it is broader even than that. A change has come over European economic public opinion, a mighty

change. Following the precedents of the past, when Europe arose from the recent conflict, each nation once more strove for economic self-sufficiency. Each nation stressed its industries from the point of view of national success. "But," says Evans Clark,* "as time went on, the conviction began to grow in Europe that cooperation is often better than competition—particularly when each of the competitors lacks something that another has. It became increasingly evident that while the Continent as a whole might become an integrated economic unit, it would be impossible for each small national area to do so with success."

This change in economic public opinion, in an important though in a much smaller way, is strikingly visible in what has transpired within the Port of New York District within the last decade. That district embraces a population of nearly nine million people, a population equal to the entire population of Canada, a population greater than the entire population of Holland, a population equal to the combined population of Norway and Sweden. Within that district three sovereignties function in dealing with methods of transportation—the State of New York, the State of New Jersey and the Federal Government (commerce between the two states being interstate commerce and being under the paramount jurisdiction of Congress). Within that district is the City of New York, an empire in itself, spending in its budget annually more than four hundred million dollars (1926). But also within that district are many other cities in size, influence and power comparable to leading centers in the United States and elsewhere. For example, Newark is larger than Rochester, N. Y., or Cincinnati, Ohio. Jersey City is larger than Columbus, Ohio; Denver, Colorado, or Atlanta, Ga. Bayonne is larger than Harrisburg, Pa., and Elizabeth is larger than Canton, Ohio, while Hoboken is larger than Altoona, Pa., or Berkeley, California.

In 1917, when the State of New Jersey brought proceedings before the Interstate Commerce Commission (it is interesting to note that the prime mover in those proceedings chances to be the President of the American Association of Port Authorities) it was prompted by the spirit of self determinism, an eager desire of the northern part of New Jersey to find its place in the sun, an impulse less belligerent, less warlike than that of some European nations, but nevertheless a very distinct impulse to develop its own natural resources independently of those of New

*New York TIMES, Sunday, September 25, 1927.

York State and especially of New York City. In 1917 official New York City regarded the people on the New Jersey side of the port district as foreigners and aliens, and as late as 1924 a Mayor of the great City of New York seriously referred to the people on the western side of the Hudson river as a group of foreigners. In other words, each of the large constituent elements in the New York port district dealing with the public phases of port and transportation facilities approached its problems from the point of view of its own self-sufficiency, its own local welfare, deliberately shutting its eyes to the needs of its neighbors. In rendering its decision, the Interstate Commerce Commission referred to the dividing lines of political sovereignty which separated the states from each other, which it said precluded the carrying forward of large interstate projects very much needed in the proper functioning of the district as an economic unit. Yet the simple fact was that the entire district was an economic unit, the communities were interdependent, their success literally depended one upon the other. None was sufficient unto itself. The strict application of the law of competition by each community would have meant self-destruction. Wise men on both sides of the river, undoubtedly influenced by the changing trend in national and international public opinion, began to apply the principle of cooperation instead of the principle of competition.

It took from 1917 to 1921 to secure the acceptance of this principle in the shape of a compact or treaty between the two states by which the two states should function through a common agency. The compact recites that the district being one historically, geographically and commercially, "it is confidently believed that a better coordination of the terminal, transportation and other facilities of commerce in, about and through the port of New York, will result in great economies," and "such result can best be accomplished through the cooperation of the two states by and through a joint or common agency." The mere bringing about of this pledge of cooperation, the mere signing of a treaty between two sovereign states, consented to by Congress, was a tremendous accomplishment. It not only solved a legal problem, but it changed the working philosophy of the two states in dealing with each other. It meant that the economic factors which determined the life and prosperity of the nine million people within the district were ultimately to triumph over those factors of local pride and narrow provincialism which there-

tofore alone worked for the success of various sections and various communities.

In the first place, it brought about a unity of chambers of commerce and trade organizations in the entire port district. Of course, they could not give up their local plans, their local hopes, their local ambitions; nor should they give them up. The principle of cooperation does not mean the sacrifice of the development of either the individual's or the community's highest possibilities. But there was a gradual recognition, as there is in Europe today, that communities prosper as they work in coordination with other communities, and that in the consideration and respect for the possibility in each individual community's development, all find freer opportunity for development. Put in the homely phrase of our fathers, it was the policy of "Live and let live" made more affirmative and positive—the policy of "Help the other fellow to live".

It would not be accurate to give the impression that all of the one hundred and eighty-five municipalities within the port district are now freely imbued with this new spirit. We still find in the editorial columns of a recent issue in the eastern section of the port district the suggestion that the Port Authority is more favorably disposed toward the western section of the district, and on the same day an editorial in the leading paper in the western section of the district criticising the Port Authority for being too favorably disposed toward the eastern section of the district. And from day to day we will meet a New Jerseyman who says that the Port Authority is more favorable to New York, and New Yorkers who say that the Port Authority is more favorable to New Jersey. It will be many years before this point of view will be changed. But it has been modified. The Acting Mayor of New York City, at the Hudson river bridge celebration to which I have referred, said:

"... the City of New York wants it known . . . that it does not look with suspicion on the Port Authority in the State of New York and in the State of New Jersey. It does not look upon it as some superpower actuated by selfish purposes and for discrimination against the great State of New York; it realizes in the fullest degree that there are problems connected with the Port of New York that cannot be solved by any one single community of that Port, and that these problems can best be solved through the agency that it has in the Port Authority."

The Governors of the two States each referred to the Port Authority as the agency for the building up of both states, Governor Moore of New Jersey referring to the bridge as "another link in that strong bond which binds us in friendly and business relations with the great Empire State." The Newark Evening News, one of the most influential papers in the State of New Jersey, under date of September 22, 1927, saw in the building of the bridge crossing the Hudson the removal of "another barrier between two friendly states" and in it an augury "of the new day of concord which leads men of differing aims to seek and find agreement by the way of common sense and common brotherhood, instead of remaining apart and nurturing misunderstandings, jealousies and rivalries boding no good to either." Another writer (Staten Islander, Sept. 17, 1927) saw in the work of the Port Authority in building the two Staten Island-New Jersey bridges, "fine examples of what 'the government' can do when it wants to in the line of speed. The Port Authority is a more or less political body, but it has devoted itself to the task of erecting bridges and has gone at the work in a manner that promises to finish the job months ahead of schedule." This, the writer pointed out, could not have been done without the cooperation of New York City and borough officials. "It is quite an unusual spectacle," he says, "this one of an interstate body and officials of three cities working hand in hand on a job of such size, with each group striving to outdo the other in the matter of speed." And he says that this cooperation of the Port Authority, the President of the Borough of Richmond and Perth Amboy and Elizabeth officials has set an example that might well be followed by other municipalities.

The bringing about of this spirit of cooperation in a period really of less than six years, I think the members of the Association of Port Authorities will agree, is a much more significant *accomplishment* than the building of physical bridges or the raising of a hundred million of dollars. The farmer knows that it is not merely the crop of apples this year which counts, but he looks to the condition of his orchard and this year's crop of apples to him is merely the indicator of his orchard's productivity.

Obviously, such a result could not be brought about except through the efforts of a great many men, and here I come to another of the real *accomplishments* of the Port Authority, that is, the application of the principle of cooperation in another field, a field in which cooperation is not so frequent. I refer to the co-

operation of leaders in both political parties in both states, Republicans and Democrats alike. At the Hudson river bridge dedication, Governor Alfred E. Smith referred to the fact that the man who had but a short while before defeated him for Governor, Nathan L. Miller, drafted him (Smith) for service as one of the first Port Authority commissioners. As a result of that service, and that contact with the Port Authority, with his subsequent re-election to the Governorship, Governor Smith became the outstanding leader in educating the public to a proper appreciation of the nature and function of the agency. To him and to the first chairman of the Port Authority, Eugenius H. Outerbridge, more than any other two men must go the credit for outstanding leadership. But in both states Republicans and Democrats alike have broken down the barriers of politics in order to give expression to the economic forces that were at work in the building up of the port district. In this connection, those who have watched the progress of the Port Authority have seen what, on first examination, looked like a change in its program, and anxious friends have worried lest it be diverted from its original task. As the members of this Association know, it was originally created to coordinate the rail and water freight transportation facilities of the district. This work it is doing, not, in the case of rail terminals, with the same rapidity as in the building of bridges, but it is doing this work. The fact that the states, through their legislatures, added to the work of the Port Authority the building of these great interstate highway crossings, the fact that at the last session of the New Jersey legislature the Port Authority was directed to take up and study the metropolitan passenger or commuter problem, with a view to making provision for adequate interstate passenger transportation as a part of the bi-state Comprehensive Plan, are significant of the trend of these large economic forces to which I have alluded. The principle of cooperation being accepted, the next step was the creation of an agency which could perform the function of cooperation. The growth of great metropolitan centers has brought transportation problems, the like of which has never been seen before. Staggering figures of cost and capital investment are presented. The subway system of New York City alone involves items running into the hundreds of millions. The City of New York finds itself at the present moment in a position where every dollar of its borrowing capacity must be used to provide new

passenger transportation for its residents, not to say anything about the needs for education, water supply and other facilities—urgent requirements. Taxpayers are overburdened. The cost of living is mounting. Some machinery must be found, some institution must be created, to provide these facilities without adding to the burdens of the taxpayers. In the Port Authority the two states created such an institution. It is not limited in its borrowing capacity as are the states or the municipalities within the district. The Port Authority is limited in its borrowings only by economic factors. Facilities which it creates must be self-sustaining and self-amortizing of the debts created for the bringing of them into existence. The Port Authority has no power to pledge the credit of the states or of any of the municipalities nor to levy taxes. Otherwise its borrowing is without limit. It may charge tolls over the bridges. Again, the communities and the states have awakened to the fact that if the debt service in any enterprise is based upon a six or seven per cent. interest charge, it means that each user must pay a higher toll or a higher fare than if the debt service is based on a four or a $4\frac{1}{4}$ per cent. interest charge. To create such facilities as interstate tunnels and bridges, therefore, meant that there had to be created a new kind of municipal instrumentality, one that could borrow at low rates of interest. The Port Authority is such an instrumentality of the two states. Its credit is now solidly established. It sold its first bonds on a four and one-half per cent. coupon, at a money cost of 4.77. It sold its second bonds on a four per cent. coupon at a money cost of 4.24. Not a dollar of this is to be repaid out of taxation.

New York State, learning from its experience at the Port of New York, has within the past two years, established a port authority at Albany, giving it powers even greater than the two states gave the Port of New York Authority. It is now on the way toward the establishment of a Buffalo-Niagara Port Authority on the Niagara frontier. During the same period New Jersey created a similar authority for Camden, New Jersey, at the port of Philadelphia, giving that body power to assess for improvements. These port authorities in New York and New Jersey are the children of economic necessity. The idea has taken firm root in the two states.

In short, the very economic necessities of the situation have brought about a change in public opinion as marked as the change in public opinion brought about by economic conditions in Europe.

This change in itself is an accomplishment. It means that public opinion has awakened to the fact that its economic necessities must be met and met in a newer and more efficient economic way.

And now I come to another *accomplishment*. A good deal is said about the incompetency and wastefulness of governmental agencies. The Port of New York Authority has furnished the opportunity to test out a method of operation of governmental agencies. The six commissioners of the Port Authority are business men. It is true that they owe their appointments to the Governors of the states, who are themselves political officials. But due to the vision of the Governors who have, thus far, appointed the commissioners to the Port Authority, there have been chosen for these offices men who primarily consider port and transportation problems from the point of view of their economic soundness. It is a great tribute to the Governors of the States of New York and New Jersey that, during the six years of the existence of the Port Authority, they have appointed to the Port Authority commissioners specially selected because of their grasp of large business and financial matters. I am attaching to this paper a "Who's Who" of the Port Authority, in order that the members of this Association may know the men who are really responsible for the success of that agency. If you look at this "Who's Who", you will find that three of the commissioners of the Port Authority are presidents of banks, one the president of one of the largest savings banks in the country. Each of the others is a successful business man. Not one of the commissioners looks at Port Authority problems from the point of view of Democratic or of Republican policy, or from the point of view alone of the state from whence he comes. In short, we have a governmental agency made up of men appointed especially because of their business qualifications. In England it is a high honor to be selected for membership in the Port of London Authority or the Mersey Docks and Harbour Board. Men there serve as a matter of public service, without other compensation than the honor which their positions carry. In the Port of New York Authority, too, commissioners serve as matter of public service, without compensation. Through such commissioners as these, there has been built up a staff of men selected because of their expert qualifications for the work to be done. This is the natural thing for business men of the type of the commissioners of the Port Authority to do. They give all the time necessary to careful study and responsible decision, but

in order to make responsible decision they must have expert advice and expert information upon which to rely. Because they are competent executives, they know that the only way to get such expert advice and information is to get the best professional skill that can be obtained. I was of opinion, when preparing this paper, that you would be interested to know who the men were that had been thus gathered together by the commissioners of the Port Authority, and so I am appending, in the "Who's Who" attached to this paper, a brief sketch of the important men in the organization of the Port Authority. I think you will agree with me—of course, leaving out the present speaker—that it is an *accomplishment* to have brought together a group of men with such experience and such training. I think this organization can be matched up with any organization of similar size and character in the world. There is hardly any doubt that most of the men in this list could be earning more money in private employment; but just as in the case of the commissioners, the staff is imbued with a fine sense of public service. There is a great job to be done. There is a great joy in participating in the doing of this job. I have had some experience and contact with institutions and organizations of men. I know of no organization that has a better *esprit de corps* than the staff of the Port of New York Authority. As I said before, the farmer measures his progress not by the crops of apples that he is able to send to market, but by the condition of his orchard generally.

I have said that the Port Authority has established a financial credit. To be able to borrow money on the basis of its borrowings means a public confidence in the integrity and efficiency of the men in the institution. Character, knowledge and ability are the three assets that make for credit. It is because the Governors of the states in the first instance appointed men of the character of the commissioners to the Port Authority and because they, in turn, have selected the kind of men who are doing the work, that these factors are to be found. That is not merely an *accomplishment*; it is a triumph. It answers the query as to whether or not government can do things efficiently. It can do so if it will trust governmental powers to men who will apply the same standards of efficiency to the public's work that they would apply in private business to their own work, and if it will draw into public service men who are ready to perform such public service with the same fidelity to the interests committed to their

care. Such men can be drafted into public service. The experience of the Port Authority demonstrates this fact.

At the dedication ceremonies of the Hudson river bridge ground-breaking, Governor Smith said: "The Port Authority, to my way of thinking, represents the modern agency for progress in public works." What he meant by this was that, through combining the powers of government with the methods of efficiency and skill employed in business, results were achieved making in a large way for better economic conditions. This truth is becoming every day more visible to the people in the Port of New York District. It is becoming visible in other sections of the country. On September 16, 1927, the Washington, D. C., *News* said editorially: "If the District Commissioners want to finance erection of a bridge to replace Chain Bridge without seeking a large appropriation, they would do well to study the manner in which the Port of New York Authority is financing three bridges connecting New York and New Jersey."

It will be observed that in thus recounting the accomplishments of the Port Authority, I have not put accent upon those things which are usually listed as accomplishments. I could make a long list of these. I could tell what was being done in the way of advice and cooperation with municipalities in their own local developments. I could tell of the studies that have been made for the establishment of better marketing facilities,—of union poultry exchanges. I could read a very interesting paper on the progress made in planning and laying out of off-station union rail terminals. But to me the outstanding accomplishments are of an entirely different nature. The lessons from the past five years are to my mind to be gleaned through a more careful analysis of the forces at work, of which the men in the Port Authority are mere agents. Barriers are being broken down, through a knowledge and appreciation of powerful economic factors. The same forces that are at work in Europe are at work in our own country. Indeed, the big lesson to be learned is that, in the creation and development of modern port and terminal facilities in great metropolitan centers, the principle of cooperation instead of competition must inevitably dominate.

In another field of the Port Authority's activity this principle of cooperation comes into play. It is inevitable, however, that in this field progress will not be so rapid. I refer, of course, to cooperation between the great trunk lines entering the port dis-

trict and the Port Authority. The principles underlying the Comprehensive Plan adopted by the two states are all applications of the principles of coordination and cooperation. The unification of carfloatage facilities, unified terminals, belt lines affording service to all trunk lines on equal terms—all these are practical applications of the same fundamental principles. Here, however, we must not overlook the fact that the great trunk line rail systems of our country have been built up almost exclusively on the principle of competition. Such rail terminal facilities as we now have are in the main the results of competitive initiative, the resourcefulness of individuals and capital investment by single large corporate units. Nationally, these trunk lines, while consolidating in themselves smaller units, are still huge competitors of each other. They have not yet adopted the principle of cooperative use of terminal facilities as a national policy. And yet the same economic forces at work will ultimately bring about this cooperation. The Interstate Commerce Commission in the New York Harbor Case referred to the competitive rivalries between the carriers as one of the handicaps to the development of modern terminal facilities in the port district. As more and more the facts become known—and the experts in the Port Authority know the facts—as more and more the waste, the loss of time in operations that are mere duplicates, the duplication of capital outlays, become known to the rail executives and to the public as well, pressure will come to change the existing conditions. Already along the waterfront of New Jersey disclosure of these facts has been potent in bringing into existence Belt Line 13. The same economic factors will play a very important part in future plans for commuter transportation service within the port district. In this latter field the railway engineers are now cooperating with the engineers of the transit agencies within the district and the Port Authority, at least to the extent of combining their knowledge and experience in one cooperative study. We are in the world of practical affairs, where knowledge is power. The engineering and statistical staffs of the Port Authority are daily gathering the complex data of our transportation service and analyzing it. The facts which they are disclosing are stubborn, irresistible facts. Acceptance of them may be delayed, but ultimately they will be accepted. Then changes will come naturally.

A new face has been put upon transportation in port districts like New York. The motor truck and the motor bus have come. No longer do we consider a port as a matter of ships and docks and rail connections. These new phases of transportation have directly affected the Port Authority's work. As I have pointed out, the legislatures by express legislation made the building of four interstate bridges a part of the Comprehensive Plan. This was not a diversion from the original plan. It was putting the more immediate and imperative ahead of the less immediate and imperative.

Bridges and tunnels across and under rivers and new highways enable motor trucks to move from terminal to destination more rapidly, reduce the shipper's haulage and reduce congestion in the streets, inevitably make the way for the use of less rather than more expensive land for freight gathering and distribution in congested centers. The economic factors which have played so important a part in the establishing of unified terminal service in cities like St. Louis and have brought about the construction of great union passenger stations, will control the result in the port district of New York. We cannot go on congesting our streets with motor trucks. The tremendous overhead that the shipper must carry in his freight service before he reaches the terminal and, afterwards, to get his goods away from the terminal, the pressure upon municipalities to provide new highways and streets, all these factors are at work.

These are the powerful economic factors, irresistible in their ultimate result which are at work. They may be controlled and guided. They cannot be stopped. To block the stream at one point is but to compel it to seek outlet at another. It is like the great waters that flood and destroy or are harnessed and generate new life. The engineer is in the saddle. His accuracy of observation, his careful planning, take account of these forces always. He can no more avoid taking them into account than he can avoid sunrise and sunset, or the tides. The business man is turning to the engineer for guidance. And the engineer knows that the old policy of individual competition is wasteful and costly. As the tariff walls of Europe are crumbling and falling under the pressure of economic necessity, so political barriers in port development are crumbling and falling, small prejudices and antipathies are crumbling and falling—ancient policies are giving way to newer and more enlightened ones.

I think the members of this Association will agree that I have given them an outline of the *accomplishments* of the Port of New York Authority—not by reciting its progress in building great bridges, nor its progress in establishing a superb financial credit, nor in other more detailed accounts of terminal development. I have tried to indicate how, in the establishment and operation of this agency, great economic and political factors have been put cooperatively to work in harmony with the needs of a living community of nine million souls, business and engineering skill of high order has been able to function with governmental authority in equipping the greatest port in the world the better to perform its function of transportation service.

Who's Who in Work of
The Port of New York Authority

Commissioners

SILZER, GEORGE S.—*Chairman.*

Following retirement as Governor of New Jersey in 1926, organized Interstate Trust Company, of New York, of which he is president and director and which has since taken over various other institutions; chairman of board of Broad and Market National Bank, of Newark; chairman of board of New Brunswick Trust Company, New Brunswick; appointed commissioner of The Port Authority by Governor Moore in 1926 and thereupon chosen chairman; reelected by his colleagues as chairman in 1927; admitted to practice of law in 1892; elected to State Senate from Middlesex County, N. J., in 1906, and reelected in 1909; appointed by Governor Wilson in 1912 as prosecutor of Middlesex county; appointed by Governor Fielder in 1914 as judge of New Jersey Circuit Court; reappointed by Governor Edwards in 1922; nominated for Governor of New Jersey in September, 1922, and elected in November; in gubernatorial administration brought about reform of State highway department; name placed before Democratic National Convention for President in 1924.

GALVIN, JOHN F.—*Vice-Chairman.*

Graduate, St. Francis Xavier College; 1912, Democratic presidential elector; 1916, delegate Democratic National Convention; commissioner, Board of Water Supply, New York City, constructing Catskill Watershed 1910-1919, serving three years as president and retiring by resignation; appointed commissioner of Port Authority by Governor Smith in 1923; president, Metal Stamping Co., New York City; director, Commercial Trust Co.; director, Manhattan Company Bank; director, Commercial Safe Deposit Co.; president and director, Arizona Copper Co.; president and director, U. S. Celloid Mill Corp.; director, National American Bank.

TWITCHELL, HERBERT K.—*Commissioner.*

Appointed commissioner of Port Authority by Governor Smith 1924; president of Seamen's Bank for Savings; with various banks prior to appointment as assistant cashier of Chase National Bank in 1900; became vice-president of Chemical National Bank in 1911 and member of Board of Directors in 1912; elected president of Chemical National Bank in 1917 and later as chairman of board; elected president of the Seamen's Bank in 1923; president and director of Southern Round Bale Press Company; director of Chemical National Bank, Bankers Trust Company, Franklin Safe Deposit Company, U. S. Life Insurance Co., the J. E. Curran Corp., United Combustion Engineers, Inc., General Heating Corp., Bank of Suffolk, Stony Brook; trustee Middlebury, Vermont College and of Adelphi College, Brooklyn.

FERGUSON, FRANK C.—*Commissioner.*

Appointed commissioner of Port Authority in 1924 by Governor Silzer; bank examiner for New Jersey eight years; cashier, Peoples Bank of East Orange, one year; vice-president and secretary, Savings Investment & Trust Co., of East Orange; president, Union Trust Company of New Jersey; collector of Internal Revenue for Fifth District of New Jersey from 1921-1924; president, New Jersey Bankers Association 1924-1925; president Union Trust & Hudson County National Bank, Jersey City; president, Pavonia Bank, Jersey City; president, Merchants National Bank, Jersey City; president Ampere Bank, East Orange, N. J.; chairman of board Highland Trust Co., Union City, N. J.; chairman of board First National Bank, Belleville, N. J.

RICE, SCHUYLER N.—*Commissioner.*

Educated at Rutgers; entered employ of Missouri Pacific Railway in 1901; made assistant secretary and assistant treasurer in 1914; resigned in March, 1915, to become secretary of estate of Jay Gould, continuing until 1922, when he became identified with George J. Gould; named executor and trustee of estate of George J. Gould in June, 1923, in which capacity he has since continued; appointed commissioner of Port Authority in November, 1924, and renamed for full five year period in 1925; director of New Brunswick Trust Company.

CULLMAN, HOWARD S.—*Commissioner.*

Appointed commissioner of Port Authority by Governor Smith in March, 1927; graduate of Philipps Exeter and Yale; vice-president of Cullman Bros., Inc., packers and importers of cigar tobaccos; assistant secretary of Stern-Mendelshon Company; secretary, Tropical Tobacco Company, Inc.; director of County Trust Company of New York; president of Beekman Street Hospital; president of New York Leaf Tobacco Board of Trade; trustee of Institution for the Improved Instruction of Deaf Mutes; trustee of Jewish Social Service Association, Inc.

Officers

RAMSEY, JOHN E.—*Chief Executive Officer.*

Indiana University; Indianapolis Law School; 1907-1908, assistant yard master, Illinois Central Railroad; 1908-1912, assistant chief clerk and chief clerk to superintendent, C. C. C. and St. L. Railway; 1912-1916, chief clerk to superintendent and division accountant, Missouri Pacific Railroad; 1916-1918, joint facilities accountant and chief clerk to comptroller, Delaware and Hudson Railroad; 1918-1921, chief statistician, New York, New Jersey Port & Harbor Development Commission; 1921-1923, chief statistician, The Port Authority; 1923-1926, chief, bureau of accounts and statistics; 1926 to date, chief executive officer, The Port Authority.

COHEN, JULIUS HENRY.—*Counsel.*

LL.B. New York University, 1896; admitted to New York Bar, 1897, and since practiced in New York City; attorney for Transit Reform Committee of 100, 1900-1905; counsel for mfrs. in cloak strike, 1910; in "protocol" experiment, 1910-1916; special counsel for Public Service Commission in street car strike, 1915; special deputy attorney general in New York Harbor Case; counsel and secretary, War Board for the Port of New York; counsel, New York, New Jersey Port and Harbor Development Commission; special attorney general, New York State, in emergency rent law test cases; general counsel, Port of New York Authority, 1921 to date.

LEARY, WILLIAM.—*Treasurer.*

New York newspaper editor; Secretary of Park Department under Mayor Strong; secretary of Fire Department under Mayor Low; State superintendent of elections under Governor Hughes; commissioner of elections under Mayor Gaynor; secretary of Panama-Pacific Commission under Governor Dix; secretary of Port and Harbor Development Commission appointed by Governor Whitman and secretary and treasurer of The Port of New York Authority when created in 1921.

VANCE, WILSON J.—*Secretary.*

Page in U. S. Senate, Washington, D. C., four years (48th and 49th Congress); Internal Revenue office, Toledo, O., two years; New York newspaper work two years; sporting editor, suburban editor, city editor, Newark Daily Advertiser; also service on Newark Evening News; secretary Mayor of Newark eight years; organized celebration of Newark's two hundred and fiftieth anniversary of founding and served as secretary at inception of project; resigned to become assistant secretary U. S. Brewers Association, 1915-1922; resigned to become secretary New Jersey State Chamber of Commerce, 1922-1925; resigned and was appointed assistant secretary Port Authority, May, 1925, appointed secretary, March, 1926; author Stone's River—A Civil War Study; contributor to several magazines; service in Spanish-American War, First New Jersey Infantry Volunteers.

Engineering, Architectural, Statistical and Transportation Staff

DRINKER, WM. W.—*Chief Engineer.*

From 1893 to 1918 resident engineer and inspector of bridges with Lackawanna Railroad; construction engineer for Delaware and Hudson Company; assistant engineer of Erie Railroad, including general charge of waterfront terminal work

at Cleveland, Chicago, Buffalo and New York; terminal engineer with New York, New Jersey Port Development Commission, 1918 to 1921; terminal engineer with Port Authority from 1921 to 1923 and since 1923 chief engineer.

GOETHALS, GENERAL GEORGE W.—*Consulting Engineer.*

Graduate U. S. Military Academy 1880; became Major in U. S. Engineering Corps, 1900; graduate Army War College, 1905; instructor in civil and military engineering U. S. Military Academy for several years; in charge of Mussel Shoals Canal construction on Tennessee River; became chief of engineers during Spanish-American War; chief engineer for construction of Panama Canal, first Civil Governor of Panama Canal Zone; state engineer of New Jersey in 1917; general manager of Emergency Fleet Corporation and otherwise identified with war activities in important work; relieved from active military duty, at own request, in March, 1919; appointed consulting engineer of New York, New Jersey, Port and Harbor Development Commission in 1918. Became consulting engineer of Port Authority upon latter's creation.

WILSON, BILLINGS—*Deputy Manager.*

Civil engineer; Ph.B., Sheffield Scientific School, Yale University, 1916; with construction department Baltimore & Ohio Railroad 1911-1916; assistant instructor Sheffield Scientific School, Yale University, 1916-1917; personal assistant to Francis Lee Stuart, construction engineer, New York, 1920-1922; since July, 1922, with Port Authority; member of Merchants Association Committee which defined limits of New York Metropolitan Region; Second Lieutenant, Engineers Reserve, July, 1917; sailed for France, November, 1917; command in Corps of Engineers, Regular Army, July, 1918; promoted to Captain, July, 1918; returned to U. S., August, 1919; resigned, April, 1920. Associate member American Society Civil Engineers; Society of Terminal Engineers; director Society American Military Engineers, Sigma Xi, Yale Engineering Association; Military Order of the World War, American Legion.

AMMANN, O. H.—*Bridge Engineer.*

Graduate civil engineer, Swiss Federal Polytechnic Institute, 1902; served in various engineering capacities in Europe and United States, including construction of Queensboro Bridge across East River and report to Canadian Government upon failure of first Quebec Bridge across St. Lawrence River; studies and tentative design for new Quebec Bridge; report to Pennsylvania Railroad on Hell Gate Bridge and approaches; design Provincial Government arch bridge across St. John's River; assistant chief engineer construction of Hell Gate Bridge and approaches; assistant chief engineer proposed

Fifty-Seventh St. Bridge across Hudson River; personal practice as consulting engineer in 1923, studies including tentative design for highway bridge across Hudson River at 179th St.; retained by Port Authority as Bridge engineer in 1925. Member of American Society of Civil Engineers; American Railway Engineering Association; American Society for Testing Materials, and American Association for Advancement of Science; awarded Thomas Fitch Rowland Prize by Engineers for papers on Hell Gate Bridge and Approaches.

STEARNS, EDWARD W.—*Assistant to Bridge Engineer.*

Graduate civil engineer, University of Wisconsin; in 1907, associated with McClintic-Marshall Company of Pittsburgh, serving in field, shop, engineering and drafting room forces on bridgework; subsequently assistant manager of erection; Western Maryland Railroad retained him in 1913 as engineer of bridges, in charge of design and construction of all new work; in 1917, associated with J. E. Greiner Company, consulting bridge engineers, of Baltimore, Md.; later made associate in firm; resident engineer on reinforced concrete railroad bridge over James River at Richmond, Va., and personal representative of Mr. Greiner on construction of the Baltimore & Ohio Railroad Bridge over Allegheny River at Pittsburgh, Pa.; in 1926, with Department of Public Works, Pittsburgh, as engineer of design on steel bridges, planned and under construction by city.

BURR, PROFESSOR WILLIAM H.—*Consulting Engineer.*

Graduate Rensselaer Polytechnic Institute in 1872; professor in Rensselaer Institute and general manager of Phoenix Bridge Company from 1876 to 1884; 1892, professor of engineering at Harvard; 1923, professor of civil engineering at Columbia; professor emeritus since 1916; civil engineer and consulting engineer for New York City since 1916; appointed by President Cleveland, 1894, on board of engineers to investigate feasibility of bridge across Hudson River; member of Isthmian Canal Commission under appointments Presidents McKinley and Roosevelt; member of board of consulting engineers for construction of Hudson Vehicular Tunnel; awarded first place in national competition in 1900 for proposed memorial bridge across Potomac River; member of American Society of Civil Engineers, Institute of Civil Engineers of Great Britain and Fellow of American Academy of Arts and Sciences.

WADDELL, JOHN A. L.—*Consulting Engineer.*

Graduate civil engineer, receiving degree at Rensselaer Polytechnic Institute; subsequently received higher and honorary degrees from McGill University, Missouri State University, University of Nebraska and Imperial University of Japan; in marine department of Dominion of Canada; Canadian Pacific

Railway retained him in 1876 as engineer on field work; from 1870 to 1880 assistant professor of rational and technical mechanics at Rensselaer Polytechnic Institute; Raymond & Campbell, bridge builders, of Council Bluffs, Iowa, retained him as chief engineer in 1881; following year, became professor of civil engineering in Imperial University of Japan; in 1887, took up practice of consulting engineering; member of American Institute of Consulting Engineers, American Society of Civil Engineers. Institution of Civil Engineers of Great Britain, La Societe des Ingenieurs Civils de France, Engineering Institute of Canada, Franklin Institute and American Society for Testing Materials, and other professional societies abroad.

HARDESTY, SHORTRIDGE.—*Consulting Engineer.*

Graduate engineer and received his education at Drake University and Rensselaer Polytechnic Institute; from 1903 to 1915, draftsman and designer in firm of Waddell & Harrington; in 1916, became member of firm of Waddell & Son; in 1920, associate engineer with J. A. L. Waddell; in 1927, entered into partnership; designing engineer on Kaw River Bridge for Kansas City Southern Railway at Kansas City, Ohio River Bridge at Louisville, Ky., and Blue River Bridge in Swope Park, Kansas City, Mo.; in direct charge of all of Dr. Waddell's work from 1921 to date; member of the American Society of Civil Engineers and the Rensselaer Technical Society.

MORAN, DANIEL E.—*Consulting Engineer on Foundations.*

Graduate civil engineer of Columbia University, School of Mines; in 1888-1897, associated with contractors for foundations, as designer, estimator, and in charge of work; with Engineering Contract Company on mining shaft work and dam construction, and in construction of piers by pneumatic caisson method in Bay of Fundy, where tide variation was forty feet; an organizer of Foundation Company, of which he was vice-president, director, and chief engineer for ten years, and engaged in construction of bridge foundations in Missouri River, Mississippi River, Rio Grande River, Harlem River, and various other places; later entered private practice as consulting engineer and subsequently designed and superintended erection of many important works; as consulting engineer, and as a member of firm of Moran, Maurice & Proctor, advised Delaware River Bridge Commission on its foundation work; was engineer for Roundout Creek Bridge and partner of Mr. Ralph Modjeski; inventor of Moran airlock, now generally used in caisson work; member of American Society of Civil Engineers, American Society of Mechanical Engineers, American Institute of Consulting Engineers, and Franklin Institute.

GILBERT, CASS.—*Architect on Interstate Bridges.*

Graduate Massachusetts Institute of Technology; degree of LL.D. from University of Michigan and Oberlin College; architect of capitol and other buildings in St. Paul, Minn.; architect of Essex County court-house, Newark, N. J.; Agricultural Building; Omaha Exposition, 1897; Brazer Building in Boston; Broadway-Chambers Building, New York; West St. Bldg., Woolworth Bldg., and United States Custom House, New York; also architect Art Bldg. and Festival Hall, St. Louis Exposition; Central Public Library, St. Louis; Detroit Public Library; general plan, University of Minnesota; University of Texas; and completion of Arkansas Capitol, Little Rock; U. S. Treasury Annex, Washington, D. C.; Army Supply Base, Brooklyn, N. Y.; Federal Reserve Bank, Minneapolis, and one of architects of new Union Club in New York. Appointed by President Roosevelt member of Council of Fine Arts; by President Taft, member Commission of Fine Arts, reappointed by President Wilson; member National Jury of Fine Arts at Chicago Exposition; member National Jury for Architecture, Paris Exposition, and member of commission for selecting design for reconstruction of the United States Military Academy. One of founders of Architectural League of New York, its President in 1913; president of National Institute of Arts and Letters in 1919; member American Academy of Arts and Letters in 1908; honorary member of Royal Institute of British Architects; honorary member of Royal Architectural Institute of Canada; member of the Architectural Society of University of Liverpool, England, and member of Legion of Honor.

YORK, EDWARD PALMER.—*Architect on Arthur Kill Bridges.*

Studied architecture at Cornell, 1887-1889, and later in office of McKim, Mead & White; practiced in New York since 1898; member of firm of York & Sawyer; firm architects of New York Historical Society, Guaranty Trust building, United States Assay Office, numerous hospitals, banks, public and college buildings; consulting architect to Treasury Department at Washington, 1909-1913, and to Board of Water Supply, New York; firm appointed by Port Authority as architect for Arthur Kill bridges; member of A. I. A.; Architectural League of New York; American Numismatic Society.

SAWYER, PHILIP.—*Architect on Arthur Kill Bridges.*

Studied civil engineering with United States Geological Survey; in charge of irrigation survey, Yellowstone Drainage, 1889; studied architecture at Columbia University, School of Beaux Arts, and office of McKim, Mead & White; member of firm of York & Sawyer; firm architects of Pershing Square building, Federal buildings at Honolulu, Federal Reserve Bank at New York, buildings at University of Michigan, Vas-

sar, Rutgers, Smith; appointed architects for Department of Commerce and Labor at Washington; firm chosen by Port Authority as architect for Arthur Kill bridges; member of Beaux Arts Society, American Society of Civil Engineers.

STRAUSS, JOSEPH B.—*Consulting Engineer on Bridges.*

Graduate, University of Cincinnati, degree of C.E.; engineer Ditman, N. J., Steel & Iron Co.; 1892-1894, instructor, College Engineering, University of Cincinnati; 1894-1904, designer and engineer upon numerous projects; 1904, president and chief engineer Highways Safety Bascule Co.; designer and builder "Aeroscope", Panama-Pacific Exposition; designer and builder, first portable searchlight apparatus used by United States and Russian Governments; designer, bridge of Chinese architecture at Tientsin, China; inventor of application of concrete counterweight to Bascule bridges; originator and inventor of cantilever suspension type of bridge; designer, proposed bridge across Golden Gate at San Francisco; designer and construction engineer, Harbor Commission Bridge, Montreal; author of numerous engineering works; president Strauss Engineering Co., Chicago.

MOISSEIFF, LEON S.—*Advisory Engineer of Design.*

For eighteen years, connected with department of bridges of New York; as engineer of design in charge of plans and designs for principal bridges constructed by city; in design of Manhattan Bridge over East River, developed and used "Deflection Theory of Suspension Bridges," since adopted theory of design for modern suspension bridges; investigated and analyzed conditions for strengthening of Williamsburg Bridge, involving construction of two river piers; developed plans for rebuilding Brooklyn Bridge and enlarging capacity without interruption of traffic; designed and built surface car approach in Brooklyn and subway approach in Manhattan; responsibility for design of Queensboro Bridge over East River in his hands up to awarding of contract for construction; in 1920, engaged as consulting design engineer to Board of Engineers for Delaware River Bridge and after adoption of its report in 1921, engaged as engineer of design.

DANA, ALLSTON.—*Engineer of Design.*

Graduate of Harvard University, and received civil engineering degree from Massachusetts Institute of Technology; for seven years associated with American Bridge Company, three at Elmira plant and four as assistant engineer in New York Office making design and cost estimates for bridges, including Bessemer and Lake Erie Bridge over Allegheny River; three years with Federal Shipbuilding Company at Kearny, N. J., and one year with Newburgh Shipyards, Inc., of Newburgh, N. Y., as Superintendent of fabricating shops; in 1921, retained by Delaware River Bridge Joint Commission as assistant engineer of design.

ANDERSON, AKSEL P.—*Assistant Engineer of Design.*

Graduate civil engineer, "Gymnasium", the Technical College of Christiania, Norway; in 1913, assistant engineer in department of bridges and structures of Norwegian State Railroads; assistant and instructor in theory of structures and bridge engineering in Institute of Technology, Trondhjem, Norway; in 1919, graduate work at Massachusetts Institute of Technology in theory of structures, bridge engineering and mathematics, and graduated in 1920 with degree of Master of Science; continued studies in University of Wisconsin, 1920-1921; C. W. Hunt Engineering Corp., of New York, in 1921; in 1922, associated with James Mitchell, Inc., on design of reinforced concrete and steel buildings; retained for designing and estimating in connection with proposed Hudson River Bridge at Fifty-seventh street, Sydney Harbour Bridge, Australia, and several other bridges; member of American Society of Civil Engineers and American-Scandinavian Foundation Society.

CASE, MONTGOMERY B.—*Engineer of Construction—Hudson River Bridge.*

Graduate University of Illinois as civil engineer; with Union Pacific Railroad; city of Peoria, Illinois; Chicago, Burlington & Quincy R. R.; and Spokane, Portland & Seattle Railway; J. G. White & Company retained him in 1909 as assistant engineer on tri-state irrigation project in Western Nebraska on Platte River diversion dam; became instructor in hydraulics at University of Nebraska in that year; associated with Mr. Ralph Modjeski as first assistant engineer on construction of Celilo Bridge over Columbia River for Oregon Trunk Railway in 1910, and subsequently the first assistant engineer and resident engineer on bridge construction throughout country; in 1919, superintendent of hull erection for Pensacola Shipbuilding Company; in 1921, in charge of Delaware River Bridge Joint Commission, field division, which directed construction and other operations of Philadelphia-Camden bridge; member of American Society of Civil Engineers, Philadelphia Engineers Club.

MUNSELL, A. W.—*Engineer of Inspection.*

1900 to 1902 with Chicago and Western Indiana Railroad as inspector in charge of testing laboratory; inspector on materials for construction and in charge of testing laboratory of Baltimore & Ohio Railroad at Wheeling, West Virginia; with Detroit River Tunnel Company, and Michigan Central Railroad; as chief inspector, engaged in construction of concrete ships for Emergency Fleet Corporation of United States Shipping Board; with Delaware River Bridge Joint Commission as Inspector and assistant engineer in supervising and making tests on all kinds of concrete aggregate and concrete; remained in this capacity throughout construction of Philadelphia-Cam-

den Bridge; member of American Society for Testing Materials and American Concrete Institute.

BAKER, HERBERT J.—*Engineer of Steel Inspection.*

Draftsman and steel inspector with American Bridge Co., 1912-1916; mill, shop and field inspector on reconstruction of Pennsylvania Railroad bridge at Louisville, 1916-1917; served overseas with Company F, Fifth Regiment, U. S. Engineers; served year in France in bridge building with Modjeski and Angier, 1919; steel engineer in physical examination Eads and other bridges for St. Louis Terminal Railway Company, 1919-1920; assistant field engineer of inspection with Modjeski & Angier, 1921-1923; chief inspector for Delaware River Bridge Commission, 1923-1926, in charge of mill and shop inspection of metalwork for Philadelphia-Camden Bridge; from March, 1926, until appointed with Port Authority in 1927, assistant engineer for Ralph Modjeski.

BOUCHER, WILLIAM J.—*Engineer of Construction for Staten Island Bridges.*

Graduate civil engineer of Stevens Institute; after graduation, with Delaware & Hudson Railroad; in 1900, chief draftsman; from 1901 to 1909, retained by Rapid Transit Subway Construction Company, of New York; in 1909, engaged by Gore-Meenan Company of New York as office engineer and purchasing agent, including charge of design and purchase of equipment for four mile contract of Catskill aqueduct; in 1910, as engineer of Chicago Subway Commission, developed plans and estimates for passenger subway, specializing on river tunnels, stations, drainage and ventilation; in 1912, assistant engineer of Degnon Contracting Company, New York, and made cost estimates and plans, and supervised work on many classes of heavy construction; also engineer on Charleston, S. C., Port Terminal; in 1919, with Philadelphia Subway Construction Company; in 1920, Eighth Avenue Railroad Company made him assistant supervisor of department of way and structures; member American Society of Civil Engineers; member of Atlantic Deeper Waterways Association.

CUDWORTH, FRANK E.—*Resident Engineer, Hudson River Bridge.*

Graduate, Dartmouth College, B.S. degree, 1901; Thayer School of Civil Engineering, 1902; designer of plans and identified with their completion for many large contracting firms; resident engineer, Quebec Bridge, 1904-1909; superintendent and engineer in charge of construction, Newburgh Shipyards, Inc., 1917-1918; general assistant in construction army supply base, Brooklyn, 1918-1919; resident engineer, Federal Reserve Bank, 1921-1922; Member, American Society of Civil Engineers; Brooklyn Engineers' Club.

ROBINSON, REUBEN T.—*Resident Engineer—Elizabeth Bridge.*

From 1899 to 1901, inspector and foreman of American Bridge Company; in 1903, associated with Berlin Construction Company on structural steel work; from 1905 to 1908, assistant engineer of construction for Pennsylvania Railroad on Hudson River tunnels; engineer of construction with Cincinnati, Hamilton & Dayton Railway (now Baltimore & Ohio R. R.) in Ohio; from 1912 to 1917, resident engineer on Hell Gate bridge, New York, and later on Chesapeake & Ohio Railroad bridge over Ohio River at Sciotoville; Michigan Central Railway in 1917 employed him as resident engineer on Niagara River arch. Member of American Society of Civil Engineers and American Railway Engineering Association.

HOPPEN, ROBERT.—*Resident Engineer—Outerbridge Crossing.*

Employed in 1900 by Erie Railroad in general maintenance work on yards, docks and dredgings; in 1906, engaged by New York Central in designing engineer's office on general track layouts, culverts, and general railroad design work; Public Service Commission, New York, in 1909 placed him in charge of contractors' estimates; in 1911, assistant engineer for Gulf of Florida and Alabama Railway; Erie Railroad from 1912 to 1918 named him in charge of double tracking Chicago & Erie Railroad from Marion to Kenton, Ohio; in latter period, fifteen bridges of line were rebuilt, 700 car yards, and engine house at Marion, Ohio; in 1918, resigned from Erie to become chief engineer of New York Dock Company at Brooklyn, which included 159 warehouses, thirty-one piers, and two and one half miles of waterfront.

STRACHAN, ROBERT C.—*Assistant Engineer on Bridge Approaches.*

Prior to 1900, associate of Thomas C. Clarke, Past President American Society Civil Engineers, supervising design and construction of bridges over Harlem River, etc.; 1900-1916, City of New York, preparing plans and specifications in connection with Queensboro Bridge; 1916-1917, in charge of Bureau of Construction and Repairs and of Correction, New York City; 1917-1922, engineer examiner, Board of Estimate & Apportionment, New York City; 1922-1924, Bureau of Design, Tunnel Division, Board of Estimate & Apportionment, New York City; 1924-1927, in charge of Brooklyn Market project under J. Ackersley, first engineer, Department of Public Markets, New York City.

LESHER, ROBERT A.—*Traffic Engineer.*

Graduate engineer of Massachusetts Institute of Technology; continued studies in graduate schools of Columbia University, specializing in field of transportation; on staff of New York, New Jersey Port and Harbor Development Commission; in 1917, office manager of section on co-operation with States

of the Council of National Defense at Washington, D. C.; in 1918, assistant engineer for Board of Appraisers of War Department in appraisal of Bush Terminal in Brooklyn; with General Edward Burr, Engineer in charge of the United States Engineering Office, first New York District, made special report on different types of crafts in use on Hudson River and New York State Barge Canal system as part of transportation act of 1920; special assistant in negotiations for purchase of Cape Cod Canal by United States Government. Member of Society of Terminal Engineers, American Geographical Society, American Association for Advancement of Science, American Association of Port Authorities, American Statistical Society, and associate member of American Society of Civil Engineers.

REEVES, GLENN S.—*Transit Engineer.*

Graduate Rensselaer Polytechnic Institute, degree of civil engineer; member American Society of Civil Engineers; associate member, American Railway Engineering Association; licensed civil engineer, State of New Jersey; transit engineer, The Port of New York Authority; acting chief engineer, North Jersey Transit Commission; military service over seas with 23rd Engineers, First Lieutenant, 447th Engineers Reserve Corps.

HEDDEN, WALTER P.—*Chief Analyst.*

Graduate of Williams College; post-graduate work in Columbia University, specializing in economics leading to degree of Master of Arts; research agent for United States Bureau of Agricultural Economics, in charge of studies of food terminals and food distribution in New York City; instructor in marketing in extension department of Columbia University; analyst in charge of statistical and economic investigations in connection with terminal projects of Port Authority; member of American Statistical Association.

EVANS, JOHN E.—*Terminal Engineer.*

Graduate, University of Pennsylvania 1905; took degree of Civil Engineer, 1911; assistant bridge engineer and designer for various railroads from date prior to graduation until 1910; successively assistant engineer, superintendent of construction and assistant valuation engineer for Long Island Railroad, assigned largely to studies of special nature in metropolitan district, relating to both freight and passenger terminal facilities.

CUMBERLEDGE, SYDNEY—*Transportation Assistant.*

More than eighteen years in railroading in New York port district; with London, Brighton and Southcoast Railways, London, England, 1900-1906; successively disbursement clerk; travelling auditor; division accountant; chief clerk to division superintendent and assistant division superintendent of Lehigh Valley Railroad.

QUIGEL, HARVEY S.—*Statistician.*

Commercial College and Alexander Hamilton Institute, 1912-1917; United States Engineers Corps; private Secretary and executive assistant to U. S. A. Engineers, in charge of Central Division embracing Ohio River Basin; 1918-1920, treasurer and general purchasing agent, inland and coastwise waterway surfaces operating on Long Island Sound Barge Canal and coast; 1921, New York City, manager of Barge Canal Freight-ing Corporation; 1922 to date, statistician, The Port Authority.

CUENOT, WILLENER A.—*Chief Draftsman.*

Graduate Central Manual Training School of Philadelphia, and extended studies in mathematics in University of Wisconsin; 1904 to 1912, Pennsylvania Steel Company, of Steelton, Pa.; 1912 to 1917, office of consulting engineer of New York City, in charge of general detail and shop drawings for Hell Gate Arch Bridge and approaches; in 1917, in charge of preparing general design drawings for railway arch bridge over Niagara River at Niagara Falls, N. Y.; employed on design work in connection with Belle Isle Bridge over Detroit River and as chief draftsman on preparation of plans and estimates for proposed Hudson River Bridge at Fifty-seventh Street, New York; member of American Society of Civil Engineers.

LANTERMAN, E. TRACY—*Real Estate Agent.*

In charge of purchasing and sales department, Russel & Erwin Manufacturing Co.; treasurer of Storm Manufacturing Co., Newark, N. J.; resigned to form partnership and become metropolitan sales agent for Pullman Automatic Ventilator Manufacturing Co.; appointed postmaster of East Orange by President Wilson; president of Lackawanna Building & Loan Association of East Orange; secretary of Community Finance Service, Inc., Newark, N. J. (industrial brokers); assessor for City of East Orange; member of the Chamber of Commerce of the Oranges.

Staff of the Legal Department

COHEN, JULIUS HENRY.—*General Counsel.*

CLARK, EDGAR E.—*Clark & LaRoe, Associate Counsel in Interstate Commerce matters.*

In railway service, 1873-1889; Grand Senior Conductor, Order of Ry. Conductors of America, 1889; Grand Chief Conductor of same, 1890-1906; member, Interstate Commerce Commission, 1906-1921; member, firm of Clark & LaRoe.

LAROE, WILBUR, JR.—Associate Counsel.

Graduate, Princeton University, 1909; graduate, New Jersey Law School, 1912. Admitted to New Jersey Bar, 1912; practiced in New Jersey; appointed confidential secretary to Commissioner Daniels of Interstate Commerce Commission, 1914; appointed examiner for Interstate Commerce Commission, 1915; appointed attorney-examiner for Interstate Commerce Commission, 1916; appointed captain, General Staff, 1918; appointed chief examiner, Interstate Commerce Commission, 1920; resigned from Interstate Commerce Commission, 1920; with Edgar E. Clark, formed partnership of Clark & LaRoe, 1921.

SHELLEY, LEANDER I.

Graduate, 1917, College of Law, Cornell University; member of Cornell Law Quarterly, Delta Theta Phi Law Fraternity, Scabbard and Blade; served U. S. Army, May 15, 1917-February 15, 1920; First Lieutenant Infantry (Regular Army), in France, July, 1918-December, 1919; admitted to Bar, 1920; member of firm Medina and Sherpick (now Medina, Sherpick and McKee), 1922-1926; joined Port Authority, 1926.

HOROWITZ, CHARLES.

Graduate, New York University Law School, 1914; admitted to Bar, November, 1915; attorney for Ordnance Claims Board of War Department; assistant corporation counsel for City of New York, six years.

DUDLEY, JOHN STUART.

Graduate, University of South Carolina with degree of A.B., 1914; received degree of A.M., University of South Carolina, 1915; instructor in History, University of South Carolina, 1914-1916; reporter, editorial writer and editor several South Carolina newspapers; entered Harvard Law School Fall of 1916; enlisted United States Army, August 29, 1917, at Fort Oglethorpe, Georgia (Second Officers' Training Camp); received commission Second Lieutenant November 29, 1917; assigned 46th Infantry, United States Army, Camp Taylor, Louisville, Kentucky; discharged United States Army January 9, 1919, at Camp Gordon, Georgia; re-entered Harvard Law School February, 1919; graduated Harvard Law School with degree of LL.B. June, 1920; entered employ of law firm of Rumsey & Morgan, 20 Exchange Place, New York City, September, 1920; entered employ of Steele & Otis, which firm on January 1, 1923, became firm of Miller & Otis, when it was joined by former Governor Nathan L. Miller; became vice-president and counsel of Hendersonville Real Estate Company and associated companies at Hendersonville, Western North Carolina; entered employ of Port Authority, 1926.

WETTIG, FRANK B.

LL.B. Cornell, 1926; member of Phi Beta Kappa, Phi Kappa Phi, Order of the Coif; joined Port Authority staff, August, 1926.

TOBIN, AUSTIN J.

A.B. Holy Cross College, 1925; student, Fordham University School of Law; employed in office of Nathan L. Miller, 1925-1927; joined Port Authority staff, February, 1927.

Administrative Staff
KEEFE, LAWRENCE J.—Director of Public Information.

Engaged in newspaper work eighteen years; legislative correspondent, political writer, associate editor of Newark, N. J., Star-Eagle, ten years; formerly writer of Sunday syndicated special.

GIESTING, FRANK A.—Assistant to Chief Executive Officer.

Civil Engineer, B.S. University of California, 1906; engineer and superintendent of construction, Mexican L. & P. Co., Mexico City, 1907-1913; in private practice as consulting engineer, San Francisco, 1913-1915; general superintendent Aluminum Company of America, Alcoa, Tennessee, 1915-1917, on dam construction; service overseas as Major, Lieutenant Colonel and Colonel of Engineers, commanding 302nd Engineers, 77th Division; general superintendent, Vanadium Corporation of America, 1920-1921; Engineering Department National Carbon Company, 1922-1924; comptroller's office, Delaware & Hudson Company, 1924-1926. Associate member, American Society of Civil Engineers.

WATERS, DAVIS L.—Assistant Treasurer.

With Baltimore and Ohio Railroad as stenographer, afterward entering accounting field; employed by Delaware & Hudson Company at Albany, N. Y., in accounting organization from 1914 to 1918 as chief clerk to auditor of expenditures; from 1918 to 1923 auditor and assistant secretary of United Traction Company of Albany, Hudson Valley Railroad Company and Plattsburg Traction Company; in 1923, became accountant with United States Railroad Administration at Washington, D. C., and in 1924, comptroller of United Electric Railways Company of Providence, Rhode Island; on December 2, 1925, took position with The Port Authority and on March 16, 1926, appointed assistant treasurer.

RODGERS, MARION—Auditor.

1902 to 1916, stenographer, clerk, accountant, division accountant; 1916 to 1922, accountant, chief clerk, general ac-

countant; 1922 to date, accountant, chief accountant and auditor.

TSCHIMBKE, EDWARD JOHN—*Chief Clerk.*

College of City of New York; 1898-1907 clerical work in brokerage houses; 1908-1910, deputy state superintendent of elections, State of New York; 1910-1913, stock transfer tax examiner, Comptroller's office, State of New York; 1914-1917, clerk in Senate and Assembly of Legislature of State of New York; 1917, special agent and examiner, New York State Tax Dept.; 1918-1921, chief clerk, New York-New Jersey Port and Harbor Development Commission; 1921, chief clerk, The Port Authority.

PELLETT, MIRL EDISON—*Librarian.*

George Washington University; University of Chicago; studied Law; 1907-1909, Department of State, stenographer and correspondence clerk; 1910-1913, secretary and law clerk, offices of Hon. M. E. Olmsted, Harrisburg, Pa., and Washington, D. C.; 1913-1914, Panama Canal, secretary to General R. E. Wood, chief of Supply Dept.; 1914-1916, court and general reporting, notably committees of both Senate and House at Washington, Second Pan American Scientific Congress, American Society of Mining Engineers, Interstate Commerce Commission, etc.; 1917-1925, U. S. Shipping Board, holding successively position of secretary to general counsel; examiner, legal division; supercargo on Shipping Board vessels; port auditor; 1925 to date, The Port of New York Authority; instructor in Political Economy, American Consular College, 1914-1916; instructor in short-story writing, School of Literary Craftsmanship, 1915-1916; member Special Libraries Association; private tutor in French; member de l'Union de la Langue Francaise; miscellaneous newspaper and magazine articles on travel, short-stories, etc.; trade reports on post-war European conditions for "Commerce Reports"; reports on European and Near Eastern ports, for U. S. Shipping Board.

Suburban Transit Engineering Board associated with Port Authority in study of Passenger Transportation Problem

DANIEL L. TURNER, *Consulting Engineer*, North Jersey Transit Commission.

BILLINGS WILSON, *Deputy Manager*, Port Authority.

ROBERT RIDGWAY, *Chief Engineer*, Board of Transportation, City of New York.

CHARLES MACDONALD, *County Engineer*, Westchester County.

R. C. FALCONER, *Engineering Assistant*—Vice-President, Erie Railroad (representing Erie, Lehigh Valley and D. L. & W.)

R. K. ROCHESTER, *Assistant General Manager*, Pennsylvania Railroad (representing Central R. R. of N. J., Baltimore & Ohio, Long Island and Pennsylvania).

R. E. DOUGHERTY, *Engineering Assistant* to the President, New York Central Railroad (representing New York Central, New Haven, New York, Westchester & Boston, and New York, Ontario & Western).

GLENN S. REEVES, *Transit Engineer*, Port Authority.

JOHN C. EVANS, *Terminal Engineer*, Port Authority; *ex-officio* for Nassau and Suffolk Counties.