MAYOR'S

Annual Message and Thirty-Second Annual Report

OF THE

Department of Public Works

TO THE CITY COUNCIL OF THE
CITY OF CHICAGO

For the Fiscal Year Ending December 31
1907

Rogers Park Water Company's plant, there will be a considerable increase in the water revenue of the City.

$2,505,649.12 were collected during the year from assessed frontage rates or an increase over that of 1906 of $95,230.93; $1,944,700.49 were collected under meter rates or an increase over 1906 of $74,053.18.

On December 31, 1907, there were in use 14,500 water meters, or an excess over 1906 of 2,945 water meters.

INTERCEPTING SEWERS.

Section D of the Lawrence avenue conduit has been completed, and Section N, which connects Section D to the river at Lawrence avenue, is also completed.

The contracts for the lake conduit and for the Lawrence Avenue Pumping Station were canceled in the early part of the year and were relet in the latter part of the year, and the work is now progressing satisfactorily. The Lawrence Avenue Pumping Station is nearly completed.

Intercepting sewers in Sheridan road and Lake Shore drive were connected to the pump wells at Lawrence Avenue Pumping Station by an eight and one-half foot sewer.

The Thirty-ninth Street Pumping Station has been operated during the year, and no sewage north of 87th street has been discharged into the lake. This station is practically completed, with the exception of the installation of the engines and generators for the electrical service.

The 35th street sewer was connected to the intercepting sewer.

BRIDGES.

The most important work done during the year was the finishing of the North avenue bridge, which was opened to traffic in October, 1907.

The substructure of the North Halsted street (Canal) bridge was practically completed and the erection of the superstructure commenced.

The South Western avenue bridge was completed and the old bridges at Washington street and at Polk street were removed, with a view to constructing new bridges at these streets.

Plans were prepared for bridges to be erected at Erie street, South Ashland avenue, Kinzie street, Washington street, and Orleans street.

A new improved danger signal system consisting of electric signs with the word "Stop" and vibrating gongs was installed on the approaches to the bridges at Clark street, Wells street, Lake street, Madison street, and South Halsted street, and preparations are being made to equip the remaining bridges in the downtown district with similar devices.

There are now under the supervision of this department sixty-six bridges and thirty-four systems of viaducts; fifty-one of the bridges are movable and fifteen are fixed spans. Twelve of the movable bridges are Scherzer bascule bridges, seven are trunnion bascule bridges (city's) design, one is a Page Bascule bridge, one a vertical lift bridge and the balance swing bridges. Twenty-nine of the movable bridges are operated by electricity, one by steam and the rest by hand power.

HARBORS.

During the year $328,142.90 was expended by the City of Chicago, the Sanitary District and the United States Government for harbors. Much work was done by the Park Commissioners on the North Side as well as on the South Side, but its primary object being the extension, etc., of the park areas over the submerged lands and the beautifying of these park areas, excludes these expenditures from those borne for harbor improvements proper.

There has been a small increase in our lake tonnage during the year—243,835 tons—the number of vessels carrying that trade fell off 759 from the number engaged in it during the preceding year, a comparison of the results in each of our ports for the years 1906 and 1907 show for the latter year, for Chicago River, a decrease of 1,018 vessels; a decrease of 689,319 tons; Calumet River, an increase of 257 vessels and increase of 933,450 tons, being for the whole city a decrease of 759 vessels and an increase of 243,835 tons.

Our deep water southern port, the Calumet River, while it has only 17.17 per cent. of the number of vessels of the whole number engaged in the lake trade of the city, these vessels having more than three times the average carrying capacity

TUNNEL LOWERING.

The work of lowering the Washington street transportation tunnel was completed during the year as far as at present intended.

The removal of the top of the LaSalle street tunnel was accomplished in 1906.

The work of lowering the Van Buren street tunnel, which is being done entirely at the cost and under the supervision of the Street Railway Company, progressed uninterruptedly during the year, and will be completed in the early part of 1908.

BRIDGE AND HARBOR.

This division of the Bureau of Engineering has for the last few years been more or less independent of the City Engineer, being very ably managed by Mr. Thomas G. Pihlfeldt, Engineer in charge, the City Engineer exercising only a general supervision over this work, advising with the Engineer in charge relative to the most important features of the work of the division.

The most important work done by this division during the year was the completion of the North avenue bridge, which was finished and fully opened to traffic in October, 1907.

The sub-structure of the North Halsted street (Canal) bridge was practically completed during the year, and the erection of the superstructure commenced.

The South Western avenue bridge was fully completed during the year.

The old bridges at Washington street and at Polk street were removed during the year preparatory to the construction of new bridges at these places.

Plans were prepared during the year for the following bridges: Erie street bridge, South Ashland avenue bridge, Kinzie street bridge, Washington street bridge, Orleans street bridge.

NORTH AVENUE BRIDGE

ANNUAL REPORT

DIVISION OF BRIDGES AND HARBOR

CITY OF CHICAGO

1907

THOS. G. PIHLFEI DT
BRIDGE ENGINEER

DIVISION OF BRIDGES AND HARBOR

THOS. G. PIHLFELDT, ENGINEER IN CHARGE.

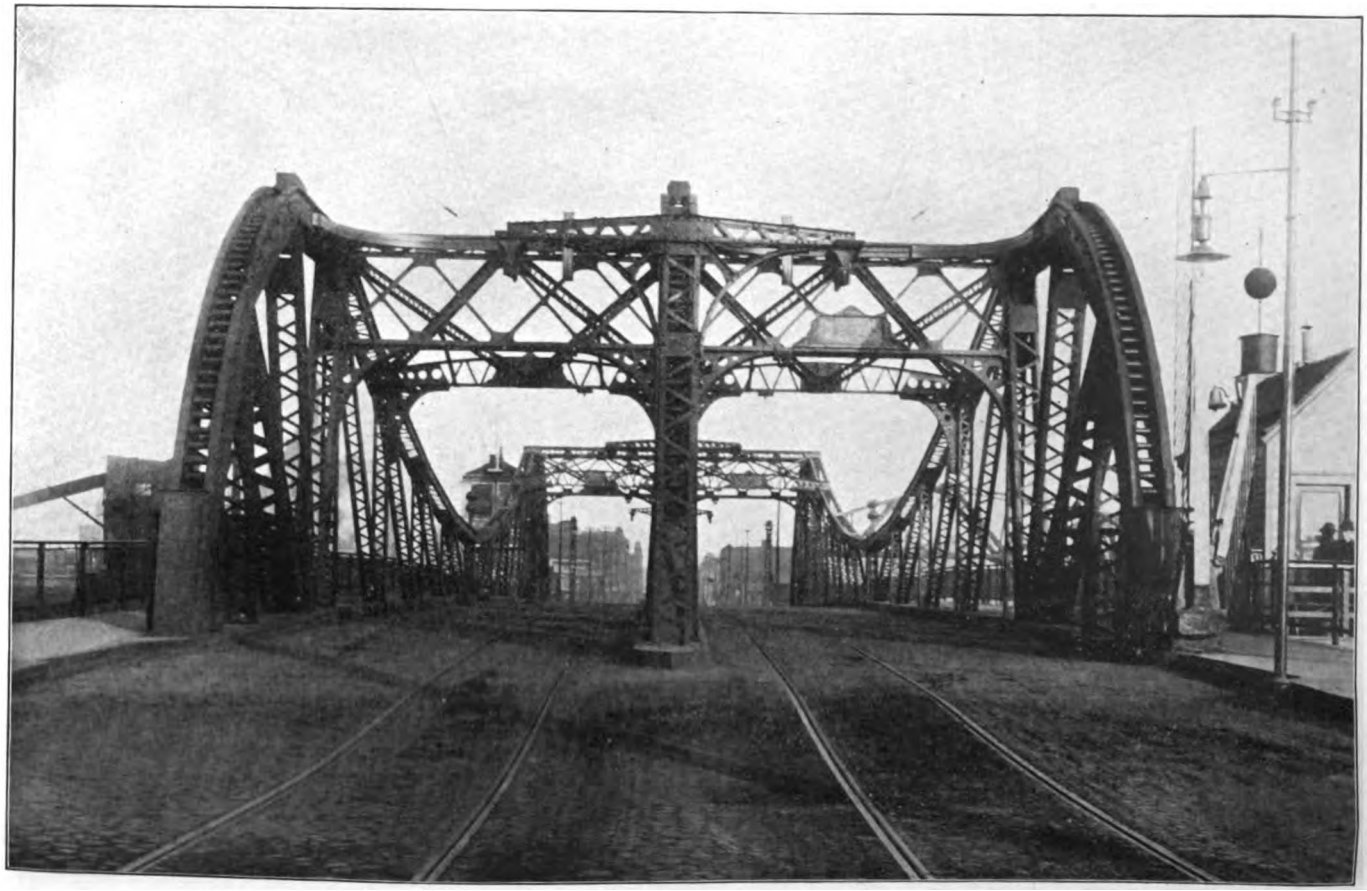
The work of this division has been carried on during the year of 1907 along the lines laid down in previous years, with a view of accomplishing the best possible results with the means at hand.

In making the appropriation for the year of 1907, the City Council provided that the bridge tenders be put under Civil Service regulations after the first of July. Since that time up to the end of the year the positions of bridge tenders have been filled with men working under sixty-day authority, pending certification from Civil Service eligible lists. While the service under the new system has been fair as a general rule, the cost of bridge operation (salaries) has increased nearly thirty per cent. and the plan as applied now is not altogether satisfactory. The bridge tenders can be made individually responsible for their bridges only during the time they are on duty, and their authority as to the management of the particular bridge to which they are assigned is equal. Under such conditions the bridge tenders will naturally endeavor to shift such work as cleaning the roadway and sidewalks, pumping out the tail pits, etc., from one to another, which will result in confusion and cause jealousies and dissatisfaction among the men. If a bridge tender is unable to report for duty on account of sickness, or for any other reason, men must be detailed from the bridge repair force to operate the bridge during the absence of the bridge tender, which is expensive and at the same time handicaps the repair work.

These difficulties could be obviated to a great extent, and far better results than under the present system would undoubtedly be obtained if one man were given full charge of each bridge. I would suggest that this man be put under Civil Service and that he be held responsible at all times during the tenure of his office for the operation and proper care of his bridge. As to the salaries of these bridge tenders, I would

suggest that the rates be fixed for the various bridges at the same amounts as were paid during the first six months of 1907, the bridge tender to pay out of this amount the help that he may need. By this arrangement a substantial saving to the City can be effected, better control and discipline over the men can be maintained, and the service in general will be improved.

In my previous reports I have called attention to the lack of adequate storage facilities for the property belonging to the Division of Bridges and Harbor. This defect is becoming more serious every year and I cannot too strongly urge the construction of a fireproof building for the storage of bridge patterns, electrical apparatus and supplies and other material which must be kept on hand.



NORTH AVENUE BRIDGE

BRIDGE DESIGNING.

MR. ALEXANDER VON BABO, STRUCTURAL DESIGNER.

During the year 1907 designs and plans for the following bridges were made in this office, and plans and specifications were also prepared for several minor structures:

FIRST—The plans for a trunnion bascule bridge over the North Branch of the Chicago River at Erie street, which plans had been started in the preceding year, were completed and specifications for this bridge drawn up.

SECOND—Complete plans and specifications for a draw bridge over the West Arm of the South Fork at South Ashland avenue were prepared. As the navigation on this West Arm is almost nothing at present and will be light for a number years to come, and consequently the bridge to be built will have to be opened for passing vessels rather seldom, a draw bridge to be operated by hand at present, and later by electricity, if needed, was considered more economical and better adapted for this location than a bascule bridge with its more expensive mechanism and necessary motors.

THIRD—Complete plans and specifications were prepared for a one-armed trunnion bascule bridge over the North Branch of the Chicago River at Kinzie street. This bridge will cross the river at an oblique angle. It will be similar to the bridge built over the South Fork at Archer avenue. With its leaf fully raised it will provide an opening of 100 feet in clear, for passing vessels. Strong gates were designed for the protection of the street traffic on the west abutment, which will rise automatically and close the street as soon as the bridge leaf is operated and raised from said abutment.

FOURTH—Plans for a trunnion bascule bridge over the South Branch of the Chicago River at Washington street were almost finished. These plans, however, must be re-designed because the width at first required for this bridge was lately increased from 48 feet over all to 57 feet 3 inches. On account of the old Washington street tunnel over which the foundations for the new bridge must be straddled and also on account of the inclined roads on each side of the bridge approaches and the proximity of the railway tracks the designing and construction of this bridge has to cope with exceptional difficulties.

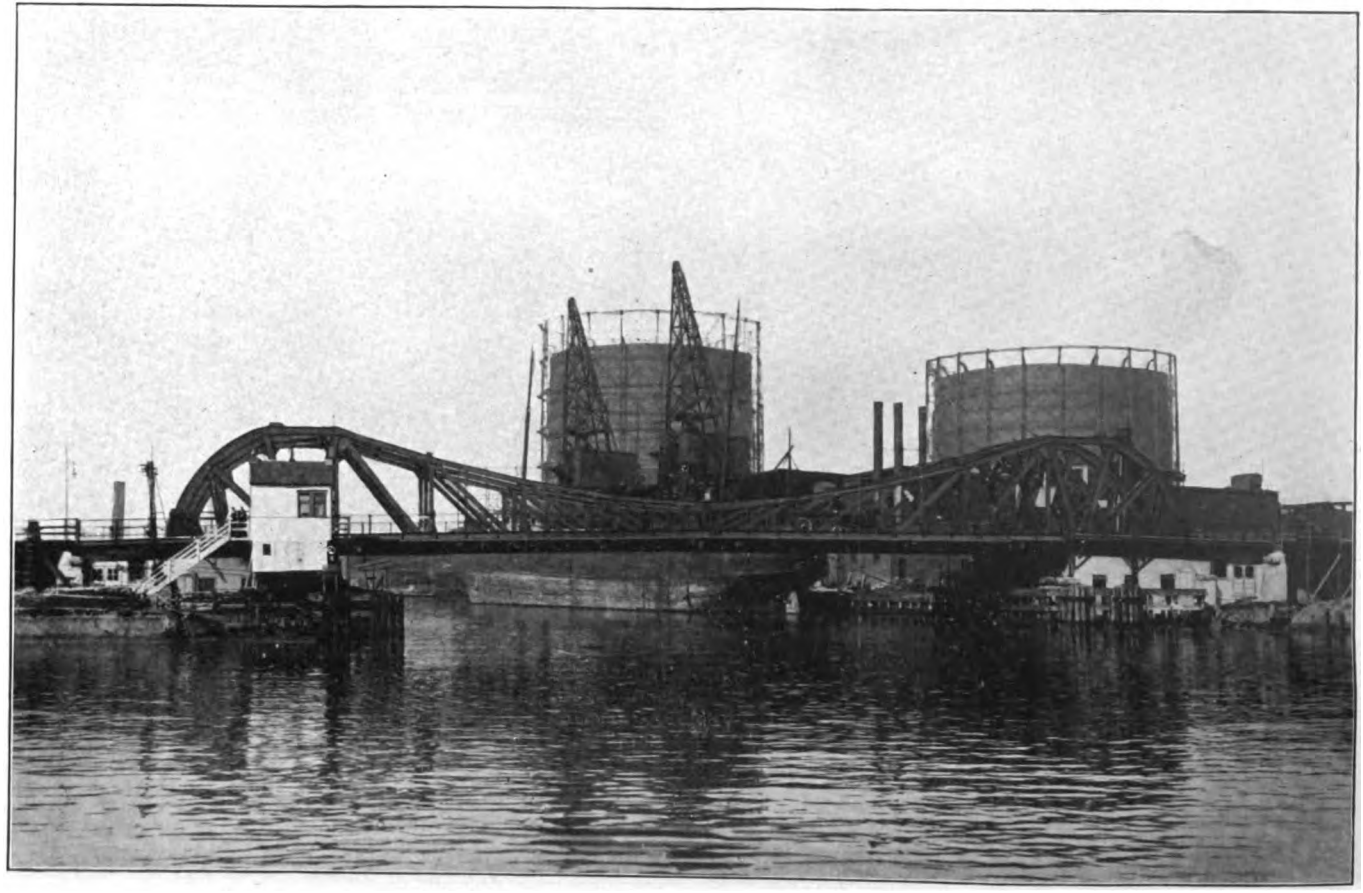
FIFTH—Complete plans and specifications were prepared for a trunnion bascule bridge over the Chicago River connecting Franklin street on the South Side with Orleans street on the North Side. This bridge will be of unusual dimensions, since, on account of the bend of the river and of the proximity of the Wells street and Lake street bridges, a clear span of 200 feet is required.

Besides the above enumerated larger works, plans and specifications were made for two temporary or pontoon bridges. One of them was built near Kinzie street over the North Branch, making use of the movable span of the former temporary bridge of North Avenue. The second was built near South Ashland avenue over the West Arm, and here the movable span of the pontoon bridge originally designed and built for 22nd street is again in use.

Specifications were also prepared for the removal of the old Polk street bridge, for the repairs of Van Buren street bridge, and for the completion of the east approach to North avenue bridge.

Plans were made also for several minor repairs and changes on existing bridges, and also for a ferry boat and temporary approach, with landings for the same, which will be used during the construction of the proposed Polk street bridge.

Finally, considerable time was consumed in examining and checking all working drawings of the bridges under construction during 1907 and in inspecting in field these and other structures, where work was going on.



NORTH AVENUE BRIDGE

NEW BRIDGE CONSTRUCTION.

CLARENCE S. ROWE, ASSISTANT ENGINEER.

NORTH AVENUE TRUNNION BASCULE BRIDGE—The substructure proper was completed early in January, 1907.

The erection of the superstructure was commenced December 11th, 1906.

The west bound street car traffic was transferred to the new bridge September 15th, 1907. The east bound cars and team traffic continued to use the temporary bridge until September 20th, on which date the pavement of the north half of the east approach was completed and team traffic was transferred to the new bridge. East bound street cars began using the new bridge September 21st, which allowed the abandonment of the temporary bridge. The remaining portion of the curb wall and pavement on the south one-half of the east approach was completed October 16th, 1907.

Street car and team traffic were maintained, uninterruptedly, during the entire construction of this bridge.

This is a trunnion bascule bridge, of two leaves, with a distance of 172 feet 8 inches from center to center of trunnions. Entire width 60 feet. Two roadways each 18 feet in width and two sidewalks each 9 feet in width.

The length of the bridge proper from center to center of abutments is 259 feet 4 inches and the length over all, including approaches, is 642.4 feet. There is a clear channel for the passage of vessels 136 feet 8 inches in width. Each arm or leaf is driven by two electric motors (G. E. 67) of 40 H. P. each.

Cost of substructure	$ 81,708.77
Cost of superstructure	115,595.48
Cost of bridge complete	$197,304.25

Contractor for the substructure—Jackson & Corbett Co.

Contractor for the superstructure—Roemheld & Gallery Co.

Mr. Frank Umstot was in local charge of the superstructure.

NORTH HALSTED STREET (CANAL) BASCULE BRIDGE—The work of removing the old structure was commenced February 21st, 1907. The foundations are of Portland cement concrete, reinforced with corrugated steel bars and resting on foundation piles driven to a depth of about —47.0 C. D.

The placing of concrete in these foundations was commenced August 27th. The substructure is practically complete with the exception of the pier protections and docks. The curb walls and pavement of the south approach are not yet complete.

The erection of the superstructure was commenced December 10th, 1907, and about 70 tons of steel placed in position on the north side of the canal.

Contractor for the substructure—Fitz Simons & Connell Co.

Contractor for the superstructure—J. E. Roemheld.

Mr. John C. Penn, Assistant Engineer, is in local charge.

SOUTH WESTERN AVENUE BRIDGE—This bridge was completed, with the exception of about 50 per cent of the center pier protection, during the year 1906.

The center pier protection was completed March 6th, 1907.

Great Lakes Dredge & Dock Co.—Contractor.

Cost of substructure	$25,720.43
Cost of superstructure	23,661.23
Total cost	$49,381.66

WASHINGTON STREET BRIDGE—The old span was removed from the center pier January 3rd, 1907, and transferred to Slip "A" near 22nd street and Ashland avenue and placed on temporary support. This support was constructed during December, 1906.

Great Lakes Dredge & Dock Co., contractor.

Cost of removal and storage of draw span, $5,478.14.

POLK STREET BRIDGE—The work of removing the old draw span, center pier, protection, and a portion of the west abutment was commenced April 12th, 1907. The channel was dredged to about —24.0 C. D. This work was completed May 22nd, 1907, at a cost of $9,462.12.

Great Lakes Dredge & Dock Co., contractor.

KINZIE STREET TRUNNION BASCULE BRIDGE—On account of the large amount of traffic across the river at this point, it was deemed necessary to construct a temporary bridge for use during the construction of the new bridge. For this purpose a site was selected just north of C. M. & St. P. R. R. bridge near Kinzie street. Pile bent approaches and a pivot pier were constructed. The old North avenue pontoon span was then transferred to Kinzie street and placed in position. The approaches were made accessible by the construction of plank roadways to connect with Kingsbury street on the east side and with Kinzie street at Canal street on the west side.

The movable span was placed near the west bank of the river and leaves a clear channel for the passage of vessels about 70 feet in width.

This work was commenced October 1st, 1907, and completed, including approaches and plank roadway November 27, 1907. Shuman W and A pavement was placed on the movable span and temporary bridge opened to traffic December 11th, 1907.

Cost of temporary pontoon bridge, $13,203.65.

The work of removing the old structure was commenced December 12th. The center pier protection and part of the approaches were removed.

Dismantling old draw span.

Contractors for the temporary bridge, Great Lakes Dredge & Dock Co.

Contractor for the substructure, Great Lakes Dredge & Dock Co.

Contractor for the superstructure, J. J. Gallery.

Mr. Wm. A. Mulcahy, Assistant Engineer, is in local charge.

SOUTH ASHLAND AVENUE DRAW BRIDGE (WEST ARM, SOUTH FORK, SOUTH BRANCH)—To accommodate the traffic across the South Fork of the Chicago River at this point, during the construction of the new bridge, a temporary bridge was constructed just west of Ashland avenue. Pile bent approaches and pivot pier were constructed. The old 22nd street pontoon span was transferred from the 18th street bridge yard and placed in position on the pivot pier and decking renewed. The approaches were made accessible by constructing plank roadways to connect with Ashland avenue on each side of the

river. Street car tracks were placed on approaches and bridge, and the cars of the Chicago City Railway Company began using the temporary bridge December 8th, 1907. Team traffic was maintained across the old span until December 9th, when teams began using the temporary bridge and old span was closed to traffic.

Work on the temporary bridge was commenced October 15th and completed December 7th, 1907. Cost of temporary pontoon bridge, $9,991.14.

Contractor—Fitz Simons & Connell Co.

The work of removing the old structure was commenced December 16th, 1907. Old draw span and center pier protection removed.

Fitz Simons & Connell Co., contractor for the substructure.

King Bridge Co., contractor for the superstructure.

Mr. Albert Wain is in local charge.

During the year 1907 surveys were made at the following locations, in contemplation of new construction: Polk street and Washington street across the South Branch and at Blackhawk street across the North Branch, Chicago River.

During the year 1906, the Dearborn street bridge was completed by the Sanitary District of Chicago.

BRIDGES AND VIADUCTS — REPAIRS AND MAINTENANCE.

JOHN A. LENNARTSON, ASSISTANT ENGINEER.

This division has under its supervision sixty-six bridges and thirty-four systems of viaducts. Fifty-one of the bridges are movable and fifteen are fixed spans. Twelve of the movable bridges are Scherzer bascule bridges, seven are trunnion bascule bridges (City's design), one is a Page bascule bridge, one is a vertical lift bridge and the balance swing bridges. Twenty-nine of the movable bridges are operated by electricity, one by steam and the rest by hand power.

The following is a brief statement of the most important repairs to the bridges and viaducts during the year of 1907:

ADAMS STREET BRIDGE—The roadway between the outer street car rail and the wheel guard was paved with A. F. Shuman's pavement, all the sidewalk planking was renewed, the

spider rods were repaired and adjusted and the bridge was equipped with an improved danger signal system.

ARCHER AVENUE BRIDGE—Permanent electric feeders were installed and a new pit pump was erected in place. The temporary bridge was dismantled and removed, including piling and approaches.

ASHLAND AVENUE (WEST FORK) BRIDGE—The entire roadway of the bridge was paved with A. F. Shuman's composite wood and asphalt pavement and additional counterweights were put in to balance the south leaf.

BELMONT AVENUE BRIDGE—The Rockwell street approach to the west approach to the bridge was rebuilt, a number of the floor beams were renewed and the truss rods and hog chains were tightened up.

CANAL STREET BRIDGE—Several of the rivets holding the sole plates to the segmental girders which had sheared off were replaced with countersunk bolts and the machinery received a general overhauling.

CHICAGO AVENUE BRIDGE—The planking on the bridge and approaches and the incline leading down to the Chicago avenue pipe yard was patched extensively and new timber bents were erected to support the east approach.

CLARK STREET BRIDGE—The piles driven in the east half of the center pier protection in 1906 were lined up and sawed off and new caps, wales and braces were put in place. The roadway on the bridge between the outer street car rail and the wheel guard was paved with A. F. Shuman's W and A pavement, the end rollers and turn table wheels were adjusted, new submarine cables were laid and new G. E. 800 armatures and a K. 2 controller were installed. The end circle beams were reinforced and a new concrete parapet wall on the south abutment was built.

CLYBOURN PLACE BRIDGE—The brakes were overhauled and the center locks were reconstructed. A new counter shaft was erected in place on the east side of the river to replace the old one which was badly bent.

DIVERSEY STREET BRIDGE—A number of timber bents were erected to support the approaches, the bridge house was refloored and re-shingled and new danger signs and lock cables were put in.

EAST DIVISION STREET BRIDGE—All the iron work was painted and a new improved danger signal system was installed. The roadway between the outer street car rail and the wheel guard was paved with A. F. Shuman's W and A pavement.

WEST DIVISION STREET BRIDGE—The roadway on the bridge between the outer street car rail and the wheel guard was paved with A. F. Shuman's W and A pavement and the filled approaches for a distance of about thirty feet next to the bridge were paved with A. F. Shuman's "Slip-Not" pavement.

NORTH HALSTED STREET (RIVER) BRIDGE—The entire roadway was paved with A. F. Shuman's W and A pavement and the track girders were shimmed up and leveled.

SOUTH HALSTED STREET BRIDGE—The operating expenses for this bridge while steam was used for motive power have been exceedingly high. In order to reduce these expenses it was decided to change the operating power from steam to electricity. Two G. E. 74 motors of 65 horse power each were installed together with any other appliances needed, and the bridge has been operated electrically since October 22nd, 1907. The cost of coal for operation for the first ten months of the year amounted to $1,699.60, or an average of $169.96 per month, whereas the cost per month for electric power is $50.00. Only one bridge tender will be needed for each shift under electrical operation, while two were required when steam was used. By the change a saving to the City of about $3,240.00 per annum will be effected in the operating expenses, and the bridge can be handled with greater speed and precision. An improved danger signal system was also installed at this bridge.

HARRISON STREET BRIDGE—The bridge was paved with A. F. Shuman's pavement, platforms were built in the pits and new pit pumps were installed.

INDIANA STREET BRIDGE—A portion of the north end of the protection was rebuilt, the west abutment was repaired and a new steel disc was put in the center step.

JACKSON STREET BRIDGE—A new improved danger signal system with side lights along the trusses was installed, the motors were equipped with new G. E. 800 armatures and a new pinion shaft was erected in place.

LAKE STREET BRIDGE—A. F. Shuman's W and A pavement was laid on the bridge between the outer street car rail and the wheel guard, and the east approach was paved with A. F. Shuman's "Slip-Not" pavement. A new improved danger signal system was put in, and the motors were equipped with new W. P. 50 armatures.

LAUREL STREET BRIDGE—The stone abutment on the north side of the river which was in danger of collapsing and falling into the river was removed and abutment consisting of piling and timbers was substituted.

MADISON STREET BRIDGE—Two G. E. 800 motors were installed with controller and other devices necessary for electric operation, the electrical equipment being completed and the old steam plant being put out of service about the middle of February. The roadway on the west approach was paved with A. F. Shuman's pavement and a new sidewalk was built on the north side of the west approach. The improved danger signal system, including side lights along the trusses, was also installed.

MAIN STREET BRIDGE—New sidewalks were built on the approaches and a number of rivets in the sole plates which had sheared off were replaced with countersunk bolts.

NINETY-FIFTH STREET BRIDGE—All the iron work on this bridge was painted and the main bearings were overhauled.

NINETY-SECOND STREET BRIDGE—The east approach, which was badly damaged in a collision with the steamer "Squire" on October 30th, was practically rebuilt. Eighty-eight piles were driven in the pier protection and the approaches. Part of this work was necessitated on account of damage done by boats and a portion of the cost has been charged to the parties responsible.

NORTH FIFTY-SIXTH AVENUE BRIDGE—The rubble abutment on the south side of the river which was undermined and in danger of collapsing was removed and timber bents were erected in its place to support the structure.

ONE HUNDRED AND SIXTH STREET BRIDGE—One of the sidewalks on the bridge was rebuilt and ninety-two piles were driven in place to protect the bridge and abutments. A portion of the cost of this work has also been charged to owners of vessels which collided with the bridge during the year.

RANDOLPH STREET BRIDGE—All the iron work was painted and the channel irons at the break in the floor were replaced with heavy angle irons.

RIVERDALE BRIDGE—The bridge was painted, the south approach was rebuilt and a new bridge house was erected.

RUSH STREET BRIDGE—Owing to the dilapidated condition of the center pier protection, a number of vessels collided with the bridge doing more or less damage. The cost of the repairs when made were charged to the parties responsible for the damage. The subplanking on one of the roadways was renewed and this roadway was paved with A. F. Shuman's W and A pavement.

STATE STREET BRIDGE—Several new counterweight rods were put in, the end planks were renewed and all the iron work was painted.

TAYLOR STREET BRIDGE—New pit pumps and pit pump motors were installed and two steel bents were erected to support the east bridge house, the old bents being destroyed in a collision with the Steamer "Chemung" on August 1st, 1907.

TWELFTH STREET BRIDGE—The bridge was paved with A. F. Shuman's W and A pavement between the outer street car rail and the wheel guard, the spider rods were adjusted and the machinery was overhauled.

THIRTY-FIFTH STREET BRIDGE—A new steel disc was put in the center step and the sidewalks were patched extensively.

VAN BUREN STREET BRIDGE—New G. E. 58 motors were substituted for the old Westinghouse motors for the operation of the east leaf and new signal lights and semaphores were installed.

WEBSTER AVENUE BRIDGE—Extensive repairs were made on the center pier protection, the roadway planking on the bridge and the approaches was almost entirely renewed and sheet piling was driven in place along the sewer underneath the east approach.

WELLS STREET BRIDGE—The new improved danger signal system, including side lights on the trusses was installed, new locks and lock castings were put in and the end screws were adjusted and put in working order. Considerable damage to the south approach was done by the steamer "E. M. Peck" which ran into the structure on September 10th, 1907. The damage was repaired and the cost was charged to the owners of the steamer.

VIADUCTS.

CANAL AND SIXTEENTH STREET VIADUCT—The portion of the structure which spans the tracks of the Chicago and North-Western Railway Company was paved with A. F. Shuman's W and A pavement. The cost of this work was charged to the Chicago and North-Western Railway Company.

CLARK STREET VIADUCT—This viaduct was paved with A. F. Shuman's W and A pavement. The cost of this work was also charged to the Chicago and North-Western Railway Company. Other repairs to viaducts were made by the railroad companies owning tracks under the structures by their own repair gangs and at their own expense.

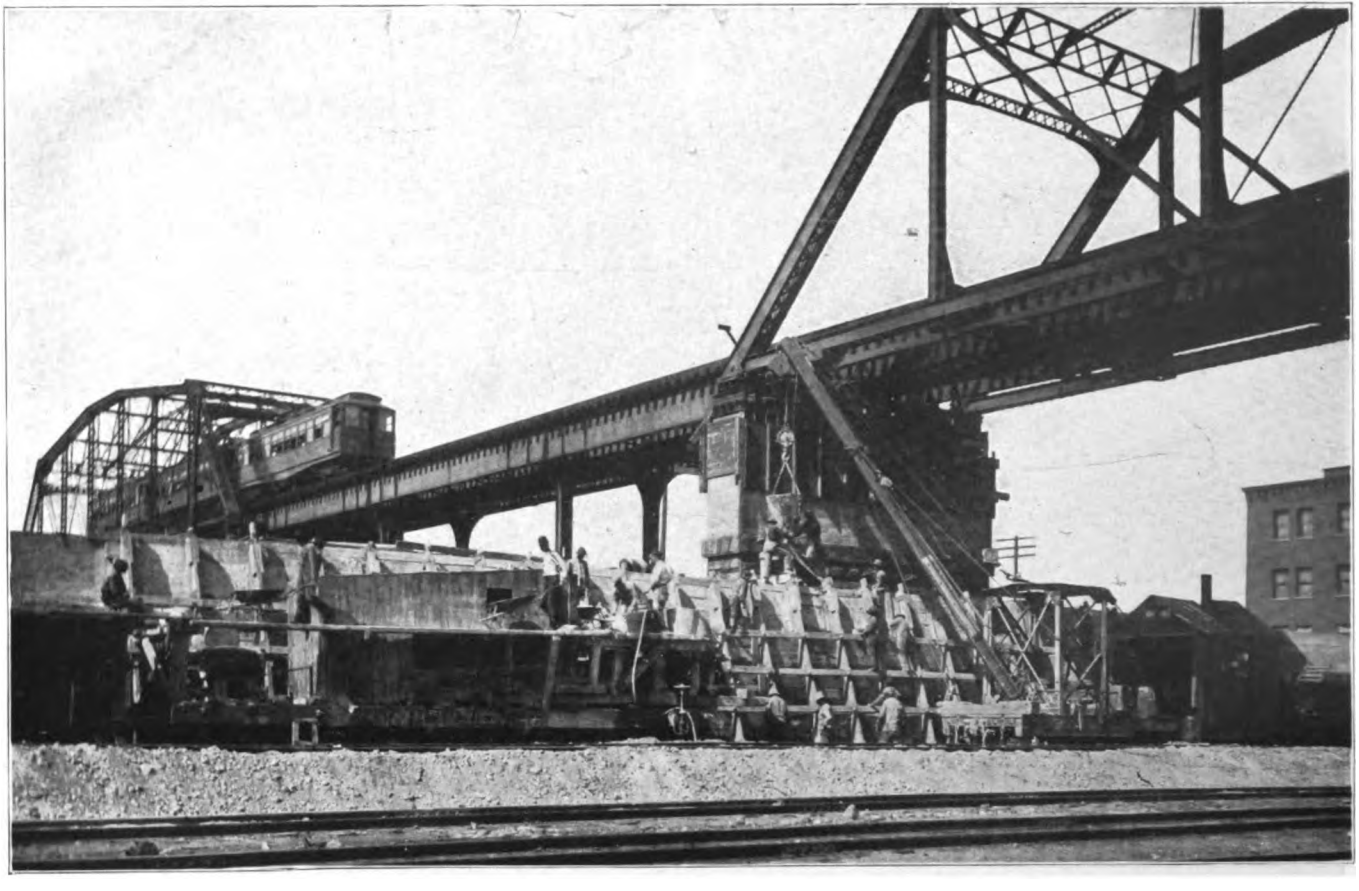
During the year the Centre avenue, the Halsted and Sixteenth streets and the Halsted and 40th streets viaducts were removed on account of track elevation.

The following table shows in detail the amounts expended during the year of 1907 for the various bridges and viaducts:

STATEMENT OF EXPENDITURES FOR REPAIRS AND OPERATIONS FOR PERIOD ENDING DECEMBER 31, 1907.

Bridge.	Labor.	Material.	Coal.	Supplies.	Power.	Piles.	Office Salaries.	Teams.	Total.
Adams street	$ 2,844.76	$ 4,102.91	$ 58.00	$ 32.69	$ 600.00				$ 7,638.36
Archer avenue	2,374.52	926.33	58.00	87.74	550.00				3,996.59
Ashland avenue (South Fork)	553.72	231.65	5.80	24.06					815.23
Ashland avenue (West Fork)	1,496.23	2,297.48	95.50	78.51	600.00				4,567.72
Belmont avenue	1,815.23	1,943.14	26.70	23.25		$ 1,815.33			5,623.65
Blackhawk street	480.90	256.71	14.50	32.63					784.74
Canal street	2,167.70	1,357.65	59.00	105.74	600.00				4,290.09
Chicago avenue	984.15	534.72	21.50	26.69					1,567.06
Chittenden	960.95	105.96	15.00	9.71					1,091.62
Clark street	8,009.57	6,802.01	64.25	94.70	600.00				15,570.53
Clybourn place	1,147.52	252.14	36.55	43.02	600.00				2,079.23
Dearborn street	244.25	97.61	56.00	609.62	100.00				1,107.48
Diversey street	3,868.09	2,615.47	29.50	42.54		368.10			6,923.70
East Division street	4,610.05	2,919.77	59.00	61.01	600.00				8,249.83
West Division street	1,069.22	1,319.30	59.00	39.87	600.00				3,087.39
Eighteenth street	1,853.57	967.80	78.25	86.88	600.00				3,586.50
Erie street	1,433.34	826.87	36.50	41.59					2,338.30
Fuller street	320.57	112.26	17.80	39.52					490.15
Fullerton avenue	536.17	594.89	36.70	29.00	600.00				1,796.76
North Halsted street (Canal)	112.50	4.43	22.25	5.36					144.54
North Halsted street (River)	3,503.45	4,657.24	59.00	115.77	600.00				8,935.46
South Halsted street	6,543.93	4,043.75	1,699.60	3,073.28	100.00				15,460.56
Harrison street	3,331.81	3,511.06	114.00	71.69	600.00				7,628.56
Indiana street	1,378.13	1,000.51	16.75	34.10					2,429.49
Jackson street	2,400.96	898.13	72.00	103.66	600.00				4,074.75
Kedzie avenue (Canal)	295.77	155.67							451.44
Kinzie street	1,307.10	1,591.01	16.00	34.15					2,948.26
Lake street	2,187.79	2,567.59	101.70	154.94					5,012.02
Laurel street	810.06	212.29	19.60	20.66		1,142.13			2,204.74
Loomis street	1,315.14	235.03	86.50	42.37	600.00				2,279.04
Madison street	8,273.09	2,967.13	98.00	84.57	475.00				11,897.79
Main street	1,142.11	615.83	49.60	50.71	600.00				2,458.25
Ninety-second street	1,509.41	921.19	46.00	46.93		2,047.66			4,661.19
Ninety-fifth street	2,634.89	870.57	62.00	24.86					3,592.32
North avenue (Bascule)	197.75	46.16	29.60	42.04	100.00				415.55
One Hundred and Sixth street	1,263.23	237.25	15.00	21.46		571.96			2,108.90
Polk street	131.48	38.90		2.84					173.22
Randolph street	3,459.95	821.42	86.00	91.06	600.00				5,058.43
Riverdale	627.00	980.66		14.91					1,622.57
Rush street	4,496.05	2,534.37	102.00	83.97	600.00				7,816.39
State street	4,342.25	810.56	43.75	100.43	600.00				5,896.99

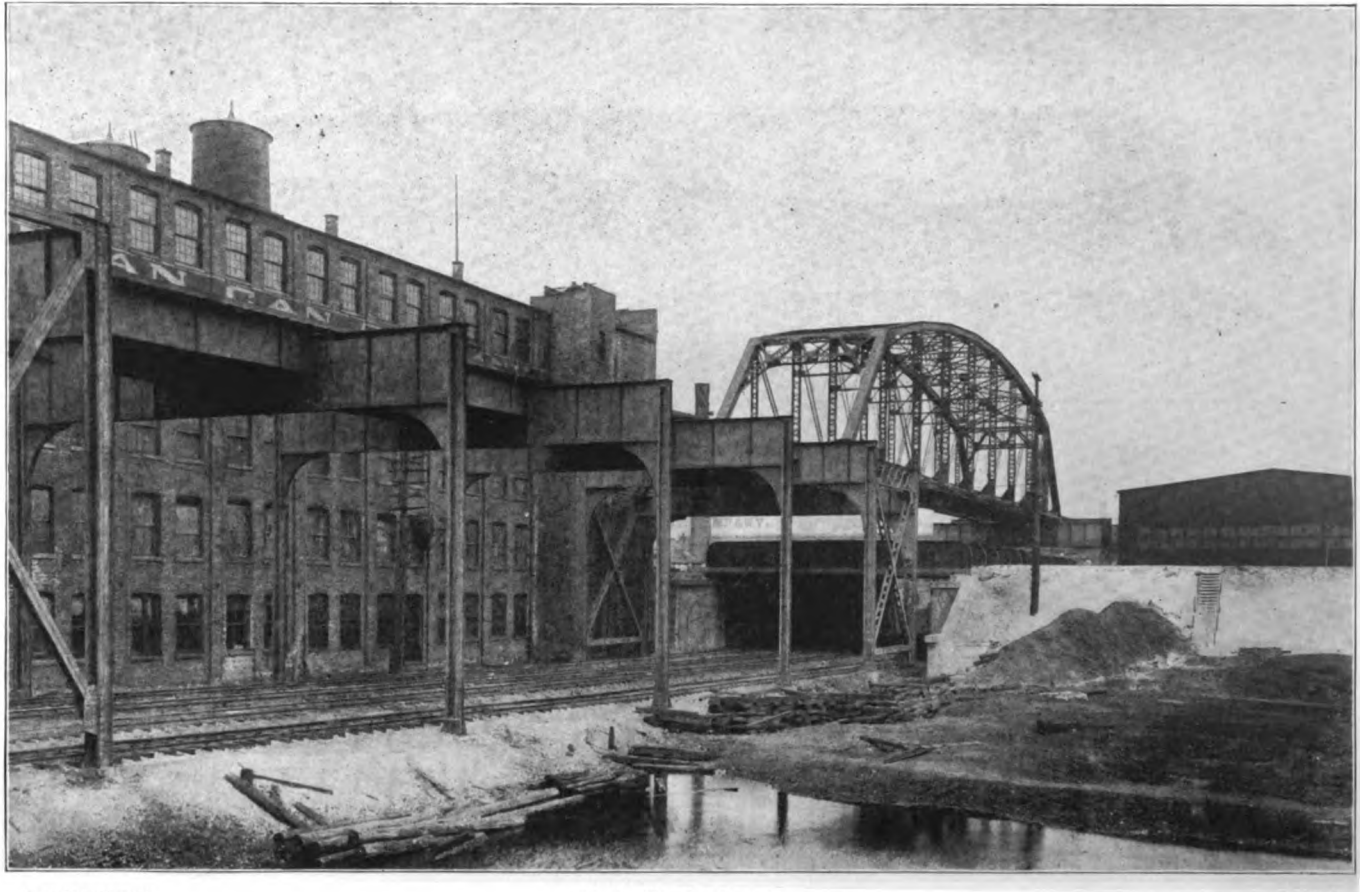
[illegible] street	2,535.85	1,016.13	100.50	69.89	600.00				4,312.37
[illegible] Avenue		7.39							7.39
[illegible] street	2,308.36	3,318.77	869.40	57.99					6,640.02
Twenty-second street	2,730.31	630.06	94.25	86.92	600.00				4,141.54
Thirty-fifth street	609.50	219.83	27.60	37.03					893.96
Van Buren street	4,527.28	3,968.83	101.00	131.00	600.00				9,628.11
Washington street	055.36			4.42	100.00				759.78
Webster avenue	3,205.87	3,859.86	20.30	82.03					7,118.63
Weed street	1,799.77	268.20	13.80	40.39					2,122.16
Wells street	2,139.28	1,135.84		64.57					3,338.69
North Western avenue	471.97	154.56	51.80	60.31	600.00				1,338.64
South Western avenue	597.99	383.01	13.80	17.33					1,012.13
Archer pontoon	58.92					507.00			565.92
Eighteenth street shop	528.95	164.90	15.00	20.97					729.82
Kedzie avenue (West Fork)	219.38	102.38							321.76
Lake street shop	175.75	32.28		3.12					211.15
State street viaduct	257.50	2.40							259.90
North Fifty-sixth avenue	364.80	153.99							518.79
Steamer Hopkins	140.25	99.78	347.48	6.68					594.19
North Fortieth avenue	375.40	114.19							489.59
Milwaukee avenue viaduct	128.10	22.13							150.23
Chicago avenue incline	64.20	69.75							133.95
Taylor street viaduct	64.80	44.63							109.43
Eighteenth street incline	310.50	461.85							772.35
Ashland avenue (culvert)	334.50	157.16							491.66
South Western avenue, I. & M. C.	243.87	128.32							372.19
California avenue bridge	94.44	73.77							168.21
Clark street viaduct	144.00	9.00							153.00
Lawrence avenue bridge		398.04							398.04
Twelfth street viaduct	2.81	2.43							5.24
Nelson street, alley		369.00							369.00
Twenty-second street (pontoon)	673.18	85.34				154.40			1,912.92
Vessel Despatcher's office	111.80	24.67							136.47
South Ashland avenue (pontoon)	1,269.65	1,093.81		16.68					2,380.14
South Halsted, over Little Calumet		2,250.00							2,250.00
Kinzie pontoon	667.85	318.32	6.50	15.18					1,007.85
Eighteenth street viaduct, I.C.R.R.	109.63	47.03							156.66
Polk street ferry	711.45	1,237.74							1,949.19
Lincoln and Peterson avenue		158.89							158.89
General account	18,305.49	3,221.67		1,074.00			12,173.62	2,890.75	37,665.53
Totals	$135,437.62	$ 83,791.34	$ 5,228.33	$ 7,467.01	$ 14,025.00	$ 7,606.58	$ 12,173.62	$ 2,890.75	$268,620.88



Ord, July 7, 1902

C. & N.-W. Ry.

NEAR PAULINA AND SIXTEENTH STREETS—METROPOLITAN ELEVATED R. R.

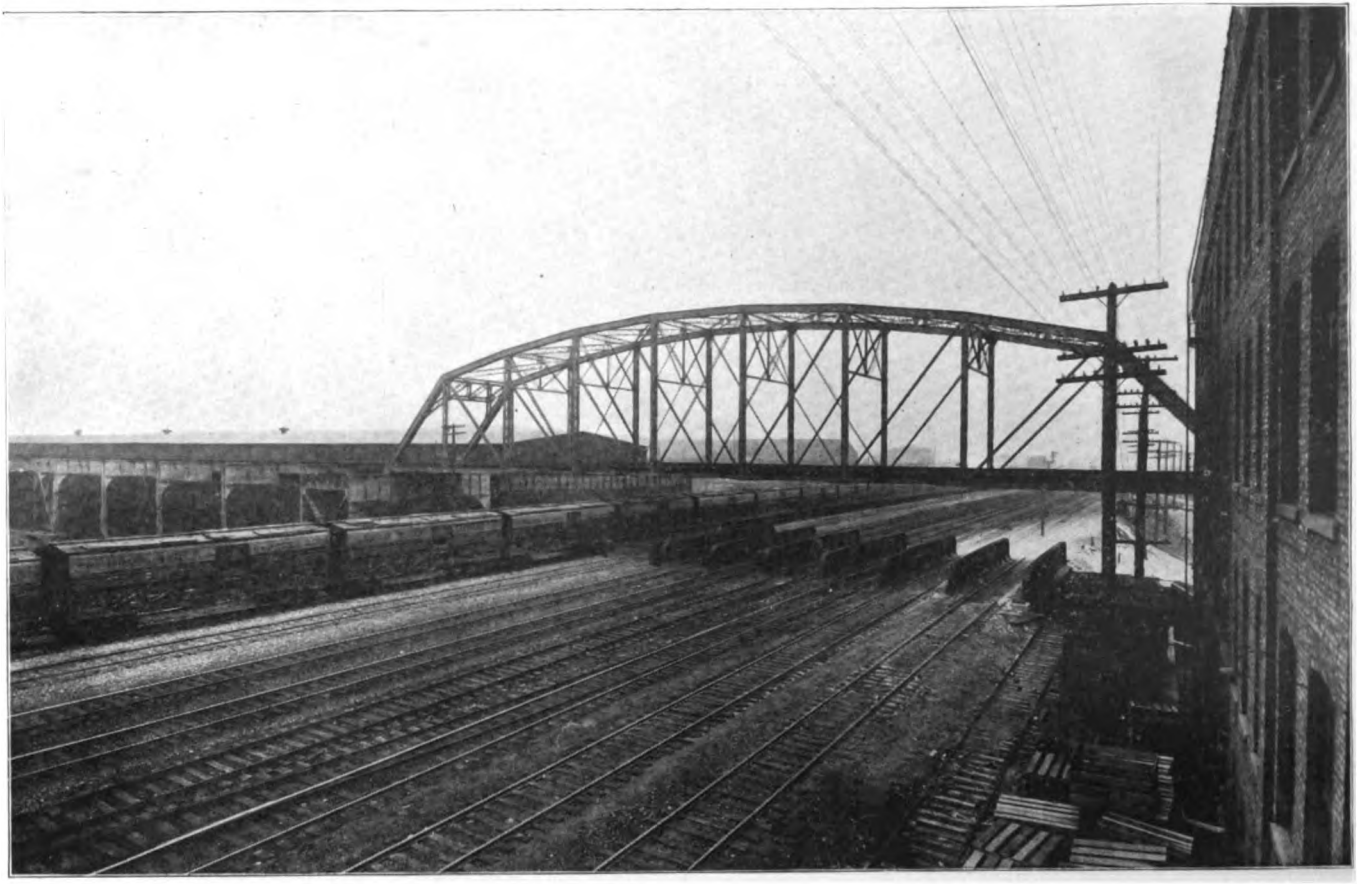


Ord. Oct. 23, 1899

C. & W. I. R. R.

C. J. Ry., Fortieth Street Looking N. E.—South Side Elevated

3-30-06



Oct. 23, 1899

C. & W. I. R. R.

3-30-08

FORTIETH STREET, LOOKING S. E. FROM AM. CAN. CO. BLDG. C. J. RY. AND SOUTH SIDE ELEVATED

NUMBER OF HORSES IN THE CITY OF CHICAGO BY WARDS.

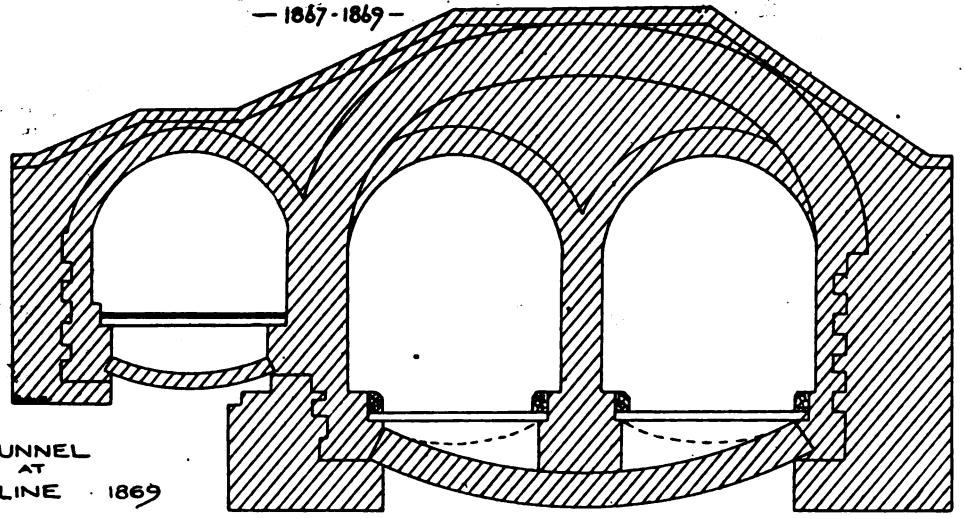
1st Ward	4,863	19th Ward	3,742
2nd "	3,157	20th "	2,350
3rd "	1,712	21st "	3,371
4th "	2,080	22nd "	2,309
5th "	1,600	23rd "	1,725
6th "	2,468	24th "	1,639
7th "	1,772	25th "	2,355
8th "	1,477	26th "	1,567
9th "	2,303	27th "	1,161
10th "	1,934	28th "	2,250
11th "	1,980	29th "	2,873
12th "	1,940	30th "	2,250
13th "	1,641	31st "	1,889
14th "	2,888	32nd "	1,790
15th "	995	23rd "	2,000
16th "	1,673	34th "	970
17th "	2,982	35th "	1,331
18th "	4,105	Total:	77,141

1

WASHINGTON ST · TUNNEL

CHICAGO. ILL

— 1867-1869 —

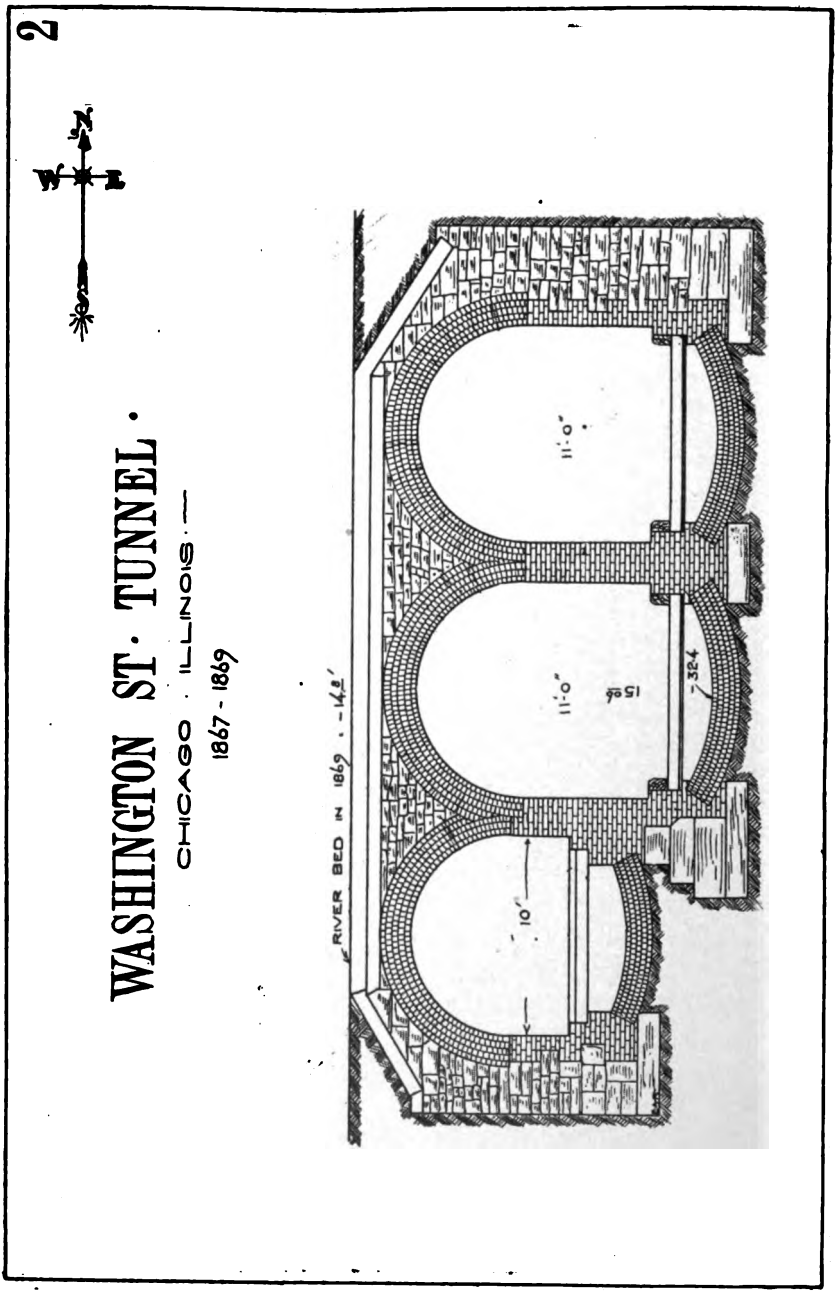


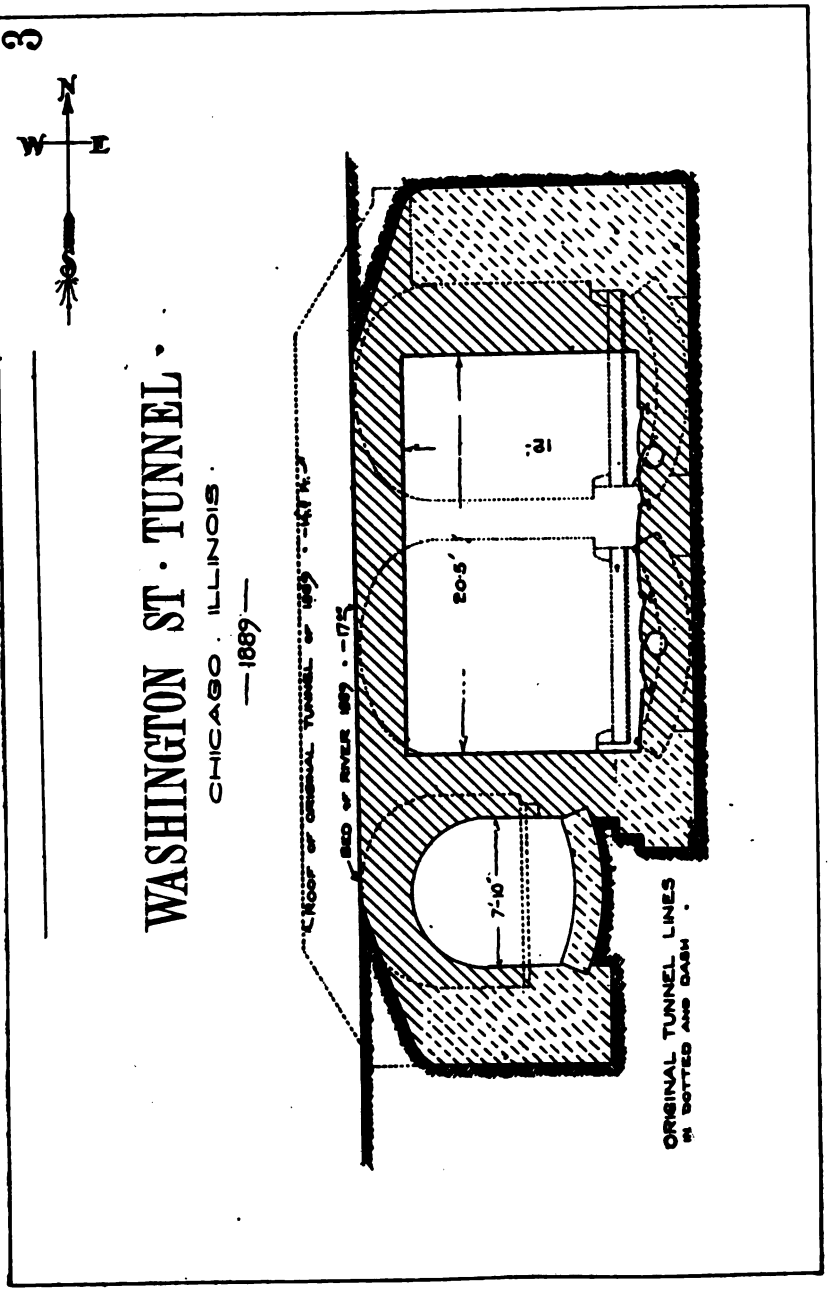
TUNNEL
AT
DOCK LINE · 1869

DEPARTMENT of PUBLIC WORKS

JOHN J. HANBERG
COMMISSIONER

JOHN ERICSON
CITY ENGINEER



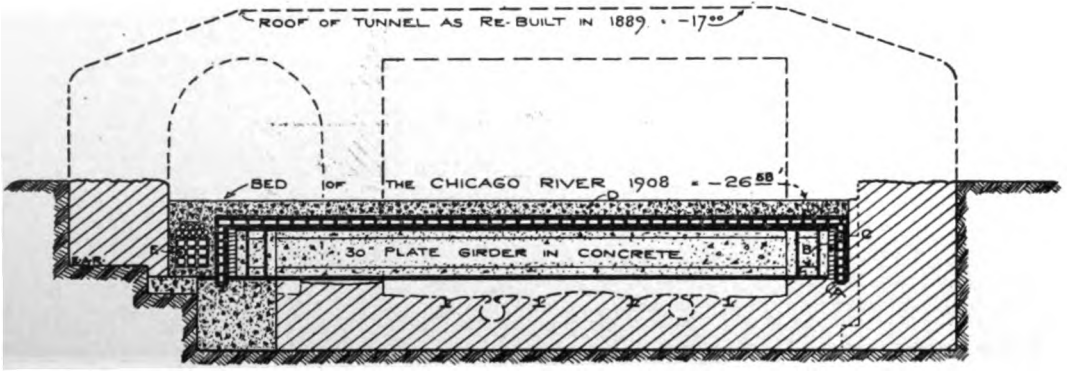


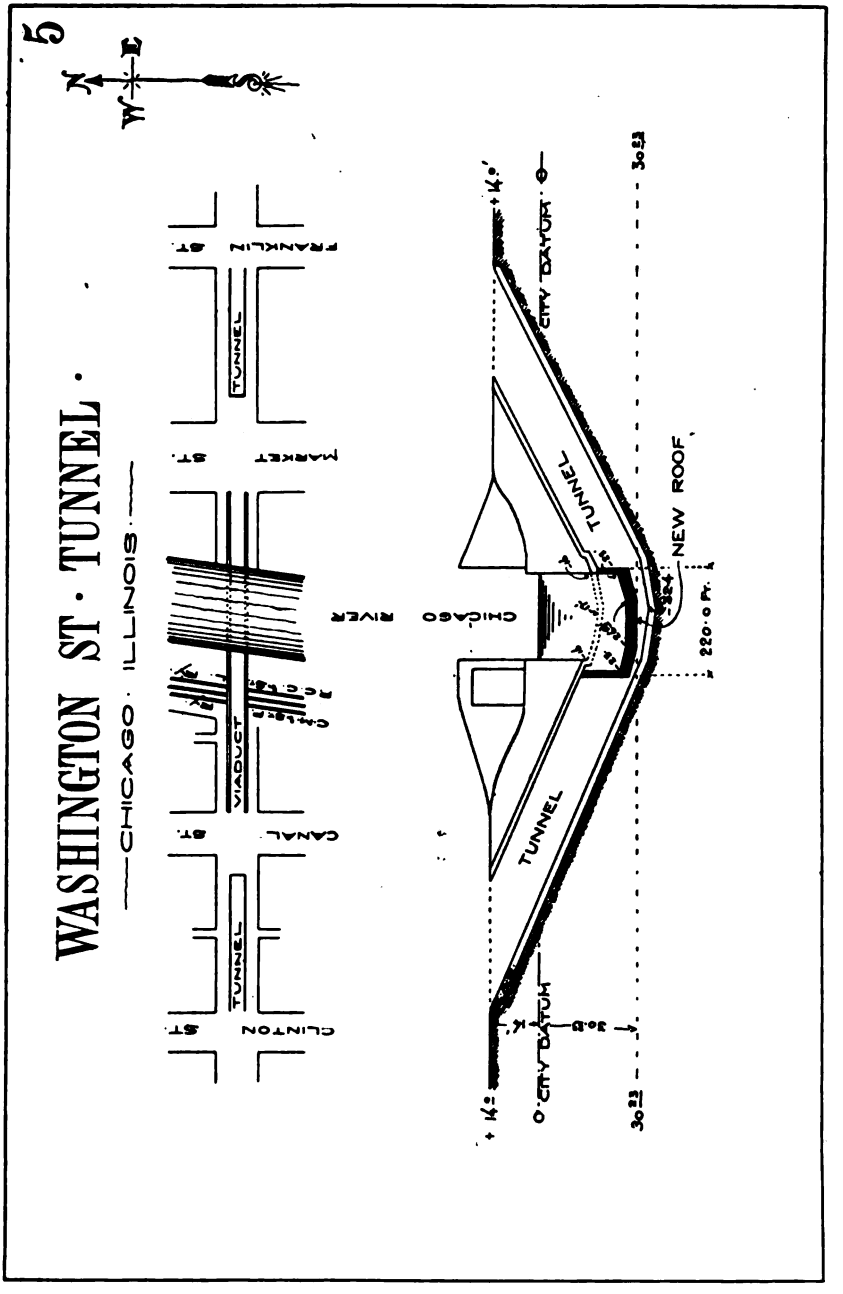
4

WASHINGTON ST · TUNNEL ·

CHICAGO · ILLINOIS ·

1907-1908



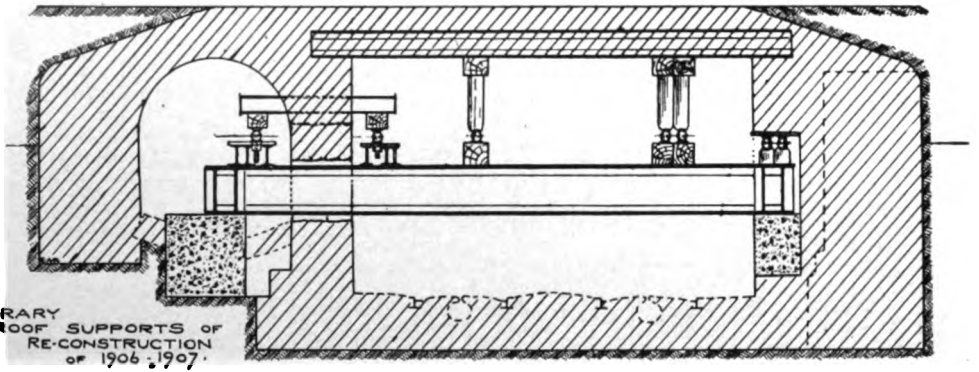

5
WASHINGTON ST. TUNNEL.
CHICAGO. ILLINOIS.
N
W
E
FRANKLIN ST.
TUNNEL
MARKET ST.
CHICAGO RIVER
VIADUCT
CANAL ST.
TUNNEL
CLINTON ST.
CITY DATUM
TUNNEL
NEW ROOF
220.0 Ft.
TUNNEL
0.0 CITY DATUM

6

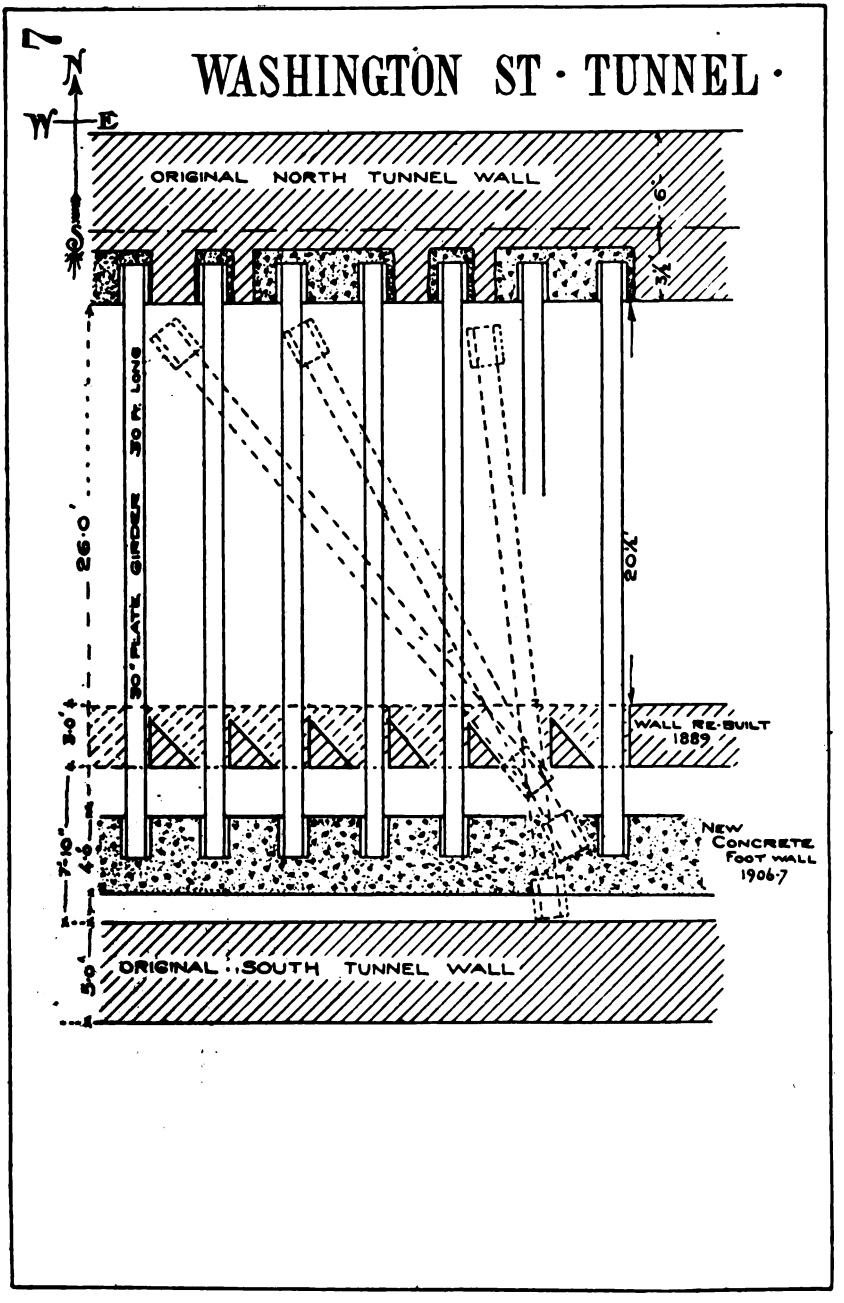
WASHINGTON ST · TUNNEL ·

CHICAGO · ILLINOIS · —

— 1889 —



TEMPORARY ROOF SUPPORTS OF RE-CONSTRUCTION OF 1906 - 1907 ·



8

WASHINGTON ST. TUNNEL.

CHICAGO. ILLINOIS.

—1907—