

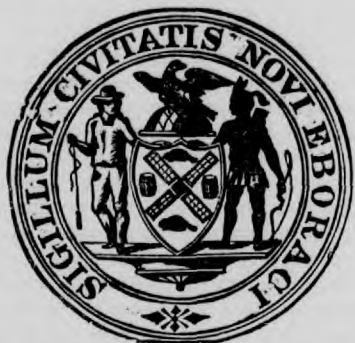
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DEPARTMENT OF PUBLIC WORKS.

Report for the Quarter ending December 31, 1881.

DEPARTMENT OF PUBLIC WORKS,
COMMISSIONER'S OFFICE, NO. 31 CHAMBERS STREET,
NEW YORK, February 11, 1882.

Hon. WILLIAM R. GRACE, Mayor :

SIR—In accordance with section 27 of the Charter, I have the honor to submit to you herewith a report of the transactions of this Department for the three months ending December 31, 1881, together with a brief review of its operations for the past year.

Summary of Expenditures for the Quarter.

(Being amount of requisitions drawn on the Comptroller.)

On account of appropriations raised by taxation	\$792,471 35
On account of Assessment Fund for Street Improvements	309,019 51
On account of Revenue Bonds, in anticipation of collection of charges for water meters	8,441 29
On account of Special Fund for Restoring Pavements over Street Openings	11,058 43
On account of Funded Debt for Improvement and Extension of Water Supply	243,198 53
Total	\$1,364,189 11

BUREAU OF CHIEF-ENGINEER OF CROTON AQUEDUCT.

The unprecedented drought which prevailed during last summer and autumn did not terminate until the 1st of November. Since that day the natural flow of the Croton river has furnished the daily supply without drawing upon the storage reservoirs and lakes, and a surplus flow has been running over the Croton dam at a depth of from one to twenty inches. The average quantity of water thus running over the dam, and emptying into the Hudson river, during December, was 191,000,000 gallons per day.

Early in October the reserve supply in the two storage reservoirs and in the lakes which are under the control of the Department was so reduced that it became necessary to purchase the right to draw down the available water of Lakes Waccabuc and Tonetta and White pond, China pond, and Peach pond. The aggregate amount paid for the use of these lakes and ponds for the remainder of the year 1881, is \$6,700, and the quantity of water drawn from them during October is 290,000,000 gallons. From the 1st of October to the termination of the drought 2,185,000,000 gallons of water were drawn from the storage reservoirs and lakes, of which the two reservoirs furnished 1,650,000,000 gallons, and the lakes and ponds 535,000,000 gallons.

The work at the outlets of Lakes Mahopac and Kirk, to improve the facilities for drawing water from them, has been continued and nearly completed. At Lake Kirk a 36-inch pipe has been placed through the dam, with a stop-cock and masonry to regulate the overflow and discharge of water.

The proceedings to determine the amount of damages to mill rights and property on Muscoot river by storing and drawing down the waters of Lakes Mahopac and Kirk have been concluded. The aggregate amount of damages reported by the Commissioners of Appraisal and approved by the Court, is \$7,892.28.

The surveys, maps, and searches of titles of lands required for a new large storage reservoir on the east branch of the Croton river have been finished, and at an early day application will be made to the Supreme Court for the appointment of Commissioners to appraise the value of the lands and the damages that will result from the construction of the reservoir. The Department will do everything in its power to expedite this important and necessary work, and it is earnestly hoped that there will be no delay in the legal proceedings to acquire the requisite lands and privileges.

The rain-fall in the Croton basin during the three months was 14 68-100 inches, and at Kensico, on the Bronx river, 12 14-100 inches.

Satisfactory progress has been made on the works to bring in an additional supply of water from the Bronx and Byram rivers. The appraisal of lands and right of way required for that part of the conduit line between Hartzdale and Bronxville has been referred by the court to the Commission previously appointed in the matter of acquiring the land for the dam and reservoir at the Rye ponds. The proceedings of this Commission have been delayed by the sickness of one of the Commissioners.

The work on the conduit line for the quarter comprises the following items :

- 5,177 tons pipe delivered.
- 4,396 lineal feet pipe laid.
- 550 cubic yards rock excavated.
- 5,806 " earth excavated.
- 15,614 " embankment built.
- 320 " dry stone wall built.
- 190 " masonry built.

The work on the reservoir at Kensico for the quarter is as follows :

- 470 cubic yards rock excavated.
- 16,070 " earth excavated.
- 14,100 " embankment built.
- 1,537 " stone, brick, and concrete masonry built.
- 172 " dry stone wall built.
- 3,192 lineal feet fence wall built.
- 10,120 feet B. M. planking furnished and placed.

In addition to the ordinary labor involved in the care and maintenance of the aqueduct, the reservoirs and the various structures and property used in collecting the water in the Croton basin

and conducting it to the city, a considerable amount of special work was done during the quarter to improve and strengthen the aqueduct, as follows :

- 1,370 lineal feet of top arch reinforced.
- 1,599 cubic yards masonry built.
- 503 " dry stone wall built.
- 430 " stone quarried.
- 11,592 " earth excavated.
- 2,500 lineal feet of embankment regraded.
- 800 square yards of embankment sodded.
- 30,252 lineal feet of fences repaired.
- 2,695 " of interior of conduit repaired.

The great difficulty heretofore encountered in making needed repairs in the interior of the aqueduct arose from the necessity of shutting off the water at the head of the aqueduct and emptying the whole structure, and thus interrupting the flow into the city reservoirs during a period of about 47 hours required in drawing down the water and refilling the conduit, exclusive of the time actually employed in inspection and repairs, which usually does not exceed a few hours. To obviate this difficulty four shut-off gates have been designed, constructed, and placed at the waste-weir gates at Sing Sing, Tarrytown, Yonkers, and Kingsbridge, respectively, dividing the aqueduct into five sections, each of which can be emptied and refilled separately within five hours, allowing two hours for repairs. Three of these gates are now in working order, and the fourth, at Sing Sing, will be in position at an early day. At this place a new gate-house is being built at the bridge over the Sing Sing kill, to avoid the expense of a waste-pipe 2,000 feet long, which would have been necessary by using the old gate-house for the shut-off gate. In the review of the operations of the Department for the year, included in this report, I shall state more fully the advantages that will be derived from the use of these gates.

On November 27 to 30 the water was shut off for seventy-eight hours, to make the annual inspection and repairs of the interior of the aqueduct, and 2,695 lineal feet of cracks or fissures were repaired. When the water was shut off at the Croton dam, the depth of water in the Park reservoir was 35 feet 2 inches, and when it was turned on and reached the reservoir again, it had fallen to 26 feet 5 1/2 inches.

During the quarter 15,951 lineal feet of pipes were laid to extend and improve the distribution of water, and 191 additional fire-hydrants were placed. Contracts have been made to lay 1,800 feet of 20-inch pipe, 11,000 feet of 12-inch pipe, and 3,000 feet of 6-inch pipe, and to place 100 fire-hydrants.

The high-service pumping engines have worked satisfactorily during the quarter. An interesting table, contained in the report of the Chief-Engineer (Document D, accompanying this report), gives the performance of the new pumping engines at Ninety-eighth street and Ninth avenue, and the old engines at High Bridge, for each month of the year 1881, showing the quantity of water pumped, the height to which it was pumped, the quantity of coal, oil and waste used, and the entire expense, including labor, fuel, supplies and repairs. This table is summarized as follows :

New Works and Engines at Ninety-eighth Street and Ninth Avenue.

Average cost of pumping 1,000,000 gallons 68 feet high	\$5 14
" " " 1,000,000 " 1 foot high	7-56
Average duty, 53,006, 100 pounds raised one foot with 100 pounds of coal. 933 gallons of water raised 68 feet high with 1 pound of coal.	
Total quantity of water pumped during the year	2,849,431,024 gallons.
Average quantity pumped daily	7,806,660 "
Average consumption of coal per day	8,361 pounds.
Total operating expenses for the year	\$14,670 00

Old Works and Engines at High Bridge.

Average cost of pumping 1,000,000 gallons 100 feet high	\$13 77
Average cost of pumping 1,000,000 gallons 1 foot high	13-77
Average duty, 25,787,200 lbs. raised 1 foot with 100 pounds of coal. 309 gallons of water raised 100 feet high with 1 pound of coal.	
Total quantity of water pumped during the year	1,372,030,750 gallons.
Average quantity pumped daily	3,758,988 "
Average consumption of coal per day	12,157 pounds.
Total operating expenses for the year	\$18,902 00
Total quantity of water pumped and distributed from the two establishments for the year	4,221,461,774 gallons.
Average per day	11,556,648 "

This table shows clearly the ultimate economy of replacing the old engines at High Bridge by new ones of equal efficiency with those now in use at the new works, as recommended in my last report, and authorized by the Common Council.

To extend the water supply received from the City of Yonkers for the high ground in the Twenty-fourth Ward, 628 feet of 6-inch pipes were laid, and a contract has been made for furnishing and laying 8,000 feet of pipe, to extend this service from Riverdale to Spuyten Duyvil.

The number of additional water meters placed during the three months is 223, making a total of 5,293 meters in use on the 1st of January, 1882.

The examination of sewer connections to detect waste of water have been continued, and water was found running from 663 houses during the hours between midnight and 6 A. M. At 300 places the flow or waste was found to be from one to five gallons per minute, and in 18 places from six to twelve gallons per minute.

The injunction restraining the Department from taking any steps toward the discontinuance and removal of the Forty-second Street Reservoir, as directed by chapter 456, Laws of 1881, is still in force.

BUREAU OF WATER PURVEYOR.

During October and November an average force of 310 men with 62 carts was employed in repairing pavements. By the first of December the appropriation was exhausted, except a small balance to cover repairs in cases of emergency requiring prompt attention. The repair force was therefore disbanded, with the exception of a few men who were retained to make these repairs.

A large amount of repairs was done by contract, including the complete relaying of 40,656 square yards of pavement in the following streets :

- Madison avenue, between Thirty-first and Forty-second streets.
- Twenty-second street, between First and Fourth avenues.
- Thirty-ninth street, between Tenth avenue and Hudson river.
- Seventy-seventh street, between Madison and Fifth avenues.
- Sixty-sixth street, between Madison and Fourth avenues.
- Clinton place, between Fifth avenue and University place.
- Park row, between Beekman street and Broadway.
- Sixty-third street, between Fourth and Madison avenues.
- Fifty-sixth street, between Fourth and Madison avenues.
- Seventy-first street, between Lexington and Fourth avenues.

Third avenue, between Sixty-eighth and Sixty-ninth streets.
 Thirty-second street, at East river.
 Jones lane, between Front and South streets.
 Sixty-sixth street, between Madison and Fifth avenues.
 Fifth avenue, between Clinton place and Ninth street.

The new pavements completed during the quarter under the Repaving Act of 1875, cover an area of 95,297 square yards, or 4 1-3 miles of streets, as follows:

Christopher street, between Greenwich avenue and West street.
 Stanton street, between Columbia and Tompkins streets.
 Avenue A, between Houston and Seventh streets.
 Eleventh avenue, between Fifteenth and Twenty-fifth streets.
 Tenth street, between Sixth and Greenwich avenues.
 Eleventh street, between Second and Third avenues.
 Fourteenth street, between Ninth and Eleventh avenues.
 Thirty-third street, between Tenth and Eleventh avenues.
 Thirty-sixth street, between Eighth and Tenth avenues.
 Fifty-fourth street, between Sixth and Seventh avenues.
 One Hundred and Twenty-second street, between Second and Third avenues.
 One Hundred and Twenty-ninth street, between Third and Sixth avenues.
 Ann street, between Broadway and Gold street.
 Frankfort street, between Nassau and Jacob streets.
 Jacob street, between Frankfort and Ferry streets.
 Front street, between Fulton and Roosevelt streets.
 Broadway, between Seventeenth and Twenty-second streets.
 Water street, between Market and Clinton streets.
 Bayard street, between Bowery and Market street.
 Pike street, between Division and South streets.
 Rutgers street, between East Broadway and Cherry street.
 Tenth avenue, between Forty-second and Forty-eighth streets.
 One Hundred and Twenty-fourth street, between First and Third avenues.

In consequence of the difficulties which the contractors had to encounter in procuring paving stones in sufficient quantities, several contracts for repaving streets remained unfinished, but will be completed as early as possible next spring.

The area of pavements laid on new streets in the upper part of the city, and payable by assessments, is 83,687 square yards, covering 3 86-100 miles of streets, as follows:

Fifth avenue, between Ninetieth and One Hundred and Tenth streets.
 Lexington avenue, between Eighty-sixth and Ninety-third streets.
 Madison avenue, between One Hundred and Twenty-fifth and One Hundred and Thirty-third streets.
 Ninth avenue, between Boulevard and Seventy-seventh street.
 Forty-fourth street, between First and Second avenues.
 Fifty-fifth street, between Sixth and Seventh avenues.
 Seventy-sixth street, between Third and Fourth avenues.
 Eighty-third street, between Eighth avenue and Boulevard.
 Ninety-fourth street, between Third and Lexington avenues.
 One Hundred and Eighth street, between Third and Fifth avenues.
 One Hundred and Fifteenth street, between Third avenue and Avenue A.

The force employed in repairing water-pipes, stop-cocks and fire-hydrants, is under the direction of this Bureau. During the three months, an average of 84 men and 9 carts were employed in this work; they repaired 619 defects in pipes and stop-cocks, 804 fire-hydrants, placed 64 new hydrants in place of old ones that had been worn out and cut off, 129 house-service pipes, on account of leaks.

Thirty public drinking-hydrants were repaired, and four new ones were furnished and placed, making a total of 572 drinking-hydrants or fountains in use at the close of the year.

BUREAU OF SEWERS.

The weather was quite favorable to the close of the quarter for the uninterrupted prosecution of sewerage work, as well as other improvements, and a greater amount of work has been done than for the corresponding quarter in any previous year since the organization of the Department. Fourteen sewer contracts, involving an aggregate expense of \$83,926.84, were completed, and 17 new contracts, at a total estimated expense of \$119,553, were made.

The new sewer work for the quarter is as follows:

15,146 lineal feet of sewers built.
 320 lineal feet of culverts built.
 12 receiving-basins built.
 70 new basin-heads furnished and set.

together with the rock and earth excavation, pile-driving, repavement, restoration of curb and sidewalks incident to the work.

In the maintenance of the sewerage system the following work was done:

1,360 lineal feet of sewers rebuilt.
 84 lineal feet of culverts rebuilt.
 15 lineal feet of drain-pipe built.
 17 receiving-basins rebuilt.
 7 manholes rebuilt.
 33 receiving-basins repaired.
 237 manholes repaired.
 104 lineal feet of spur-pipe laid.
 23 new granite basin-heads furnished and set.
 28 new basin sewers,
 63 new manhole heads, and
 99 new manhole covers furnished and placed.
 1,558 cubic yards earth excavated and removed.
 1,475 cart loads of deposit removed from basins and sewers.

BUREAU OF STREET IMPROVEMENTS.

During the quarter six new contracts for regulating and grading new streets were entered into, seven contracts were completed, and at the close of the quarter work was in progress on twenty-four contracts. Among the most important works completed is the grading of Eleventh avenue, from One Hundred and Fifty-fifth street to Kingsbridge road at One Hundred and Sixty-eighth street, together with curb, flagging, and the necessary drains, culverts and basins for surface drainage. This is practically a continuation of the Western Boulevard from its former terminus at One Hundred and Fifty-fifth street to One Hundred and Seventy-fifth street, a distance of 3,265 feet, connecting it in a direct line with Kingsbridge road, the principal thoroughfare on the upper end of the island. This improvement therefore establishes the hitherto missing link in a broad and direct highway from the Battery to Spuyten Duyvil by way of Broadway, the Boulevard, Eleventh avenue, and the Kingsbridge road.

The other works completed under the direction of the Bureau of Street Improvements are—

Regulating, grading, etc., Seventieth street, between Eighth and Tenth avenues.
 “ “ Seventy-first street, between Fifth avenue and East river.
 “ “ Ninety-seventh street, between Eighth avenue and the Boulevard.
 “ “ Ninety-eighth street, between Eighth avenue and the Boulevard.

Regulating, grading, etc., One Hundred and Twenty-first street, between Sixth and Seventh avenues.

Regulating, grading, etc., One Hundred and Seventy-fifth street, between Tenth avenue and Kingsbridge road.

Flagging in Avenue D, between Thirteenth and Fourteenth streets.

“ Seventy-first street, between Ninth and Tenth avenues.

The aggregate quantities of work done under the several contracts during the quarter are as follows:

14,360 cubic yards rock excavated.
 18,756 “ earth “
 16,155 “ embankments built.
 10,663 lineal feet curb-stones set.
 4,668 “ gutter-stones laid.
 23,736 square feet flagging laid.

BUREAU OF STREETS AND ROADS.

The work of rolling, scraping, and keeping in order the twenty-five and a half miles of macadam roadways on the uptown boulevards, avenues and streets, has received the closest attention, and the marked improvement in their condition which I was able to record in my last quarterly report has not only been maintained but increased during the past quarter. In addition to the ordinary repairs and maintenance work, the resurfacing of the roadway of One Hundred and Forty-fifth street, from Sixth avenue to the Boulevard, has been finished, and rapid progress has been made in paving the gutters along the Western Boulevard with stone blocks to prevent the washing away of the surface material of fine gravel by rains, and to improve surface drainage.

There are about ten miles of country roadways, with a superstructure of broken stone, loam and gravel, on the upper end of Manhattan Island, which have always been under the care of this Bureau. Their condition is also much improved by the care and labor bestowed upon them during the past quarter and year.

Damages from rain storms or other causes to the roadways, embankments, and gutters of the fifty miles of streets which are graded, but not yet paved, have been promptly repaired, and the streets kept in fair condition to meet the necessities of local travel.

BUREAU OF LAMPS AND GAS.

At the close of the quarter 23,456 gas lamps and 55 electric lamps were in use in the streets, roads, and parks of the city. The number of electric lamps was increased by twelve, and the number of gas lamps was diminished by thirty-nine.

The electric lamps are distributed as follows:

23 lamps on Broadway, between Fourteenth and Thirty-fourth streets.
 16 lamps on Fifth avenue, between Fourteenth and Thirty-fourth streets.
 3 lamps on Thirty-fourth street, between Broadway and Fifth avenue.
 1 lamp on Fourteenth street, between Broadway and Fifth avenue.
 6 lamps in Union square.
 6 lamps in Madison square.

The lamps on Broadway are on iron posts and those on the other streets on wooden posts, each twenty feet high. The lamps in Union and Madison squares are in clusters of six lights each, 140 feet above the ground. The electric lamps now in use have been kept lighted with great regularity, and have shown remarkable steadiness or freedom from wavering or blinking.

BUREAU OF REPAIRS AND SUPPLIES.

The work on the maintenance and repairs of public buildings for the quarter includes the following items:

Inclosing the urinals on the first floor of the County Court-house, constructing cases for the safe keeping of records of the Court of Common Pleas, repairing iron frames in Surrogate's office, repairing chimneys and placing new chimney pots on Fifth District Court-house; repairing boiler in Seventh District Court-house, and placing new valves thereon; repairing boiler in Fifth District Police Court; repairing water-closets and sewer connection in Sixth District Police Court; repairing roof and skylight on City Arsenal; glazing and repairing skylights on Washington Market; miscellaneous work of painting, glazing, and general repairs on various buildings.

The alterations and improvements in the Tompkins Market Armory and the Essex Market Armory are rapidly approaching completion.

The tanks in the eight public baths by which these structures are floated were taken out, scraped, caulked, and replaced, and other repairs were made on the baths.

BUREAU OF INCUMBRANCES.

During the quarter this Bureau received 731 complaints of obstructions on streets and sidewalks, and issued and served notices for their removal; in 157 cases the articles had to be seized and removed by the Department; 1,086 cart loads of stone, dirt and other refuse material were removed from the streets; \$216.50 was received from the sale and redemption of articles seized; 238 notices to repair defective sidewalks, 1,331 permits to place building material on streets, and 134 miscellaneous permits were issued.

BUREAU OF WATER REGISTER.

The collections of revenue from the Croton water-service for the three months were as follows:

Croton water rents.....	\$224,131 06
Penalties on water rents.....	7,141 20
Permits to tap Croton pipes.....	3,270 50
Total.....	\$234,542 76

OTHER REVENUE.

The following amounts were also collected and paid into the City Treasury:

For vault permits.....	\$16,411 56
For sewer permits.....	5,556 68
For restoration of pavements and sidewalks over excavations.....	8,580 00
For expenses of furnishing and setting meters.....	8,485 16
For materials sold at public auction.....	200 50
For work and materials furnished by Department.....	82 20
For redemption of articles seized as obstructions.....	16 00
Total.....	\$39,332 10

REVIEW OF THE OPERATIONS OF THE DEPARTMENT FOR THE YEAR 1881.

Summary of Expenditures.

On Appropriation Account of 1881.....	\$2,091,123 22
On Assessment Fund.....	628,201 23
On Funded Debt Account.....	481,261 65
On Revenue Bonds, for Expenses of Meters.....	35,715 26
On Special Fund for Restoring Pavements over Street Openings.....	36,638 81
Liabilities, including all Outstanding Accounts against Appropriations of 1881.....	380,582 68
Total.....	\$3,653,522 85

Expenditures for the Past Eleven Years.

For the year 1871.....	\$8,727,085 97
“ 1872.....	5,826,113 67
“ 1873.....	7,754,454 88
“ 1874.....	7,534,590 22
“ 1875.....	5,929,814 49
“ 1876.....	4,374,860 73
“ 1877.....	3,113,789 43

For the year 1878.....	\$2,826,718 47
" 1879.....	2,340,763 57
" 1880.....	3,033,457 64
" 1881.....	3,653,522 85

THE WATER SUPPLY.

In some respects the year 1881 has been the most remarkable one in the history of our water supply. The rain-fall in 1880 had been light—38 52-100 inches, being two inches less than in any previous year since the introduction of Croton water—and the drafts upon the storage reservoirs and lakes were so large that, when the springs and streams in the Croton basin were closed by severe frost, as early as the middle of November, 1880, there was but a very small reserve supply in storage. With the extreme cold weather which prevailed without interruption last winter until late in February, we had the usual increase of consumption through waste in keeping faucets running to prevent freezing in the pipes. To avoid the perils which would have ensued from a complete exhaustion of the reserve supply in storage in the Croton basin and in the city reservoirs, it became necessary in the latter part of February to reduce the outflow for distribution in the city by partially shutting down the outlet gates of the distributing reservoir. The difficulties were thus tided over until thaws and freshets increased the flow of the Croton river and replenished the reservoirs and lakes. At the height of the crisis the storage reserve was reduced to 175,000,000 gallons, and the flow of the Croton river was less than 50,000,000 gallons per day. Considering this in connection with the fact that the normal daily supply distributed and used in the city is over 95,000,000 gallons, the imminence of great danger will be readily appreciated.

This perilous condition was repeated to a still greater degree through the unprecedented drought of last summer and autumn. Its severity is so well and forcibly illustrated by the table published in my last quarterly report, showing the rain-fall for July, August, and September for the past fifteen years, that I will repeat it here, as follows:

Rain-fall for July, August, and September from 1866 to 1881, inclusive (in inches).

	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.
July.....	4.01	5.25	2.13	2.26	3.43	5.07	4.34	2.21	5.98	3.10	3.42	4.65	4.28	5.95	5.65	2.45
August.....	6.56	10.04	6.98	1.92	5.10	5.24	5.99	5.73	2.75	10.33	1.20	2.54	2.66	5.83	3.60	1.71
September.....	4.92	3.62	9.33	3.20	2.85	1.44	3.69	3.73	3.56	2.11	5.21	1.49	6.61	3.43	2.69	0.75
Total.....	15.49	18.91	18.44	7.38	11.38	11.75	14.02	11.67	12.29	15.54	9.83	8.68	13.55	15.21	11.94	4.91

In the progress of this drought the drafts upon the storage reservoirs, lakes and ponds from July 20 to October 31, seventy-two days, amounted to 5,760,000,000 gallons, an average of 80,000,000 gallons per day.

In the latter part of September and during October it became necessary to resort to extraordinary measures to curtail the consumption of water. The outflow from the distributing reservoir was again reduced by gradually shutting down the outlet gates; orders were given to discontinue the supply to public fountains and drinking-hydrants; street sprinkling was stopped; the permits to use water through hose to wash sidewalks, stoops, areas and house fronts were revoked, and the further use of water in that manner was strictly prohibited; urgent appeals were made to the public by the Department, and in a proclamation issued by you as Chief Magistrate of this city, to use the water as sparingly as possible; all the means available to the Department to suppress waste were put in vigorous operation. The evils and dangers of a partial suspension of the supply, or its reduction to the amount furnished by the Croton river, which was then probably less than 10,000,000 gallons per day, were thus averted. With less decisive and energetic treatment of the situation we could not have escaped them.

On the 13th of March I appointed Mr. Isaac Newton Chief-Engineer of the Croton aqueduct, in place of Mr. John C. Campbell, resigned. He at once applied himself to a careful study of the condition of our water system and the questions involved in its maintenance and improvement. In the examination and consideration of this subject he was aided by Mr. E. S. Chesbrough, an eminent hydraulic engineer, whose services as Consulting Engineer I had secured.

In April Mr. Newton submitted to me in a special report, approved by Mr. Chesbrough, and appended to my first quarterly report of this year, the result of his investigations.

The measures recommended in the report, may be briefly summarized as follows:

The vigorous prosecution of all available and practicable means to suppress waste of water.

The rapid prosecution and completion of the work of strengthening the weak parts of the present aqueduct.

Regulating the out-flow from the distributing reservoir so as to keep the city reservoirs always well filled.

The speedy completion of the works for the supply from the Bronx and Byram rivers.

The immediate construction of an aqueduct or conduit, to bring an additional supply of water into the city.

No time or effort has been lost in studying, elaborating and perfecting the plans and measures involved in these recommendations and in the entire subject, and so far as they are within the present means and power of the Department, they have been put into practical operation.

Shortly after his report of last April, Mr. Newton gave me the outlines of a plan for storing and conveying the waters of the Croton to the city. It was evident to me that, if the plan could be carried out, it would put an entirely new phase on the question of obtaining an additional supply from the Croton, and would push into the far distant future the various propositions which have been made for obtaining water from more remote sources. This plan is to construct a dam across the Croton, near its mouth, thus embracing the entire discharge of the water-shed, and adding about twenty-three square miles to the existing drainage area. The reservoir or lake formed by this dam, would cover an area of over 3,600 acres, and would contain available storage to the amount of about 32,000,000,000 gallons, sufficient to supply the conduit with 200,000,000 gallons per day for one hundred and sixty days, without recourse to the flow of the Croton. From this reservoir an aqueduct, mainly in rock tunnel, would be run to the Harlem river, and from thence to the Park reservoir.

With the aid of Mr. E. S. Chesbrough, Consulting Engineer, this plan has been worked out.

By great diligence on the part of the parties in the field and office, skillfully directed, the details have been elaborated sufficiently to enable a reliable estimate to be made. At the request of Chief-Engineer Newton, Mr. John B. Jervis, the distinguished conductor of the Croton aqueduct, and Mr. James B. Francis, of Lowell, President of the American Society of Civil Engineers, an eminent hydraulician, were requested to give their opinion on the plan proposed.

Messrs. Jervis, Francis, and Chesbrough are the most eminent practical hydraulic engineers in the country.

Mr. R. K. Martin, the chief-engineer of the construction of the Baltimore Water Works tunnel, a remarkable and successful work, was also requested to give his opinion. These eminent engineers, without consultation with each other, gave their reports and opinions on the subject, and in substance stated that the plan proposed by the Chief-Engineer is not only practicable, but that it is the best plan for obtaining an additional water supply for the city.

The estimate made early in the season for constructing this work on the basis of a conduit of 150,000,000 gallons daily delivery, was \$12,000,000. Subsequent investigation has shown that the work could be executed within that estimate. The plan now proposed, however, contemplates an aqueduct of about 250,000,000 gallons daily capacity, and the estimate for the construction is \$14,000,000.

In considering the question of an additional water supply for the city, every plan, method, and source of supply that has ever been suggested, or could be conceived, has been under examination.

At a very early day I will present to you Mr. Newton's report of the entire plan, with the opinions of Messrs. Jervis, Francis, Chesbrough, and Martin.

The character and reputation of these gentlemen is a guarantee that their conclusions will give the best results which patient investigation, guided by professional ability, experience, and judgment can secure.

I stated above, that, so far as they are within the present means and power of the Department, the measures recommended by Messrs. Newton and Chesbrough in the report of last April have been put into practical operation.

This applies to the means of suppressing waste, the strengthening of the aqueduct, the regulation of the outflow from the distributing reservoir so as to keep the city reservoirs well filled, and the rapid prosecution of the works for the supply from the Bronx and Byram rivers. I will now briefly state what has been done in these respects during the past year:

Twelve hundred and ninety-one additional water meters were placed, making a total of 5,293 meters in use at the close of the year.

The following shows the distribution of these meters among the different classes of buildings, and the average amount of water passing through them per day:

	No. of Meters.	Gallons of Water used per day.
Hotels.....	327	1,444,900
Breweries, malt-houses, etc.....	269	1,187,200
Charitable institutions.....	85	417,000
Offices.....	1,542	1,395,500
Factories.....	234	851,400
Gas works.....	32	713,700
Railroads.....	169	1,131,100
Stables.....	1,238	969,500
Apartment houses.....	54	188,700
Docks.....	100	1,354,000
Miscellaneous.....	1,243	2,272,400
Totals.....	5,293	11,925,400

The Inspectors on waste of water inspected 19,392 buildings, resulting in the detection of two thousand four hundred and sixty-two leaks in fixtures, and three hundred and thirty-one cases of willful waste.

In the examination of sewer connections to observe the flow of water from house-drains during the hours from midnight to six A. M., it was found that water was running at the rate of one gallon or less per minute in six hundred and fifty-six houses, one to five gallons per minute in four hundred and two houses, and over five gallons per minute in thirty-one houses. In every case where waste was persisted in, after due notice to stop it, the water supply was shut off.

The general disposition to use water in a lavish or wasteful manner is shown by the large consumption in the high-service districts. During the year forty-two hundred and thirty-six millions (4,236,000,000) gallons of water were pumped and distributed from the high-service works, eleven million six hundred thousand (11,600,000) gallons per day, supplying seventy-four hundred and ninety-two dwellings, four hundred and forty-four factories, eighty-three stables, and five hundred and eighty-eight schools, churches, asylums, and other institutions. This is an average of thirteen hundred and forty-seven gallons per day for each building, and an average of over one hundred gallons daily per capita.

At this rate the consumption for the entire city would be at least one hundred and twenty-five million (125,000,000) gallons per day, while the actual supply which the aqueduct is capable of delivering is only a little over ninety-five million (95,000,000) gallons per day.

Until additional water is brought into the city by new conduits, it will be utterly impossible to extend the high service beyond its present limits. To avoid the labor of stating this fact and the reasons for it in detail, in answer to each of the hundreds of applications made to me for permission to connect additional houses with the high-service, I had the following circular prepared as a reply to all such applications:

DEPARTMENT OF PUBLIC WORKS,
COMMISSIONER'S OFFICE, No. 31 CHAMBERS STREET,
NEW YORK, December 20, 1881.

Mr.

SIR—Under the resolution of the Common Council authorizing the construction of the High-Service Works, at Ninth avenue and Ninety-eighth street, and the laying of the necessary mains to distribute the water therefrom, this service is limited to ground which has an elevation of sixty feet or more above mean tide. Since the works have been completed and put in operation, the population and the consumption of water in the districts to be thus supplied have increased at such rate that the works are now overtaxed, and in some locations the pressure is not sufficient to deliver the water above the basement floor. Further extension of the service would result in total deprivation of the supply at these places, and to avoid this the Department is not only compelled to deny all applications for additional connections with the high-service mains, but in consequence of the tendency toward increase of consumption in the districts and buildings already connected with it, it will probably become necessary to discontinue the high service in houses where it is possible to deliver water from the regular mains.

Consumers who desire to have water in their houses at a higher level than it can now be delivered, can secure that result at comparatively small expense by having pumps and tanks put in by a reputable licensed plumber.

Very respectfully,

Commissioner of Public Works.

The city of Providence furnishes a striking example of the saving of water effected by the use of meters. That city in 1877, with a population of 100,000, had 3,203 meters in use, one meter to thirty-one inhabitants, and as a consequence uses less water per capita than any other city in the Union, which has an equally effective water service.

If meters were used to the same extent in New York we would now have over 40,000 water meters, and, as is reasonable to suppose, with corresponding results as to the saving of water.

The following amount of work was done in reinforcing the weak portions of the aqueduct:

7,229 lineal feet of top arch reinforced.
6,437 cubic yards masonry built.
3,566 cubic yards dry stone wall built.
630 cubic yards stone quarried.
50,008 cubic yards earth excavated.
17,131 lineal feet embankment regraded.
1,800 square yards embankment sodded.
49,675 lineal feet fences repaired.
2,695 lineal feet interior fissures repaired.

In another part of this report, giving an account of the work done during the past quarter, I stated that four shut-off gates had been constructed, three of them having been placed in the aqueduct at the waste-weirs at Kingsbridge, Yonkers, and Tarrytown, respectively, the fourth to be placed at an early day at the Sing Sing waste-weir.

These gates will be of very great value in facilitating repairs in the interior of the aqueduct, by reducing the time required to draw off the water, so as to make the repairs, to about one-fourth of the time heretofore required.

At an early day new throttle valves will be placed on two of the large outlet mains at the distributing reservoir, by means of which additional pressure, for use in case of fire, can be turned on with much less loss of time than at present.

The following are the quantities of work done during the year on the conduit line to bring the waters of the Bronx and Byram rivers into the city :

7,964	tons of pipe furnished and delivered.
10,596	lineal feet of pipes laid.
3,800	cubic yards rock excavated.
13,456	" earth excavated.
26,214	" embankments built.
190	" masonry built.
390	" dry stone wall built.

And on the reservoir at Kensico—

858	cubic yards rock excavated.
37,940	" earth excavated.
25,950	" embankment built.
5,549	" stone, brick, and concrete masonry built.
172	" dry stone wall built.

8,154 lineal feet of fence walls built.

28,730 feet B. M. planking furnished and placed.

Sixty-eight parcels of land were acquired by legal proceedings, and six parcels were purchased for the conduit line and reservoirs; the area thus acquired is 333 acres, and the cost \$92,689, an average of \$277.92 per acre.

The length of pipes laid during the year to extend the distribution of Croton water is 9 $\frac{1}{10}$ miles, and 449 fire-hydrants were placed. The distributing system now comprises 512 miles of pipes, with 5,427 stop-cocks and 6,496 fire-hydrants.

The benefits which will be realized from the new works and measures introduced and put in operation during the past year will be very great. The shut-off gates in the aqueduct will make it possible to examine and repair the interior of the aqueduct, without drawing down the city reservoir to a dangerous extent.

The throttle valves on the outlet mains at the Central Park reservoir, will enable us to give additional pressure very rapidly when needed for the extinguishment of fires.

The examinations of sewers and house drains have furnished indisputable evidence of great waste of water in private dwellings, and have given us some means of locating and stopping this waste, which is otherwise beyond the control of the Department.

The vigorous prosecution of the measures toward the construction of a new large storage reservoir on the east branch of the Croton river, will give assurance at an early day of an ample supply of water for the present aqueduct, even in seasons of the most extreme drought.

Finally, the investigations and surveys carried on under Chief-Engineer Newton, and Consulting Engineer Chesbrough, with the plans prepared by Mr. Newton, and approved by the Consulting Engineers, for the construction of a new aqueduct, give the most practical, economical and comprehensive solution of the problem of an additional water supply for the city.

STREET PAVEMENTS.

The area of new pavements laid during the year 1881, is—

Repavements paid from out of annual appropriations.....	202,052	square yards.
Pavements on new streets, to be paid for by assessments on adjoining property.....	122,898	"
Total.....	324,950	"

—covering 15 $\frac{7}{10}$ miles of streets (exclusive of about 42,000 square yards of pavements relaid in making repairs from curb to curb). In the report of the Water Purveyor, hereto appended (Document "E"), will be found a complete list of these streets.

This is an increase of 80,143 square yards over the amount of pavements laid in 1880.

The present extent of paved streets on Manhattan Island is—

Granite and trap-block pavements.....	244	miles.
Cobble stone pavement.....	70 $\frac{1}{2}$	"
Macadam.....	25 $\frac{1}{2}$	"
Asphalt.....	$\frac{1}{2}$	"
Total.....	340 $\frac{1}{2}$	"

The length of cobble pavements has been diminished during the year by 9 $\frac{1}{2}$ miles by repavement with the improved granite and trap blocks.

The repairs of pavements for the past year do not only cover a larger area of streets than in previous years, but are in great part of a more substantial character, including a greater proportion of complete relaying of pavements from curb to curb. About 42,000 square yards of this relaying, on new bed of sand, was done by contract. The amount done by the repair force cannot be stated with any accuracy, but it is very large. This does not include the repairs made throughout the city of defects in pavements of lesser extent, mainly in response to over 2,600 notices and complaints of such defects which were received by the Department during the year.

The improvement in the condition of the streets, brought about by the work of last year, is quite evident. It is equally evident that the great increase of wagon traffic urgently calls for an undiminished or, if possible, still greater rate of progress in such improvement in the immediate future. Many miles of streets, which but a few years ago were so little used by public travel that a moderately well kept cobble pavement, or the old style square block pavement, would, in a measure, answer the purposes of such travel, are now alive with commerce and local transportation, which are continually seeking more space and new channels, and which require the improved and substantial stone block pavements which were adopted by the Department several years ago as best suited for business streets. In endeavoring to avoid badly paved streets, the vehicles through the new pavements in many locations to such an enormous extent that travel is often impeded or entirely blocked.

The necessity of greater terminal facilities for our commerce is constantly urged and universally appreciated, and, as you stated in your recent annual message, the condition of the street pavements is so important a factor in this question that it furnishes ample reason for liberal expenditures and progress in the maintenance and improvement of the pavements, aside from considerations of public health and convenience.

I regret that the Board of Estimate and Apportionment reduced to a considerable extent the appropriation which I stated in my Departmental Estimate as being necessary to meet the public need in regard to the maintenance and improvement of the pavements for 1882; but the sums which have been appropriated for repairs and repavement will be used and applied with the best care and judgment which the Department can bestow upon this important work.

It has repeatedly been stated in the reports of this Department that one of the greatest difficulties in the way of a proper maintenance of our pavements arises from the multiplicity of the underground structures in the streets—the sewers, water-pipes, gas-pipes, steam-pipes and tubes for conducting telegraph wires and electric light wires, with their hundreds of thousands of house connections—and from the frequency of disturbing and removing the pavements in the work and repairs on these underground conduits and connections.

The present extent of these underground structures, exclusive of house connections, is as follows :

Sewers.....	383	miles.
Water-mains.....	512	"
Gas-pipes.....	885	"
Steam-pipes.....	1	"
Pneumatic tubes.....	$\frac{3}{4}$	"
Tubes for telegraph wires.....	1 $\frac{1}{2}$	"
Tubes for electric light wires.....	7	"
Total.....	1,789 $\frac{5}{8}$	"

Within the past two years the Common Council has granted franchises, including the right to lay pipes in the streets, to the following companies :

The United States Heating and Power Company, March 17, 1880.
The Prall New York Heating Company, September 7, 1880.
The New York Steam Company, December 20, 1880.
The Edison Electric Illuminating Company, March 23, 1881.
The Brush Electric Illuminating Company, April 13, 1881.
The United States Electric Illuminating Company, April 13, 1881.

These several franchises contain conditions giving this Department a certain degree of control and supervision as to the manner of laying the pipes and opening and restoring the pavements. Permits for laying such pipes have been issued by the Department during the past year as follows :

To the Edison Electric Illuminating Company.....	10.8	miles of pipes.
To the United States Heating and Power Company.....	5.6	"
To the New York Steam Company.....	1.5	"

Total..... 17.9 "

The permits have been carefully drawn so as to include every possible precaution and restriction as to the proper restoration of pavements, the least possible interference with public travel during the progress of work, and the protection of sewers, water-pipes, gas-pipes, and all public and private property with which the work may come in contact, which is authorized and can be enforced under the privileges granted by the Common Council, and under the general powers and authority conferred by law upon this Department in regard to these matters. These permits are stated in full in the report of the Chief Engineer, Mr. Newton, hereto attached. Their conditions are and will be rigidly enforced.

A constant and rapid increase of underground structures in the streets for the purposes of transmitting and distributing water, gas, steam, and electric light may be anticipated with certainty.

There is also a strong probability that all telegraph wires will, before long, be placed underground, in order to do away with telegraph poles. Until recent times such an accumulation and network of pipes and conduits under the streets was not thought of, and in many places, a complete rearrangement of those already placed will become necessary to make room for additional ones. The greatest accumulation of these underground structures occurs in the most populous and most frequented streets, where interference with the pavements is most objectionable.

In addition to the eight miles of pipes laid in 1881 by the steam companies and electric light companies, the several gas companies laid 14 $\frac{1}{3}$ miles of gas mains, and permits were issued to plumbers to make 5,766 excavations in paved streets for the purpose of making or repairing sewer and water connections.

SEWERAGE.

The sewerage system on Manhattan Island has been extended in 1881 by the construction of 33,132 lineal feet (6 $\frac{3}{10}$ miles) of sewers, 487 lineal feet of culverts, and 21 receiving-basins, making the present extent of sewers 383 $\frac{7}{10}$ miles, with 4,595 receiving-basins.

In repairing, reconstructing, and cleaning sewers and basins the following quantities of work were done :

8,850	lineal feet of sewers rebuilt.
424	lineal feet of culverts rebuilt.
452	lineal feet of spur-pipe laid.
80	receiving-basins rebuilt.
131	receiving-basins repaired.
44	new manholes built.
663	manholes repaired.
3	new manholes rebuilt.
111	new granite basin heads furnished and set.
173	new basin covers furnished and set.
24	basin heads reset.
447	manhole heads reset.
35,988	lineal feet of sewers cleaned.
246	new manhole covers furnished and set.
2,510	receiving-basins cleaned.
7,350	cart loads of deposits removed from sewers and basins.

The entire expense for maintaining, repairing, and cleaning sewers and basins for the year, was \$115,979.77.

The Department adheres strictly to the rule not to undertake new sewer work unless called for by the property owners to be assessed, by the Health Department, or by the necessity of providing proper circulation and outlets to existing sewers.

The large collective sewer in West street, from Spring street to West Eleventh street, with an outlet through the pier foot of Clarkson street, is practically finished, only a few weeks' work remaining to be done. This unusually large and difficult work has been executed with great vigor and good workmanship on the part of the contractor, and with great skill and assiduous care and supervision on the part of the engineers and inspectors. The difficulties of contact with tide water, securing a proper foundation, and keeping West street and the approaches to the great steamship docks open for the immense traffic, were promptly surmounted.

The deep sewer in Fifth avenue, between Fifty-fifth and Fifty-ninth streets, completed last September, was also a very difficult work, owing to its great depth below the street surface, the nature of the ground consisting mostly of heavy rock filling, the presence of large volumes of stagnant and subsoil water, and the proximity of the work to costly buildings and large water-mains. It effectually drains the district lying between Fifth avenue and Sixth avenue, Fifth and Sixth streets, which had previously suffered from subsoil water, imperfect drainage and malarious influences.

For details in reference to other important sewer works done and contracted for during the past year, I beg to refer to the report of Mr. Towle, the Engineer in Charge of Sewers, which is hereto annexed.

The defects in the old sewers built prior to 1865, before a comprehensive and uniform sewerage system was adopted, have repeatedly been stated in the reports of the Department, especially in my report to you for the quarter and year ending December 31, 1880.

While these old sewers absorb the greater part of the attention, labor and expense devoted to the maintenance of the sewerage system, it is found that a considerable portion of the sewers of later construction have also become broken, principally where they were built on insecure foundation, and more especially where sewers were built before the streets were graded and filled in. In past years this was done in a number of cases at the solicitation of property owners, who thought that by such method some expense for excavation of sewer trenches would be avoided. Experience has shown, however, that in nearly every such case, the sewers have been injured and in some places entirely crushed by the filling or embankments placed over and around them when the streets were subsequently filled in to the established grade; and instead of a saving these experiments have become a source of injury and extra expense to the city and property owners. For several years past this palpable mistake has been avoided, no sewers being constructed until the streets are filled in to the established grade, though the first cost of construction is somewhat enhanced thereby.

The proper ventilation of sewers so as to prevent the accumulation of poisonous gases and their entrance into houses, is an important subject, which has received much study and attention from the Department. It is found that, next to proper arrangement and good workmanship in house plumbing and drainage, perforated manhole covers, which allow the escape of sewer gas, and its diffusion in the open air, so as to become harmless, are the most effective means of relief.

There is a noticeable improvement in the quality and arrangement of house plumbing in respect to the trapping and ventilation of soil-pipes. The perforated manhole covers are put on all new manholes, and are substituted for the old covers on old manholes as fast as the appropriation for

the maintenance of the sewerage system admits. There are over 20,500 manholes or openings to sewers for purposes of examination and cleaning.

The improvements recently made, and those now in progress and in contemplation, in regard to the construction of proper outlets and collective sewers along the water-front will be of great value in increasing the efficiency of sewerage and preventing the propulsion of sewer-gas through the sewers into houses through the action of storms and the rise and fall of the tide.

Proper street cleaning is essential to the efficient and economical maintenance of the sewerage system. A large portion of the street dirt necessarily washes into the basins and sewers. When there is not abundant flow of liquid matter in the sewers from rain-fall or from the water supply, the solid matter remains in the sewers and obstructs them. It is obviously cheaper to remove street dirt from the street surface than from the basins or sewers. With the present stringency in the Croton water supply, the necessity of preventing the entrance of street dirt and other solid matter into the sewers is doubly great. The dirty condition of the streets last spring, and the dearth of water during the drought of last summer and autumn, caused an unusual accumulation of dirt in basins and sewers. It is a great pleasure to note a considerable improvement in this respect within a recent time. In his report (Document "F," hereto annexed) Mr. Towle, the Engineer in Charge of Sewers, says on this subject:

"From a personal inspection of the basins, I am pleased to say that I have never known them to be so clean, which is due in a great measure to the friendly co-operation of the Street Cleaning Department in removing the street sweepings from the gutters, and placing it so as not to be washed into the basins at every storm."

REGULATING AND GRADING STREETS, AND OTHER STREET IMPROVEMENTS.

The aggregate length of streets regulated and graded during the year 1881 is two and one-half miles, including the following streets:

Eleventh avenue, between One Hundred and Fifty-fifth street and Kingsbridge road.
Lexington avenue, between Ninety-sixth and Ninety-seventh streets.
Fourth avenue, between Ninety-fourth and Ninety-sixth streets.
Fourth avenue, between One Hundred and Fifteenth and One Hundred and Sixteenth streets.
Ninth avenue, between One Hundred and Fiftieth street and Avenue St. Nicholas.
Sixty-first street, between Tenth and Eleventh avenues.
Seventieth street, between Eighth and Tenth avenues.
Seventy-first street, between Fifth avenue and East river.
Ninety-fifth street, between Lexington and Fifth avenues.
Ninety-seventh street, between Eighth avenue and the Boulevard.
Ninety-eighth street, between Eighth avenue and the Boulevard.
One Hundred and Fourteenth street, between Tenth and Morningside avenues.
One Hundred and Twenty-first street, between Sixth and Seventh avenues.
One Hundred and Fifty-third street, between Tenth and St. Nicholas avenues.
One Hundred and Fifty-seventh street, between Tenth avenue and Kingsbridge road.
Sixty-second street, between Avenue A and East river.

The regulating and grading work for the year embraces the following items:

57,585 cubic yards earth excavated.
50,937 cubic yards rock excavated.
121,915 cubic yards embankments built.
23,968 lineal feet curb-stones set.
15,667 lineal feet gutter-stones laid.
65,975 square feet flagging laid.

The work of establishing a corrected system of levels to determine the exact grades of streets in the upper part of the city has been continued.

The Department is charged with the duty of supervising and regulating the allotment of house numbers along the streets and avenues, as established by ordinance of the Common Council. This duty is performed through the Bureau of Street Improvements, and has received careful attention during the past year. Confusion is often created through the arbitrary assumption of wrong numbers by householders. All such cases which have come under the notice of the Department have been promptly corrected. The Superintendent of Street Improvements makes some recommendations in his report (Document "G") in regard to regulating and rearranging the house numbers on the avenues running north and south, to which I beg to call your attention. This subject will receive full investigation at my hands, and I will give you my conclusions thereon in my next report.

As stated in a previous part of this report, the macadam roadways on the uptown boulevards and streets, $2\frac{1}{2}$ miles in length, have been greatly improved during the past year. According to the unanimous testimony of the driving public they have never been in as good condition as at the close of the last year. The country roadways on the upper end of the island and the unpaved streets and avenues have also been kept in good order.

LIGHTING THE CITY.

At the close of the year there were 23,521 public lamps in use in the streets, avenues, public parks, and places of the city, including 55 electric lights placed on Fifth avenue, between Fourteenth and Thirty-fourth streets; Broadway, between Fourteenth and Thirty-fourth streets; Thirty-fourth street, between Broadway and Fifth avenue; Fourteenth street, between Broadway and Fifth avenue, and on Madison and Union squares. These lights are furnished by the Brush Electric Illuminating Company, under a contract, at the rate of \$7,400 per annum, which is about equal to the cost of the gas lamps displaced by them, taking the prices now paid to the gas companies. The electric lights appear to give satisfaction so far. The question whether this system of lighting streets and parks shall be further extended will come before the Gas Commission when preparations are made for contracts to light the city for the year commencing May 1, 1882.

The several gas companies furnished 17,169,600 cubic feet of gas during the year for lighting the public buildings, markets, offices, armories, etc., under the care of the Department.

PUBLIC BUILDINGS AND OFFICES.

The following are the principal items of work done in 1881, in maintaining, repairing, and improving the public buildings under the care of the Department:

Alterations and improvements in Essex Market Armory to prepare it for occupation by the Fifth Regiment of the National Guard. This work is nearly finished. The Fifth Regiment having been disbanded, the armory will be occupied by the Eleventh Regiment.

Alterations and improvements, including boiler, heating apparatus, new flooring, etc., in Tompkins Market Armory, to prepare it for occupation by the Sixty-ninth Regiment of the National Guard. This work is also nearly finished.

Altering and fitting up the rooms in the City Hall, lately occupied by this Department, for the use of the Marine Court.

Completing the fitting up of the building No. 31 Chambers street, for the use of this Department, and now occupied by it.

Reconstructing and fitting up the rooms in the basement of the City Hall for the City Record offices.

Constructing an additional record room for the County Clerk's Office on the ground floor of the County Court-house, and painting the walls and stairways in the rotunda and corridors of the Court-house.

The many items embraced in general repairs are too numerous to mention.

The sum of \$80,000 was appropriated for 1881, towards the reconstruction and rebuilding of Fulton Market. Plans for the work were prepared, embracing a new exterior structure of brick, with terra cotta trimmings and ornamentation, on the Fulton street, Front street, Beekman street, and South street fronts, with an iron and glass roof rising from the inner walls of this structure and covering the central space; an iron awning on brackets over the sidewalks in place of the present sheds; the entire floor to be on one level, about a foot above the sidewalk; the exterior building to be one story high, except at the corners and in the centres of the easterly and westerly fronts, where

another story is to be added for offices; the whole plan including perfect ventilation, drainage and light.

It was found that the \$80,000 appropriated would only be sufficient to pay for the cost of the exterior building on Fulton, Front and Beekman streets, including temporary sheds in Burling slip for the occupation of the marketmen during the construction of the building.

After considerable delay a contract was made on the 14th of July for this work, based on the lowest bid received after advertisement and public letting. The ground is of a very difficult nature; heavy piling had to be driven on the entire space to secure a good foundation, and large quantities of water had to be removed by constant pumping.

The superstructure is now well advanced, and will be finished in a month, so far as the present contract is concerned, unless severe weather should interrupt building operations.

The Board of Estimate and Apportionment has appropriated the further sum of \$100,000 for 1882, to complete the whole plan. Plans and specifications for the central portion of the market and for the South street front are now being prepared and will be finished early in February. The exterior design is already well developed in the present state of progress of the work, and is of a dignified and attractive character. The entire building, when finished, will be creditable in appearance, with ample provision for light, ventilation and drainage, and with every convenience for market business.

An appropriation of \$70,000 has also been made for 1882, to rebuild Jefferson Market. The present structure consists of a two-story brick building and frame sheds, covering about 15,000 square feet of ground of irregular shape, and is so dilapidated as to be beyond the possibility of permanent improvement by repairs. It is proposed to erect a building of brick, stone and iron, of an architectural design corresponding with the adjoining court-house and prison.

The present structure and ground are being surveyed and plans for the new structure are in course of preparation.

The city will thus be rid of two of the old, dilapidated, and disgraceful market structures.

Clinton Market, bounded by Canal, Spring, Washington and West streets, and covering an area of 22,760 square feet, should also be rebuilt at an early day. It is a mere conglomeration of old one-story wooden buildings, and a small brick building, about 35 by 45 feet, fronting on Washington street.

It was my intention to make considerable repairs to Centre Market building this year, parts of which are now unsafe for occupation, and in my Departmental Estimate for Repairs of Buildings for 1882, I included an allowance of \$10,000 for this purpose. The Board of Estimate and Apportionment however concluded to reduce this allowance to \$1,000, which is utterly inadequate. Fortunately, new quarters are provided in Essex Market building for the Eleventh Regiment, which has hitherto occupied the Centre Market Armory, and which will therefore soon be vacated. Without the alterations and repairs contemplated in my Departmental Estimate, this part of the building will probably have to remain vacant.

The Department furnishes fuel, office furniture, law books, carpets, ice, and all other office supplies, excepting printing and stationery, to the Executive Department, Common Council, Finance Department, Law Department, Department of Public Works, Department of Taxes and Assessments, all the County and City Courts, six Police Courts, ten District Civil Courts, the County Clerk, District Attorney, Surrogate, Commissioner of Jurors, Commissioners of Accounts, etc. It also furnishes fuel, camp stools, gun racks and other necessities to the armories of the several organizations of the National Guard, and fuel and other supplies to the County Jail. Janitors, watchmen and cleaners are employed to keep the buildings and offices in good order. The performance of these duties has received constant and careful attention; requisitions of the various departments and officers for supplies and repairs were carefully examined and the articles or labor promptly furnished when found necessary. All reasonable demands have thus been satisfied from a comparatively very limited appropriation. With the general advance in the prices of fuel and other supplies, and in skilled and unskilled labor which has taken place within the past year, it is impossible to furnish the same amount of material and labor for the same amount of appropriation and expenditure. The Board of Estimate and Apportionment has apparently not made any allowance for this in the appropriation for 1882, which has been fixed at the same amount as for last year.

PUBLIC BATHS.

The eight free floating baths in use last season were open to the public from June 1 to September 30. They had to be closed thus early because the appropriation for the wages of keepers and attendants was exhausted. The large attendance of bathers shows the ever-increasing popularity of these institutions. It was as follows:

	Males.	Females.
Bath foot of Gouverneur street, East river.....	441,144	157,754
" Fifth street, East river.....	377,713	139,931
" Nineteenth street, East river.....	381,186	208,121
" Thirty-seventh street, East river.....	178,645	102,410
" One Hundred and Twelfth street, East river.....	229,736	97,622
" Bethune street, North river.....	220,025	85,060
" Fifty-first street, North river.....	177,722	119,931
Bath at the Battery.....	375,938	206,494
Totals.....	2,381,209	1,117,323

After several advertisements and public lettings, and some litigation concerning proposals submitted for constructing the additional bath authorized by chapter 447, Laws of 1881, a contract for building the bath was finally made in December. It will be built in time to put it in use at the opening of next season.

STREET OBSTRUCTIONS.

The number of complaints of obstructions on streets and sidewalks received by the Bureau of Incumbrances during the year, is 3,094. In each of these cases, as well as in other cases which came under the observation of the Department without complaint from other parties, notices were issued and served, requiring the immediate removal of the obstruction, and where the notice was disregarded the articles were seized and taken to the Corporation Yard. The number of such seizures and removals was 565, exclusive of 4,043 cart loads of stone and other refuse material taken from the streets.

No less than 7,146 permits were issued for temporarily placing building material on a portion of the carriageways of streets. This partial use and obstruction of streets in so large a number of places has caused many inconveniences and given rise to many complaints. To a large extent this is unavoidable, and this use of the streets is specifically recognized in the Charter. Yet the evil could undoubtedly be much mitigated if builders would be more careful in keeping their materials within the limits prescribed by the permits, and if the police force would more actively co-operate with the Department in effecting that result and prohibiting the littering of streets with sand, mortar, brick, and other material. It is evident that without such active co-operation, the few Inspectors and Officers which this Department can employ and pay out of its small appropriation, can exercise only a very limited supervision and correction in this matter.

The Bureau of Incumbrances issued during the year 704 notices to repair defective sidewalks, and 125 notices to replace defective vault covers.

More peremptory power should be given to the Department to enforce the performance by property owners of the duty of keeping their sidewalks in proper condition.

REVENUE.

The collections of revenue from the Croton water service for the year 1881 are as follows:

For Croton water rents.....	\$1,486,373 42
For penalties on water rents.....	13,088 85
For tapping Croton pipes.....	11,329 50
Total.....	\$1,510,791 77

This is \$49,806.80 less than the amount collected in 1880. The falling off is accounted for by the reduction in the rate for water furnished through meters, made by my predecessor in April, 1880—from 15 cents per 100 cubic feet, or 2 cents per 100 gallons, to 7½ cents per 100 cubic feet, or 1 cent per 100 gallons. At the time this reduction was made there were 1,812 meters in use. Since then the number of meters has been increased to 5,293. The primary office of the water-meter is to detect waste of water, and to induce care and economy in the use of water by enforcing payment according to the quantity consumed. It is evident, however, that the latter object will not be attained unless the rate is sufficiently onerous to make consumers sensible of waste by increased charges. At the present meter-rate certain classes of establishments pay less than under the old special rates, yet they undoubtedly consume all the water they need, and could, consequently, use more than they need without exceeding the charge which they have been accustomed to pay under the old special rates. This is especially the case in small business establishments and stables, which are so numerous that a small amount of waste in each will swell the aggregate to immense proportions. It would seem, therefore, that the present meter-rate is not sufficiently onerous to induce that care and economy in the use of water which the meters are designed to accomplish, and without which an equitable and moderately efficient distribution of water cannot be maintained during the years which will elapse before a new aqueduct can be completed. These matters have for some time engaged my earnest attention, and I have in contemplation a revision of the meter-rates, to take effect at the beginning of the ensuing fiscal year, May 1, by which the object of the use of meters may be more fully accomplished.

There is an apparent anomaly in the law regarding the compulsory use of meters. While even the smallest business establishment or stable may be required to use a meter, all dwellings are exempt from the operation of the law. The legitimate consumption in many dwellings is greater than in some of these establishments, and waste may be and is practiced almost without check. The necessity of controlling this waste by the use of water-meters, or some similar instrument, will soon become so imperative as to force itself upon the attention and conviction of all who are now opposed to the measure.

The water-rates of New York City are lower than those of any other large city which has a similar water service.

In Philadelphia the charge is regulated by the number of faucets or orifices from which water may be drawn in each house, and while houses which have but one faucet pay less than in New York, the average rate, taking in all classes of buildings, is higher. The City of Boston collected last year from its water service \$1,133,364, which is at the rate of \$3.13 per capita of the population of 362,535, as returned by the United States Census of 1880.

The collections of water revenue in New York for 1881, as above reported, are \$1,510,791, the population as per United States Census of 1880, is 1,206,590, consequently the water-rate on this population is \$1.25 per capita.

At the Boston rate the collections for last year would be \$3,778,646.

The Department also collected and paid into the City Treasury, during the past year—

For vault permits.....	\$80,159 54
For sewer permits.....	26,429 70
For restoration of pavements over excavations.....	36,154 00
For furnishing and setting water meters.....	30,631 08
For materials sold at auction.....	446 25
For redemption of articles seized as obstructions.....	250 25
For sewer pipe sold to contractors.....	12 25
For work and materials furnished by Department.....	82 20
	\$174,165 27

CONCLUSION.

This report and the tabular statements and Bureau reports, hereto annexed, will show that in nearly every branch of the Department the work is much increased.

The percentage of increase appears very clearly from the following statement of contracts made after advertisement and public letting, during the years 1879, 1880, and 1881.

Pavement Contracts.

YEAR.	No. of Contracts.	Square Yards of Pavement.	Square Feet of Bridge Stone.	Estimated Cost.
1879.....	23	231,070	22,290	\$397,909 00
1880.....	25	181,602	36,451	352,621 00
1881.....	43	283,683	49,969	567,555 00

Regulating and Grading Contracts.

YEAR.	No. of Contracts.	Cubic Yds. Earth Excavation.	Cubic Yds. Rock Excavation.	Cubic Yds. Filling.	Lineal Feet. Curb and Gutter.	Square Feet. Flagging.	Estimated Cost.
1879.....	7	22,852	69,570	29,973	18,899	20,464	\$79,520 00
1880.....	16	64,640	62,264	156,607	20,508	102,310	123,633 00
1881.....	25	23,754	31,755	447,850	48,330	209,911	212,553 00

Sewer Contracts.

YEAR.	No. of Contracts.	Lineal Feet of Sewers.	No. of Receiving Basins.	Estimated Cost.
1879.....	27	27,075	41	\$279,923 00
1880.....	35	27,655	44	179,685 00
1881.....	54	45,622	105	460,072 00

Miscellaneous Contracts.

YEAR.	No. of Contracts.	Estimated Cost.
1879.....	26	\$373,337 00
1880.....	21	682,164 00
1881.....	27	922,883 00

SUMMARY.

1879.— 83 Contracts.....	Estimated cost, \$1,130,689 00
1880.— 97 ".....	" 1,338,103 00
1881.— 148 ".....	" 2,163,063 00

The increase is largest in pavements, sewers, regulating and grading, curbing and flagging, improvements which are made at the request and expense of property-owners benefited, and without cost to the city at large. The great demand for making new streets available for building and occupation by grading and paving them, constructing sewers, laying water and gas-mains, and erecting public lamps is due to the fact that, after nearly a decade of unexampled depression, bringing loss and financial ruin upon thousands of landholders, capital once again finds real estate and household property a safe and profitable investment. Building operations and private improvements extend far and wide into hitherto vacant land, and immense new structures are taking the place of older, smaller, and less convenient buildings in the lower part of the city. Districts which had already been considered fully populated and thronged with business have their population, business, and street traffic doubled.

It is in the power of the city government, and I believe it to be its duty, to foster this progress in private enterprise by a liberal and progressive policy in making provision for and carrying out the necessary work of maintaining, improving and extending pavements, sewers, the water supply, and all the various public works which are necessary to the health and convenience of the people, the operations of commerce and manufactures, and the protection of life and property.

Increased works necessarily involve increased labor in their administration, supervision, and inspection. The power of money to purchase labor and materials is diminished by a general rise in prices. In recognition of these circumstances, I asked in my Departmental Estimate for 1882 a moderate increase in several of the appropriations for the Department.

I regret that the Board of Estimate and Apportionment took a different view, in failing to grant a slight increase in several appropriations in which it was very much needed. So far as this deficiency can possibly be made up by increased labor on the part of the officers and subordinates of the Department, even at the loss of a proper degree of personal comfort and convenience, it will be done. In some instances, however, the lack of sufficient appropriation may impair the efficiency and diminish the work of the Department.

I think I am justified in saying that the result and history of the labors of the Department for the past year are a guarantee that assiduous care and attention to duty will not be wanting in the conduct of its affairs.

Very respectfully,

HUBERT O. THOMPSON, Commissioner of Public Works.

Document "A."

Showing Titles of Appropriations; Appropriations, including Transfers of 1881; Requisitions First Nine Months of 1881; Requisitions Fourth Quarter of 1881; Total Requisitions of 1881; Balances December 31, 1881; Requisitions drawn in Fourth Quarter of 1881 on Liabilities of 1880; Balances of 1880 on December 31, 1881; and the Titles and Condition of the Trust and Special Accounts.

TITLES OF APPROPRIATIONS.	Appropriations, including Transfers of 1881.	Requisitions First Nine Months of 1881.	Requisitions Fourth Quarter of 1881.	Total Requisitions of 1881.	Balances December 31, 1881.	Requisitions drawn Fourth Quarter 1881 on 1880.	Balances of 1880 on December 31, 1881.
Aqueduct—Repairs, Maintenance, and Strengthening.....	\$230,200 00	\$138,479 39	\$75,167 40	\$213,646 79	\$16,553 21	.....	.....
Aqueduct—Repairs, Maintenance, and Strengthening, Salaries.....	39,800 00	28,995 81	10,886 92	39,792 73	7 27	.....	.....
Boulevard, Roads, and Avenues—Maintenance.....	66,200 00	39,426 42	22,701 12	62,127 54	4,072 46	.....	.....
Boulevard, Roads, and Avenues—Maintenance, Salaries.....	8,800 00	6,629 12	2,170 81	8,799 93	.....	.....	.....
Construction and Maintenance of additional Public Bath.....	9,500 00	.....	.....	.....	9,500 00	.....	.....
Contingencies—Department of Public Works.....	2,500 00	1,079 50	1,016 24	2,095 74	404 26	.....	.....
County Court-house Building, Completion of.....	.....	.....	.....	.....	.....	\$7,340 26	\$2,252 99
Expenses Surveying and Laying Out, etc., Chap. 587, Laws 1881.....	1,500 00	.....	840 22	840 22	659 78	.....	.....
Expenses of Laying Four-foot Croton Mains.....	.....	.....	.....	.....	.....	.....	.....
Fitting up Fifth Regiment Armory—Essex Market.....	18,300 00	.....	7,200 00	7,200 00	11,100 00	.....	.....
Fitting up Sixty-ninth Regiment Armory—Tompkins Market.....	15,000 00	.....	7,614 75	7,614 75	7,325 25	.....	.....
Flagging Sidewalks and Fencing Vacant Lots, etc.....	1,500 00	677 16	462 69	1,139 85	360 15	.....	.....
Free Floating Baths.....	16,000 00	9,094 96	4,077 88	13,172 84	2,827 16	.....	.....
Free Floating Baths, Salaries.....	14,000 00	1,472 50	3,598 00	13,080 50	19 50	.....	.....
Forty-second Street Reservoir—Removal of Pipes.....	12,500 00	1,122 66	7,709 54	8,832 50	3,667 50	.....	.....
Fulton Market—Alterations and Repairs.....	80,000 00	8,072 70	33,768 84	41,841 54	38,158 46	.....	.....
Lamps and Gas.....	513,000 00	333,373 03	140,044 71	473,418 74	39,581 36	.....	.....
Lamps and Gas, Salaries.....	5,400 00	4,208 00	1,136 00	5,344 00	56 00	.....	.....
Laying Croton Pipes.....	235,000 00	59,284 84	77,896 37	137,181 21	97,818 79	1,967 11	19,119 00
Laying Croton Pipes, Salaries.....	15,000 00	11,391 86	3,603 56	14,995 42	4 58	.....	.....
Public Buildings—Construction and Repairs.....	44,500 00	30,263 24	6,319 45	36,582 69	7,917 31	.....	.....
Public Buildings—Construction and Repairs, Salaries.....	1,900 00	1,453 50	435 00	1,888 50	11 50	.....	.....
Public Drinking Hydrants.....	6,000 00	4,384 38	1,614 99	5,999 37	63	.....	.....
Removing Obstructions in Streets and Avenues.....	4,200 00	2,590 30	1,437 58	4,033 88	166 12	.....	.....
Removing Obstructions in Streets and Avenues, Salaries.....	1,800 00	1,282 23	516 00	1,798 23	1 77	.....	.....
Repairing and Renewal of Pipes, Stop-cocks, etc.....	109,250 00	71,650 28	30,359 14	102,009 42	1,240 58	.....	44 70
Repairing and Renewal of Pipes, Stop-cocks, etc., Salaries.....	58,150 00	45,251 08	12,892 82	58,143 90	6 10	.....	.....
Repairs and Renewal of Pavements and Regrading.....	147,000 00	74,440 17	62,194 03	136,634 20	10,365 80	.....	.....
Repairs and Renewal of Pavements and Regrading, Salaries.....	44,000 00	31,006 04	12,791 80	43,997 84	2 16	.....	.....
Repairing Streets and Avenues.....	393,000 00	128,852 00	156,920 37	285,772 37	107,228 63	1,142 89	2,509 04
Repairing Streets and Avenues, Salaries.....	7,200 00	3,495 78	3,638 15	7,133 93	66 07	.....	.....
Roads, Streets, and Avenues Unpaved—Maintenance and Sprinkling.....	29,100 00	15,527 89	8,357 57	23,885 46	5,214 54	.....	.....
Roads, Streets, and Avenues Unpaved—Maintenance and Sprinkling, Salaries.....	900 00	666 00	234 00	900 00	6 82	.....	.....
Salaries—Department of Public Works.....	82,720 00	62,637 12	20,076 06	82,713 18	4,808 60	.....	.....
Sewers—Repairing and Cleaning.....	93,500 00	72,645 77	16,045 63	88,691 40	47 27	.....	.....
Sewers—Repairing and Cleaning, Salaries.....	22,580 00	16,246 96	5,235 77	22,532 73	47 27	.....	.....
Sewerage System, Salaries.....	12,400 00	9,659 67	2,740 49	12,399 16	24	.....	.....
Street Improvements for Surveying, etc.....	1,000 00	15 00	139 17	154 17	845 83	.....	.....
Street Improvements for Surveying, etc., Salaries.....	250 00	125 00	125 00	250 00	.....	.....	.....
Supplies for and Cleaning Public Offices.....	59,525 29	59,525 29	27,008 98	86,534 27	3,893 66	.....	.....
Supplies for and Cleaning Public Offices, Salaries.....	24,800 00	18,538 36	6,245 83	24,784 19	15 81	.....	.....
Supplying Water to Shipping, and for Building, etc., Salaries.....	8,000 00	5,927 00	2,072 00	7,999 00	1 00	.....	.....
Water Supply or the Twenty-fourth Ward.....	12,250 00	220 80	3,247 49	3,468 29	8,821 71	89 12	.....
Water Supply for the Twenty-fourth Ward, Salaries.....	750 00	266 00	336 00	602 00	148 00	.....	.....
Wells and Pumps—Repairing and Cleaning.....	500 00	98 74	105 00	203 74	296 26	.....	.....
Totals.....	\$2,474,395 29	\$1,309,191 21	\$781,931 97	\$2,091,123 18	\$373,272 11	\$10,539 38	\$23,025 73

TITLES OF TRUST ACCOUNTS.	Amounts Authorized by Board of Estimate and Apportionment.	Amounts called for by Commissioner of Public Works.	Amounts Expended to January 1, 1881.	Amounts Expended First Nine Months, 1881.	Amounts Expended Fourth Quarter, 1881.	Total Expenditures to January 1, 1882.	Amounts to Credit, Jan. 1, 1882.
Croton Water Fund.....	\$2,210,000 00	\$2,460,000 00	\$1,659,789 34	\$228,830 48	\$243,198 53	\$2,131,818 35	\$328,181 65
Street Improvements above Fifty-ninth street.....	.....	.....	.....	2,742 49	730 33	3,472 82	.....
Street Improvement Fund.....	.....	.....	.....	316,439 23	308,289 18	624,728 41	.....
Meter Stock (sec. 5, chap. 213, Laws 1871, and sec. 73, chap. 335, Laws 1873).....	* 50,000 00	75,000 00	45,803 30	27,273 97	8,441 29	81,518 56	3,209 94
Restoring and Repaving—Special Fund, D. P. W.....	.....	.....	4,246 65	25,580 38	11,058 43	40,885 46	2,795 54

* MEM.—This account is credited with "Meter Stock Deposits" in addition to amounts raised on Revenue Bonds.

C. T. McCLENACHAN, Bookkeeper D. P. W.

Statement of Bookkeeper, showing all Revenues of the City received through the Department of Public Works during the First Nine Months of 1881; during the Fourth Quarter 1881; and the Total for the Year 1881.

SOURCE OF REVENUE.	FIRST NINE MONTHS, 1881.	FOURTH QUARTER, 1881.	TOTAL FOR 1881.	SOURCE OF REVENUE.	FIRST NINE MONTHS, 1881.	FOURTH QUARTER, 1881.	TOTAL FOR 1881.
Water Rents.....	\$1,262,242 36	\$224,131 06	\$1,486,373 42	Vitrified Stoneware Pipe Sold.....	.....	\$12 25	\$12 25
Water Penalties.....	5,947 65	7,141 20	13,088 85	Totals.....	\$1,361,330 01	\$256,821 95	\$1,618,151 96
Pipe Tapping.....	8,059 00	3,270 50	11,329 50	Meter Stock Deposit—Special Fund.....	\$22,145 92	\$8,485 16	\$30,631 08
Sewer Permits.....	20,873 02	5,556 68	26,429 70	Restoring and Repaving—Special Fund.....	27,574 00	8,580 00	36,154 00
Vault Permits.....	63,727 98	16,411 56	80,139 54	Total.....	\$49,719 92	\$17,065 16	\$66,785 08
Redemptions and Sale of Street Obstructions.....	234 25	16 00	250 25				
Sales at Corporation Yards.....	157 75	200 50	358 25				
Sale at Seventy-fifth street.....	88 00	.....	88 00				
Work and Material furnished by City.....	.....	82 20	82 20				

Document "B."

A Statement in Detail of Expenditures for which Requisitions were drawn on the Comptroller by the Commissioner of Public Works, during the Quarter ending December 31, 1881.

APPROPRIATIONS.

Aqueduct—Repairs and Maintenance and Sprinkling—

Brick, etc.....	\$2,146 00
Broken stone.....	325 00
Building stone.....	6,740 00
Carriage horse.....	285 00
Cement.....	1,995 00
Coal.....	5,374 53
Excavating rock.....	242 00
Fence wall.....	250 00
Gates in aqueduct.....	3,994 45
Hauling gates.....	171 88
Iron castings.....	1,312 20
Lumber.....	1,334 32
Making lead joints.....	25 90
Marble ashlar.....	1,960 00
Office furniture.....	96 93
Oil, etc.....	1,116 78
Pay-rolls.....	42,785 56
Powder, rope, etc.....	287 55
Pressure gauges.....	198 90
Printing.....	180 29
Rent of office.....	108 33
Repairing tools.....	609 33
Rubber valves.....	23 46
Sand.....	2,280 00
Supplies.....	214 52
Taxes.....	275 91
Telephone.....	45 80
Tools.....	261 31
Traveling expenses.....	432 55
Weather strips.....	93 90
Total.....	\$75,167 40

Aqueduct—Repairs, Maintenance, and Sprinkling—Salaries—

Pay-rolls.....	\$10,886 92
Boulevards, Roads, and Avenues, Maintenance—	
Building stone.....	\$370 00
Carriage robe, etc.....	100 50
Coal.....	102 50
Filling.....	350 00
Gravel.....	820 00
Harness, etc.....	100 55
Horsekeeping.....	88 50
Iron and paint.....	33 29
Lumber.....	251 49
Pay-rolls.....	16,145 46
Rent of office.....	180 00
Repairing sprinklers.....	89 03
Sand.....	1,400 00
Stone chips.....	1,600 00
Trap-rock.....	875 00
Wagon wheels, etc.....	194 80
Total.....	\$22,701 12

Boulevards, Roads, and Avenues—Maintenance and Sprinkling—Salaries—

Pay-rolls.....	\$2,170 81
Contingencies—Department of Public Works—	
Auctioneer's commission.....	\$20 05
Incidental expenses.....	625 06
Services of Clerk.....	125 00
Traveling expenses.....	246 13
Total.....	\$1,016 24

County Court-house, Completion of—For 1880—

Bulletin boards.....	\$178 58
Carpenter work.....	475 00
Front doors.....	376 25
Mantel.....	79 00
Mason work.....	525 00
Painting.....	5,209 74
Plumbing.....	325 75
Ventilator.....	170 94
Total.....	\$7,340 26

Expenses of Surveying, Laying out, etc.—

Pay-rolls.....	\$818 02
Tape line, etc.....	22 20
Total.....	\$840 22

Fitting up Fifth Regiment Armory—

Tearing down, shoring up, etc.....	\$7,200 00
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Fitting up Sixty-ninth Regiment Armory—

Architect's services.....	\$414 75
Mason and iron work.....	7,200 00

Total.....\$7,614 75

Flagging Sidewalks and Fencing Vacant Lots in front of City Property—

Pay-rolls.....	\$151 24
Rivington Street Yard.....	311 45
Total.....	\$462 69

Forty-second Street Reservoir—Removal of Pipes—

Cast-iron pipe.....	\$4,830 55
Cutting out gas mains.....	16 56
Laying mains.....	1,635 30
Pay-rolls.....	178 50
Putting in stop-cock.....	61 13
Stop-cock and gearing.....	987 50
Total.....	\$7,709 54

Free Floating Baths—

Repairing baths.....	\$713 25
“ gas fixtures.....	450 51
“ tanks.....	992 00
Supplies.....	89 57
Towing baths.....	344 00
Traveling expenses.....	298 55
Unmooring bath.....	50 00
Wharfage.....	1,140 00
Total.....	\$4,077 88

Free Floating Baths—Salaries—

Pay-rolls.....	\$3,508 00
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Fulton Market—Alterations and Repairs—

Alterations and repairs.....	\$32,281 23
Building temporary sheds.....	921 61
Pay-rolls—Inspector.....	416 00
Surveyor's Fees.....	150 00

Total.....\$33,768 84

Lamps and Gas—

Columns.....	\$300 00
Gas-fitting.....	435 72
Granite base stone.....	75 00
Lamps.....	1,600 00
Lamp frames.....	24 60
“ irons.....	276 50
“ posts.....	2,540 00
“ signs.....	228 00
“ tops and globes.....	900 00
Lighting Armory, Battery B.....	29 24
“ “ Battery E.....	84 70
“ “ Battery K.....	28 35
“ “ Fifth Regiment.....	165 72
“ “ Seventh Regiment.....	1,234 28
“ “ Eighth Regiment.....	258 47
“ “ Ninth Regiment.....	435 93
“ “ Eleventh Regiment.....	101 16
“ “ Twelfth Regiment.....	299 24
“ “ Twenty-second Regiment.....	431 20
“ “ Sixty-ninth Regiment.....	246 04
“ “ Seventy-first Regiment.....	241 67
Bath, Battery.....	18 90
“ “ Bethune street.....	12 43
“ “ Gansevoort street.....	18 65
“ “ Fifth street.....	16 45
“ “ Nineteenth street.....	11 55
“ “ Thirty-seventh street.....	12 78
“ “ Fifty-first street.....	13 82
“ “ One Hundred and Twelfth street.....	15 97
Brown-stone Building.....	55 47
City Hall.....	663 77
Clock, Third District Court-house.....	303 80
County Jail.....	642 26
Court-house, New.....	1,245 65
Court, Civil, 2d District.....	19 25
“ “ 4th.....	20 47
“ “ 5th.....	9 63
“ “ 6th.....	8 05
“ “ 8th.....	10 33
“ “ 9th.....	5 63
Court, Police, 1st.....	223 12
“ “ 2d.....	127 58
“ “ 3d.....	120 22
“ “ 4th.....	81 38
“ “ 5th.....	26 55
Court, Special Sessions.....	88
Engine-house, High Bridge.....	156 16
“ “ Ninety-eighth street.....	261 10
Market, Catharine.....	29 22
“ “ Centre.....	362 94
“ “ Clinton.....	258 48
“ “ Essex.....	119 52

Lamps and Gas—		
Lighting Market, Fulton	\$453 44	
“ “ Jefferson	161 08	
“ “ Tompkins	395 85	
“ “ Washington	540 06	
“ “ Union	15 22	
“ Office, Assessment Commission	1 05	
“ “ Corporation Attorney	50 39	
“ “ Department of Public Works	217 60	
“ “ Photometrical	48 21	
“ “ Receiver of Taxes	347 38	
“ “ Rivington Street Yard	3 84	
“ “ South Gate-house	22 49	
“ Streets, Brush Electric Illuminating Company	2,432 52	
“ “ Central Gas-light Company	14,441 48	
“ “ Harlem Gas-light Company	24,183 17	
“ “ Manhattan Gas-light Company	29,674 70	
“ “ Metropolitan Gas-light Company	19,982 47	
“ “ New York Gas-light Company	15,912 01	
“ “ New York Mutual Gas-light Company	4,255 80	
“ “ Northern Gas-light Company	9,597 84	
“ “ Yonkers Gas-light Company	955 50	
Painting office	49 87	
Pay-rolls	451 24	
Rent of office	425 00	
Testing gas	427 00	
Traveling expenses	125 00	
White-wood knobs	66 67	
Total	\$140,044 71	
Lamps and Gas—Salaries—		
Pay-rolls	\$1,136 00	
Laying Croton Pipes—		
Carriage	\$325 00	
Cast-iron pipe	38,450 01	
Cutting out gas-mains	23 20	
Fuel	172 50	
Hydrant nozzles	82 50	
Hydrants and waste valves	13,934 87	
Laying mains—St. Ann's avenue, etc.	3,951 60	
“ “ Fourth avenue, etc.	384 97	
“ “ Third street	335 79	
“ “ Fifty-eighth street	314 63	
“ “ Seventy-sixth street	227 86	
“ “ Seventy-ninth street, etc.	1,814 31	
“ “ One Hundred and Forty-fourth street	654 78	
“ “ One Hundred and Fiftieth street, etc.	414 09	
Pay-rolls	2,892 12	
Placing fire-hydrants	6,332 51	
Relaying pipe	1,004 35	
Repairing pipe	214 57	
Stop-cock boxes and covers	2,769 25	
Stop-cocks	3,412 50	
Tools	92 25	
Traveling expenses	92 71	
Total	\$77,896 37	
Laying Croton Pipes—Salaries—		
Pay-rolls	\$3,603 56	
Laying Croton Pipes, for 1880—		
Laying pipe—Ninth avenue, etc.	\$1,275 76	
“ “ Randall's Island	583 23	
Relaying gas-mains	108 12	
Total	\$1,967 11	
Public Buildings—Construction and Repairs—		
Armory, Battery K	\$88 63	
“ “ Fifth Regiment	640 50	
“ “ Twelfth Regiment	98 03	
“ “ Twenty-second Regiment	249 33	
Brown Stone Building	1,716 85	
Bureau of Repairs and Supplies	186 53	
City Hall	486 86	
City Prison	36 29	
County Jail	205 28	
Court, Civil, 1st District	11 48	
“ “ 2d “	32 88	
“ “ 5th “	46 57	
“ “ 8th “	8 76	
“ “ 10th “	75 00	
“ “ Police, 1st “	23 74	
“ “ 2d “	2 70	
“ “ 3d “	129 51	
“ “ 5th “	72 06	
Court-house, 3d “	158 83	
“ “ 7th “	94 68	
“ “ New “	580 15	
Market, Catharine	398 49	
“ Centre	126 91	
“ Essex	19 23	
“ Franklin	2 75	
“ Tompkins	90 30	
“ Washington	30 40	
No. 49 Beekman street	68 56	
No. 31 Chambers street	517 36	
Register's Office	67 09	
Third avenue, between Sixty-seventh and Sixty-eighth streets	53 70	
Total	\$6,319 45	
Public Buildings—Construction and Repairs—Salaries—		
Pay-rolls	\$435 00	
Public Drinking Hydrants—		
Repairing hydrants	\$1,614 99	
Removing Obstructions in Streets and Avenues—		
Pay-rolls	\$342 28	
Traveling expenses	62 50	
Trucking and labor	1,032 80	
Total	\$1,437 58	
Removing Obstructions in Streets and Avenues—Salaries—		
Pay-rolls	\$516 00	
Repairing and Renewal of Pipes, Stop-cocks, etc.—		
Hydrant boxes	\$550 00	
“ cups and chains	147 10	
“ plugs, etc.	91 25	
Lead	262 50	
Lumber	250 20	
Meter counters, etc.	258 80	
Pay-rolls	26,795 79	
Repairing hydrants	562 50	
Tapping cocks	950 00	
Repairing and Renewal of Pipes, Stop-cocks, etc.—		
Tapping cock boxes	\$290 00	
Tools	148 50	
Traveling expenses	52 50	
Total	\$30,359 14	
Repairing and Renewal of Pipes, Stop-cocks, etc.—Salaries—		
Pay-rolls	\$12,892 82	
Repairs and Renewal of Pavements, etc.—		
Asphalt pavement	\$775 20	
Belgian blocks	2,135 00	
Bridge stone	2,924 35	
Excavating rock	2,270 00	
Horsekeeping	100 50	
Laying crosswalks	262 18	
Oil	59 38	
Pay-rolls	27,629 82	
Rent of lots	80 00	
Repairing flagging	67 00	
“ pavement	21,395 05	
“ tools	594 90	
Resetting curb and gutter	264 05	
Sand	3,212 50	
Trucking stone	424 10	
Total	\$62,194 03	
Repairs and Renewal of Pavements, etc.—Salaries—		
Pay-rolls	\$12,791 80	
Repaving Streets and Avenues—		
Ann, Frankfort, Jacob, and Front streets	\$6,184 50	
Broome and Carmine streets	20,600 67	
Broadway, between Seventeenth and Twenty-second streets	6,088 60	
Christopher street, between Greenwich avenue and West street	14,645 98	
Pike and Rutgers streets	11,948 30	
Avenue A, between Houston and Seventh streets	18,002 41	
Eleventh avenue, between Fifteenth and Twenty-fifth streets	35,370 70	
Seventh street, between Fourth avenue and Avenue A	3,063 60	
Fourteenth street, between Ninth and Eleventh avenues	12,034 54	
Thirty-third, Thirty-sixth, and Fifty-fourth streets	15,416 29	
One Hundred and Twenty-second and One Hundred and Twenty-ninth streets	13,573 78	
Total	\$156,929 37	
Repaving Streets and Avenues—Salaries—		
Pay-rolls	\$3,638 15	
Repaving Streets and Avenues, for 1880—		
Madison and Jefferson streets	\$1,142 89	
Roads, Streets, and Avenues, Unpaved—Maintenance and Sprinkling—		
Filling	\$350 00	
Gravel	900 00	
Horsekeeping	84 00	
Pay-rolls	5,996 62	
Repairing tools	126 95	
Stone chips	900 00	
Total	\$8,357 57	
Roads, Streets, and Avenues, Unpaved, etc.—Salaries—		
Pay-rolls	\$234 00	
Salaries—Department of Public Works—		
Pay-rolls	\$20,076 06	
Sewers—Repairing and Cleaning—		
Brick and cement	\$137 50	
Engineer's transit	210 00	
Pay-rolls	7,662 76	
Removing basin-heads	27 00	
Repairing and cleaning sewers	1,535 08	
“ basins	1,942 78	
“ manholes	241 77	
“ sewers	3,527 19	
Supplies	113 75	
Traveling expenses	647 80	
Total	\$16,045 63	
Sewers—Repairing and Cleaning—Salaries—		
Pay-rolls	\$6,285 77	
Sewerage System—Salaries—		
Pay-rolls	\$2,740 09	
Street Improvements for Surveying, etc.—		
Maps of New York City	\$139 17	
Street Improvements for Surveying, etc.—Salaries—		
Pay-rolls	\$125 00	
Supplies for and Cleaning Public Offices—		
Armory, Battery B	\$42 00	
“ “ K	109 70	
“ “ Regiment, 5th	74 00	
“ “ 7th	528 00	
“ “ 8th	60 00	
“ “ 9th	139 00	
“ “ 11th	12 00	
“ “ 12th	44 50	
“ “ 22d	91 30	
“ “ 71st	216 65	
Brown Stone Building	379 21	
Bureau of Repairs and Supplies	1,942 60	
City Hall	973 02	
County Jail	124 10	
Court-house, New	2,644 54	
“ “ 3d District	336 96	
“ “ 7th “	180 79	
“ “ 8th “	29 15	
“ “ 10th “	49 90	
Court, Civil, 1st “	24 50	
“ “ 2d “	43 10	
“ “ 4th “	7 90	
“ “ 5th “	45 95	
“ “ 6th “	38 65	
“ “ 8th “	45 40	
“ “ 9th “	19 90	
“ “ 10th “	3 95	
Court, Police, 1st “	22 40	
“ “ 2d “	52 45	
“ “ 3d “	227 35	
“ “ 4th “	2 50	
“ “ 5th “	148 50	
“ “ 6th “	5 70	

Supplies for and Cleaning Public Offices—

Court, Common Pleas.....	\$5 60
“ Marine.....	48 90
“ Special Sessions.....	7 90
“ Supreme.....	53 13
“ Surrogate's.....	19 55
Department of Finance.....	360 13
“ Public Works.....	941 31
“ Taxes and Assessments.....	10 50
Dog Pound.....	11 00
Gansevoort Street Yard.....	6 00
Mourning Decorations.....	4,008 95
Office of Assessment Commission.....	12 00
“ Board of Estimate and Apportionment.....	80 00
“ CITY RECORD.....	17 40
“ Commissioners Taxes and Assessments.....	184 49
“ Corporation Attorney.....	36 00
“ Corporation Counsel.....	35 00
“ County Clerk.....	73 20
“ Mayor.....	7 50
“ Public Administrator.....	51 80
“ Receiver of Taxes.....	142 54
“ Register.....	154 48
Pay-rolls.....	12,064 94
Rivington Street Yard.....	22 00
Total.....	\$27,028 98

Supplies for and Cleaning Public Offices, etc.—Salaries—

Pay-rolls.....	\$6,245 83
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Supplying Water to Shipping and for Building Purposes—Salaries—

Pay-rolls.....	\$2,072 00
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Water Supply for the Twenty-fourth Ward—

Hydrants and Stop-cocks.....	\$915 99
Laying Water-pipes.....	893 12
Supply of Water.....	784 38
Water Meters and Connections.....	614 00
Total.....	\$3,207 49

Water Supply for the Twenty-fourth Ward—Salaries—

Pay-rolls.....	\$336 00
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Water Supply for the Twenty-fourth Ward, for 1880—

Laying Water-pipes.....	\$89 12
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Wells and Pumps—Repairing and Cleaning—

Repairing Pumps.....	\$105 00
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RECAPITULATION OF APPROPRIATIONS.

Aqueduct—Repairs, Maintenance, and Strengthening.....	\$75,167 40
“ “ “ Salaries.....	10,886 92
Boulevard, Roads, and Avenues—Maintenance.....	22,701 12
“ “ “ Salaries.....	2,170 81
Contingencies—Department of Public Works.....	1,016 24
County Court-house—Completion of, for 1880.....	7,340 26
Expenses for Surveying, Laying-out, etc.....	840 22
Flagging Sidewalks and Fencing Vacant Lots, etc.....	462 69
Forty-second Street Reservoir, Removal of Pipes.....	7,709 54
Fitting-up Fifth Regiment Armory.....	7,200 00
Fitting-up Sixty-ninth Regiment Armory.....	7,614 75
Free Floating Baths.....	4,077 88
“ “ “ Salaries.....	3,508 00
Fulton Market—Alterations and Repairs.....	33,768 84
Lamps and Gas.....	140,044 71
“ “ “ Salaries.....	1,136 00
Laying Croton Pipes.....	77,896 37
“ “ “ for 1880.....	1,967 11
“ “ “ Salaries.....	3,603 56
Public Buildings—Construction and Repairs.....	6,319 45
“ “ “ Salaries.....	435 00
Public Drinking Hydrants.....	1,614 99
Removing Obstructions in Streets and Avenues.....	1,437 58
“ “ “ Salaries.....	516 00
Repairing and Renewal of Pipes, Stop-cocks, etc.....	30,359 14
“ “ “ Salaries.....	12,892 82
Repairs and Renewal of Pavements and Regrading.....	62,194 03
“ “ “ Salaries.....	12,791 80
Repaving Streets and Avenues.....	156,929 37
“ “ “ Salaries.....	3,638 15
“ “ “ for 1880.....	1,142 89
Roads, Streets, and Avenues, Unpaved—Maintenance.....	8,357 57
“ “ “ Salaries.....	234 00
Salaries—Department of Public Works.....	20,076 06
Sewerage System—Salaries.....	2,740 09
Sewers—Repairing and Cleaning.....	16,045 63
“ “ “ Salaries.....	6,285 77
Street Improvements for Surveying, etc.....	139 17
“ “ “ Salaries.....	125 00
Supplies for and Cleaning Public Offices, etc.....	27,028 98
“ “ “ Salaries.....	6,245 83
Supplying Water to Shipping, etc.—Salaries.....	2,072 00
Water Supply for the Twenty-fourth Ward.....	3,207 49
“ “ “ Salaries.....	336 00
“ “ “ for 1880.....	89 12
Wells and Pumps—Repairing and Cleaning.....	105 00
Total.....	\$792,471 35

TRUST ACCOUNTS.

CROTON WATER FUND.

Cast-iron pipe.....	\$32,265 80
Coal.....	44 00
Commissioner's fees.....	16,083 23
Counsel fees.....	13,919 06
Excavating at outlets of lakes.....	3,525 25
Geologist's services.....	1,068 50
Horsekeeping.....	93 66
Incidental expenses.....	475 89
Joining and caulking pipe.....	152 07
Sand.....	13,378 28
Laying pipe.....	95,476 76
Lead.....	226 30
Lumber.....	829 12
Making soundings.....	148 88
Pay-rolls.....	32,073 74
Printing.....	760 20
Rent of mill seat.....	300 00
“ Engineer's office.....	37 50
Repairing boring machine.....	320 64
“ dam.....	78 10
Reservoir on Bronx river.....	22,390 69
Right to draw water.....	3,200 00
Shore tracings.....	102 00
Stop-cocks and boxes.....	1,139 40
Supplies.....	293 56
Surveying instruments.....	1,226 00
Taxes.....	49 55

Tools.....	\$266 85
Traveling expenses, etc.....	975 17
Use of diamond drill.....	2,163 33
“ yawl boat.....	135 00
Total.....	\$243,198 53

METER STOCK.

Setting water meters.....	\$2,847 14
Water meters.....	5,594 15
Total.....	\$8,441 29

RESTORING AND REPAVING (SPECIAL).

Pay-rolls.....	\$4,158 43
Restoring pavements, etc.....	6,900 00
Total.....	\$11,058 43

STREET IMPROVEMENT FUND.

Flagging—	
East side, Avenue D, between Thirteenth and Fourteenth streets, P. Lonney.....	\$422 40
North side, Seventy-first street, between Ninth and Tenth avenues, F. Thielman, Jr.....	439 00
	\$861 40

Paving—

Lexington avenue, between Eighty-sixth and Ninety-third streets, W. A. Cumming.....	\$10,871 46
Madison avenue, between One Hundred and Twenty-fifth and One Hundred and Thirty-third streets, W. A. Cumming.....	7,322 26
Fifth avenue, between Ninetieth and One Hundred and Tenth streets, James Everard.....	24,674 38
Ninth avenue, between Boulevard and Seventy-seventh street, Assawassuc Gran. Co.....	4,287 50
Tenth avenue, between One Hundred and Fifty-first and One Hundred and Fifty-fifth streets, P. H. Fitzgerald.....	6,794 90
Fifty-fifth street, between Sixth and Seventh avenues, J. B. Devlin.....	5,485 65
Sixty-third street, between Eighth and Tenth avenues, J. W. Barry, Jr.....	467 20
Sixty-eighth street, between Boulevard and Tenth avenue, W. A. Cumming.....	1,621 68
Sixty-ninth street, between First and Third avenues, Chas. Devlin.....	4,084 02
Seventy-sixth street, between Fourth and Madison avenues, T. F. Kane.....	128 08
Seventy-sixth street, between Third and Fourth avenues, T. Gearty.....	4,988 93
Eightieth street, between Second avenue and Avenue A, F. McCullough.....	408 90
Eighty-third street, between Boulevard and Eighth avenue, J. B. Devlin.....	12,557 58
Ninety-fourth street, between Third and Lexington avenue, W. A. Cumming.....	2,614 41
One Hundred and Eighth street, between Third and Fifth avenue, T. Murray.....	11,278 76
One Hundred and Twelfth street, between Third and Fourth avenues, W. A. Cumming.....	5,300 07
One Hundred and Fifteenth street, between Third and Avenue A, P. H. Fitzgerald.....	9,008 31
One Hundred and Twenty-sixth street, between Seventh and St. Nicholas avenue, J. W. Barry, Jr.....	393 20
	112,287 29

Regulating, grading, etc.—

Lexington avenue, between Ninety-sixth and Ninety-seventh streets, A. J. Riss.....	\$50 46
Fourth avenue, between Ninety-fourth and Ninety-sixth streets, T. F. Kane.....	120 70
Fourth avenue, between Ninety-sixth and One Hundred and Second streets, T. F. Kane.....	4,568 20
Fourth avenue, between One Hundred and Fifteenth and One Hundred and Sixteenth streets, J. J. Jones.....	60 46
Sixty-first street, between Tenth and Eleventh avenues, W. E. Dean.....	210 00
Sixty-second street, Avenue A and East river, T. Gearty.....	55 60
Seventieth street, between Eighth and Tenth avenues, John Brady.....	6,084 93
Seventy-first street, between Fifth avenue and East river, T. Gearty.....	1,879 62
Seventy-third street, between Third avenue and East river, P. Farley.....	5,192 60
Seventy-fifth street, between Tenth avenue and Riverside Drive, J. Slattery.....	2,313 50
Seventy-sixth street, between Third and Fourth avenues, F. McCullough.....	226 00
Eighty-first street, between Boulevard and Riverside drive, Butler & Reilly.....	1,102 50
Ninety-fourth street, between Boulevard and Eighth avenue, J. Slattery.....	4,023 25
Ninety-seventh street, between Boulevard and Eighth avenue, A. J. Riss.....	3,325 04
Ninety-eighth street, between Third and Fourth avenues, Michael Finn.....	8,585 50
Ninety-eighth street, between Avenue A and Boulevard, T. L. Butler.....	2,475 32
One Hundred and Second street, between Fifth avenue and Harlem river, J. Walsh.....	1,016 68
One Hundred and Fourteenth street, between Tenth and Morning-side avenues, Curran & Rogers.....	131 15
One Hundred and Twenty-first street, between Sixth and Seventh avenues, Phelan & Houghton.....	2,862 26
One Hundred and Fifty-seventh street, between Tenth avenue and Kingsbridge road, M. A. Kellogg.....	1,292 82
	45,576 59

Receiving Basins—

Northwest and southwest corners Seventy-third street and Eighth avenue, E. Blackburn.....	1,313 84
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Sewers—

Avenue B, between Sixteenth and Seventeenth streets, Cornelius Smith.....	\$815 84
Riverside avenue, between Seventy-sixth and Ninety-second streets, A. Dowdney.....	5,395 60
Riverside avenue, between Ninety-second and One Hundred and Sixth streets, A. Dowdney.....	7,249 20
Riverside avenue, between One Hundred and Sixth and One Hundred and Eleventh streets, A. Dowdney.....	4,218 55
Riverside avenue, between One Hundred and Eleventh and One Hundred and Twenty-second streets, C. J. McKim.....	7,757 19
First avenue, between Twenty-first and Twenty-fourth streets, J. Slattery.....	3,703 00
Riverside and Twelfth avenues, between One Hundred and Twenty-second and Manhattan streets, Nutt & Kerrins.....	1,512 00
First avenue, between Forty-sixth and Forty-seventh streets, C. J. McKim.....	4,088 70
Second avenue, between Ninety-fifth and Ninety-sixth streets, D. K. Gallagher.....	3,226 23
Fourth avenue, between One Hundred and Sixth and One Hundred and Tenth streets, Cornelius Smith.....	2,802 95
Ninth avenue, between One Hundred and Forty-eighth and One Hundred and Fifty-second streets, Nutt & Kerrins.....	2,962 84
Tenth avenue, between Eighty-third and Ninety-second streets, P. T. Masterson.....	4,913 02
Montgomery street, between Madison and Monroe streets, L. Rock.....	1,112 38
Prince street, between Broadway and Crosby street, J. B. Healy.....	29 85
Suffolk street, between Delancey and Rivington streets, W. E. Dean.....	134 40

Sewers—

West street, between Spring and West Eleventh streets, J. Baird...	\$24,421 88
Fourth street, between Christopher and Tenth streets, Cornelius Smith	880 86
Fifteenth street, between Irving place and Fourth street, J. McQuade	3,218 62
Fifty-seventh street, between Fifth and Madison avenues, J. A. Devlin	2,791 33
Sixty-eighth street, between Eighth avenue and Boulevard, Nutt & Kerrins	3,053 93
Sixty-ninth street, between Eighth and Ninth avenues, J. Mulholland	3,448 29
Seventy-sixth street, between Eighth and Tenth avenues, Hayden & Curry	2,657 20
Eightieth street, between Tenth avenue and Boulevard, R. H. Tracy	94 80
Eightieth and Eighty-first streets, between Avenues A and B, etc., M. P. H. Casey	1,894 19
Eighty-second street, between Eighth and Tenth avenues, M. P. H. Casey	3,615 50
Eighty-second street, at Avenue A, M. H. Moore	9 60
Eighty-fifth street, between Eighth and Ninth avenues, J. Slattery	2,472 75
Ninety-sixth and Ninety-seventh streets, between Third and Lexington avenues, A. Dowdney	5,150 17
One Hundred and First street, between Tenth avenue and Boulevard, J. Everard	1,431 26
One Hundred and Tenth street, between Ninth and New avenues, M. Noonan	3,207 60
One Hundred and Twelfth street, between Sixth and Madison avenues, Phelan & Houghton	3,092 15
One Hundred and Thirteenth street, between Seventh and Eighth avenues, D. K. Gallagher	1,899 57
One Hundred and Nineteenth street, between Sixth and Seventh avenues, D. K. Gallagher	2,378 07
One Hundred and Twenty-eighth street, between Seventh and Eighth avenues, J. F. Gallagher	211 20
One Hundred and Thirty-fifth street, between Fifth avenue and Harlem river, etc., E. Bradburn	400 50
Pay-rolls Inspectors, paving	\$116,301 22
" " regulating, grading, etc.	2,989 00
" " sewers	5,871 00
" Engineers	11,624 00
Surveyors' fees	5,910 16
Total	5,554 68

STREET IMPROVEMENTS ABOVE FIFTY-NINTH STREET.

Morningside Avenue, West—	
Pay-rolls	\$730 33

RECAPITULATION OF TRUST ACCOUNTS.

Croton Water Fund	\$243,198 53
Meter Stock	8,441 29
Restoring and Repaving, Special Fund	11,058 43
Street Improvement Fund	308,289 18
Street Improvements above Fifty-ninth Street	730 33
Total	\$571,717 76

GENERAL SUMMARY.

Appropriations	\$792,471 35
Trust Accounts	571,717 76
Grand Total	\$1,364,189 11

Document "C."

Contracts made during the Three Months ending December 31, 1881.

DATE.	NATURE AND LOCATION OF WORK.	CONTRACTOR.	SURETIES.	ESTIMATED COST.
Oct. 1	Furnishing, delivering, and laying a 48-in. conduit pipe, from Kensico to and between Hartsdale and Scarsdale	R. D. Wood & Co., Philadelphia	R. M. Oliphant, 60 Madison avenue; G. B. Newton, 21 Cortlandt street	\$484,757 00
" 3	Furnishing materials and performing work in the alteration of Essex Market	Mahoney Bros., 63 Madison street	Andrew Martin, 21 Cortlandt street; Henry Campbell	18,300 00
" 17	Furnishing materials and performing work in the alteration of Tompkin's Market	John Bannon & John Flanagan, 392 Fourth avenue	Thomas Smith, 1014 Fourth avenue; Thomas Daley, 451 Fourth avenue; Chas. H. Field, 957 Madison avenue	11,855 00
" 21	Furnishing stop-cocks, stop-cock boxes, and hydrants	Maurice B. Flynn, 242 E. 12th street	Henry Murray, 451 W. 47th street; Thomas Crimmins, 252 E. 60th street	14,355 00
" 26	Regulating and grading One Hundred and First street, from Second to Third avenue	Thomas E. Crimmins, 203 E. 61st street	John D. Crimmins, 252 E. 60th street; S. F. Knapp, 155th st., Hudson R.	5,307 00
" 29	Sewer in One Hundred and Fifty-third street, between Tenth avenue and Avenue St. Nicholas	Charles B. Knapp, 158th st. & 12th ave.	William Foster, 158th st. & 12th ave.	4,007 00
" 29	Sewer in Ninth avenue, between One Hundred and Fifty-second and One Hundred and Fifty-fifth streets, and in One Hundred and Fifty-fifth street, between Ninth avenue and Avenue St. Nicholas	Charles B. Knapp, 158th st. & 12th ave.	S. F. Knapp, 155th st., Hudson R.; William Foster, 158th st. & 12th ave.	10,350 10
" 29	Sewer in One Hundred and Forty-first street, between Seventh and Eighth avenues	John Slattery, 788 Fourth avenue	William Hullivan, 347 W. 53d street; John Davidson, 128 E. 52d street	2,750 00
" 29	Laying Croton mains in One Hundred and Sixty-sixth, One Hundred and Sixty-seventh, One Hundred and Sixty-eighth, and One Hundred and Sixty-ninth streets, and in St. Ann's, Madison, Bergen, and Third avenues, etc.	James Everard, Hoffman House	Chas. Guidet, 41 Park avenue; Sheridan Shook, Morton House	9,310 50
" 31	Sewer in One Hundred and First street, between Riverside and West End (formerly Eleventh) avenues	Abraham Dowdney, 28 E. 75th street	John D. Crimmins, 40 E. 68th street; Thomas Crimmins, 252 E. 60th street	4,371 75
" 31	Regulating and grading Ninety-ninth street, from Fourth to Fifth avenue	Abraham Dowdney, 28 E. 75th street	John D. Crimmins, 40 E. 68th street; Thomas Crimmins, 252 E. 60th street	8,611 50
Nov. 7	Regulating and grading, etc., Eighty-fifth street, between Ninth and Tenth avenues	Hugh Duffy, 417 E. 74th street	Coron Kays, 30 W. 128th street; James Fay, 406 E. 79th street	7,029 00
" 16	Sewer in Madison avenue, between One Hundred and Nineteenth and One Hundred and Twenty-first streets, and in One Hundred and Twenty-first and One Hundred and Twenty-second streets, between Fourth and Madison avenues, etc.	John Phelan, 205 W. 124th street	James Slattery, 218 W. 57th street; James Rogers, Foot of W. 132d st.	19,475 00
" 15	Regulating and grading, etc., Eighty-eighth street, from Tenth avenue to Riverside Drive	John Brady, 238 So. 2d st., B'klyn.	James A. Coleman, 200 W. 25th street; James R. Candler, 238 E. 33d street	9,180 00
" 16	Flagging east side Avenue D, between Thirteenth and Fourteenth streets	Patrick Larney, 325 E. 28th street	Sureties not required	47 68

DATE.	NATURE AND LOCATION OF WORK.	CONTRACTOR.	SURETIES.	ESTIMATED COST.
Nov. 21	Paving Ninety-fourth street, from Madison to Fourth avenue, with trap-block pavement	P. H. Fitzgerald, 534 W. 35th street	John White, 536 W. 40th street; Chas. Guidet, 41 Park avenue	\$2,162 50
" 21	Paving Eighty-second street, from First to Second avenue, with trap-block pavement	P. H. Fitzgerald, 534 W. 35th street	John White, 536 W. 40th street; Chas. Guidet, 41 Park avenue	3,853 25
" 21	Paving One Hundred and Twenty-fourth street, from Seventh to Eighth avenue, with trap-block pavement	P. H. Fitzgerald, 534 W. 35th street	John White, 536 W. 40th street; Chas. Guidet, 41 Park avenue	3,842 83
" 18	Laying Croton-mains in Twenty-fourth Ward, from Riverdale to Spuyten Duyvil	John Cornwell, Jr., 304 E. 116th street	James Kay, 158 Wash'n Market; P. M. Wilson, 86 Bank street	3,769 00
Dec. 5	Extension of sewer in Eighty-first street, between Fourth and Madison avenues, from end of present sewer west of Fourth avenue	F. Thielman, Jr., 425 E. 120th street	Sureties not required	646 00
" 5	Receiving-basin at junction of Christopher and Grove streets	F. Thielman, Jr., 425 East 120th street	"	211 60
" 8	Sewer in Seventy-third street, between First and Third avenues	John Mulholland, 319 E. 73d street	O. T. Marshall, 145 E. 78th street; Chas. Reilly, 168 E. 88th street	17,715 00
" 9	Sewer in Broadway, east side, between Liberty street and Maiden lane	Lawrence Rock, 459 W. 40th street	Henry Quinn, 442 W. 42d street; Michael Phelan, 53d st. and 10th ave.	1,533 00
" 13	Laying Croton-mains in Maiden lane, Broad, Jackson, Bond, Eighth Great Jones, and Canal streets, and in Fourth avenue and Lafayette place	John Cornwell, Jr., 304 E. 116th street	James Kay, 27 Bond street; P. M. Wilson, 86 Bond street	14,129 50
" 13	Furnishing cast-iron water-pipes, branch pipes, special castings, etc.	Warren Foundry and Machine Co.	Robert Campbell, 5 Madison avenue; T. A. Potts, 39 E. 39th street	26,520 00
" 13	Sewers in Front street, between Broad street and Old slip, and in Coenties slip, between Front and South streets	Edward Bradburn, 437 E. 85th street	Timothy Donovan, 416 E. 114th street; Bernard Maloney, 123 E. 11th street	6,997 50
" 14	Sewer in One Hundred and Sixth street, between summit east of Tenth avenue and New avenue, between Eighth and Ninth avenues	James Baird, 306 E. 57th street	James Williams, 442 E. 57th street; M. B. Flynn, 242 E. 112th street	15,235 00
" 14	Sewer in Twenty-third street, between Eleventh and Thirteenth avenues, with branches in Thirteenth avenue, between Twenty-third and Twenty-fourth streets	James Baird, 306 E. 57th street	Chas. R. Powfitt, 727 Lexington ave; Matthew Baird, 306 E. 57th street	8,813 20
" 14	Sewer in Eighty-seventh street, between Ninth and Tenth avenues	John Brady, 288 So. 2d st., B'klyn.	James Coleman, 200 W. 26th street; James R. Candler, 235 E. 33d street	5,235 05
" 16	Furnishing cast-iron water-pipes, branch-pipes, and special castings	Walter Wood, Philadelphia, Pa.	Richard Wood, Philadelphia, Pa.; George Wood, Philadelphia, Pa.	4,699 00
" 16	Furnishing and lighting with gas the public buildings, offices, etc., mentioned in contract	Harlem Gas-light Co., 2084 Third avenue	Robert W. Rodman, 2084 Third avenue; Thom's Rutter, 849 Fifth avenue	1,100 00
" 16	Furnishing and lighting with gas the public buildings, offices, etc., mentioned in contract	Metropol'n Gas-light Co., 1547 Broadway	O. Zollikofer, 1547 Broadway; R. H. Arkenburgh, 10 New Bowery	5,000 00
" 16	Furnishing and lighting with gas the public buildings, offices, etc., mentioned in contract	Manhattan Gas-light Company, 4 Irving place	Percy R. Pyne, 25 E. 27th street; Samuel Sloan, 21 W. 17th street	11,500 00
" 16	Furnishing and lighting with gas the public buildings, offices, etc., mentioned in contract	New York Gas-light Company, 157 Hester street	Percy R. Pyne, 25 E. 27th street; Samuel Sloan, 21 W. 17th street	11,500 00
" 19	Sewer in Eighty-third street, between Riverside and West End avenues	Abraham Dowdney, 28 E. 75th street	John D. Crimmins, 40 E. 68th street; Thomas Crimmins, 252 E. 60th street	3,685 00
" 23	Paving Seventy-sixth street, from Madison to Fifth avenue, with trap-block pavement	W. A. Cumming, 5 Dey street	Alexander Milne, 5 Dey street; James B. Mulry, 23 Rutgers street	3,654 39
" 20	Sewer in One Hundred and Fifteenth street, between Fifth and Sixth avenues	P. Mulholland, 1376 Third avenue	Patrick Sheehy, 251 E. 83d street; Thomas Regan, 858 Third avenue	4,295 40
" 20	Sewer in One Hundred and Twenty-third street, between Fourth and Madison avenues, from end of present sewer, west of Fourth avenue	P. Mulholland, 1376 Third avenue	Patrick Sheehy, 251 E. 83d street; Thomas Regan, 858 Third avenue	1,600 00
" 31	Paving Burling slip, between Water and South streets, with trap-block pavement	Thomas Gearty, 415 E. 83d street	P. H. McCullogh, 240 E. 32d street; Patrick Sheehy, 251 E. 83d street	6,929 00
" 31	Flagging sidewalks in One Hundred and Nineteenth street, from Fourth to Sixth avenue	Thomas Gearty, 415 E. 83d street	P. H. McCullogh, 240 E. 32d street; Patrick Sheehy, 251 E. 83d street	3,300 00
" 31	Regulating, grading, etc., One Hundred and Sixteenth street, from Tenth avenue to Morningside drive	P. Farley, 164 E. 63d street	Terence Farley, 165 E. 63d street; John T. Farley, 165 E. 63d street	10,813 60
" 23	Furnishing materials and performing work in building one floating swimming bath	John C. Wilson, Jr., 984 Sixth avenue	Felix Campbell, 79 John street; Charles H. Field, 957 Madison avenue	8,739 00
" 30	Sewer in Seventieth street, between Boulevard and Ninth avenue	George F. Woodward, 7th ave. and 127th st.	E. C. Sheehy, 25 E. 133d street; F. M. Bixby, 551 Fi th avenue	5,914 50
" 30	Regulating, grading, etc., One Hundred and Fifteenth street, from Tenth avenue to Morningside drive	Allan A. Irvine, 123 Chambers street	Luis DeAberqueta, 483 W. 22d street; John C. Wandell, 335 W. 33d street	5,774 85
" 31	Furnishing and laying Georgia pine flooring in Sixty-ninth Regiment armory	James Cavangh and Denis McCarthy	Michael Duane, 29 City Hall place; E. L. Carey, 48 Pike street	1,600 00

RECAPITULATION.

6 Regulating and Grading Contracts	\$46,715 95
17 Sewer Contracts	119,553 00
4 Paving Contracts	13,512 97
3 Croton-main Contracts	27,209 00
11 Miscellaneous Contracts	599,925 00
2 Flagging Contracts	3,717 68
1 Receiving-basin Contract	211 00
44 Contracts	\$810,844 60

Contracts Completed during the Three Months ending December 31, 1881.

DATE.	NATURE AND LOCATION OF WORK.	AMOUNT.
1881.		
Oct. 10	Sewer in One Hundred and First street, between Tenth avenue and Boulevard	\$1,869 81
" 11	" in One Hundred and Nineteenth street, between Sixth and Seventh avenues	3,015 95
" 11	" in First avenue, between Forty-sixth and Forty-seventh streets	4,602 53
" 11	" in Eightieth and Eighty-first streets, between Avenues A and B, and in Avenue A (east side), between Eightieth and Eighty-first streets	10,263 05
" 11	" in West Fourth street, between Christopher and West Tenth streets	1,010 83

DATE.	NATURE AND LOCATION OF WORK.	AMOUNT.	DATE.	NATURE AND LOCATION OF WORK.	AMOUNT.
1881.			1881.		
" 11	Paving Sixty-eighth street, from Boulevard to Tenth avenue, with trap-block pavement.....	\$1,919 75	Dec. 14	Paving Lexington avenue, from Eighty-sixth to Ninety-third street, with trap-block pavement.....	\$12,329 08
" 11	" One Hundred and Twelfth street, from Third to Fourth avenue, with trap-block pavement.....	5,856 74	" 28	" One Hundred and Fifteenth street, from Third avenue to Avenue A, with trap-block pavement.....	10,213 13
" 13	Flagging..... North side of Seventy-first street, between Ninth and Tenth avenues.....	468 01	Oct. 24	" Christopher street, between Greenwich avenue and West street.....	25,836 87
" 24	Sewer..... In One Hundred and Thirteenth street, between Seventh and Eighth avenues.....	2,399 20	" 24	" Fourteenth street, between Ninth and Eleventh avenues, with trap-block pavement.....	20,479 20
" 24	" In Avenue B, between Sixteenth and Seventeenth streets.....	947 84	Nov. 1	" Thirty-third street, between Tenth and Eleventh avenues; Thirty-sixth street, between Eighth and Tenth avenues; and Fifty-fourth street, between Sixth and Seventh avenues, with trap-block pavement.....	10,924 34
Nov. 2	" In One Hundred and Twelfth street, between Madison and Sixth avenues.....	3,905 45	Dec. 7	Relaying pavement..... In Madison avenue, from Thirty-first to Forty-second street.....	6,325 54
" 2	Regulating, grading, etc..... Ninety-eighth street, between Eighth avenue and the Boulevard.....	8,821 68	" 7	Furnishing..... Cast-iron water-pipes, branches and special castings.....	8,430 55
" 3	" Seventy-first street, between Fifth avenue and East river.....	21,184 22	Nov. 4	Laying Croton-mains..... In Ninth avenue, Eighty-first street, Eighth avenue, etc.....	10,119 85
" 3	Paving Eighty-third street, from the Eighth avenue to the Boulevard, with trap-block pavement.....	13,936 72	Dec. 10	Paving..... Eleventh avenue, between Fifteenth and Twenty-fifth streets, with granite-block pavement.....	36,937 56
" 11	Alteration and improvement to sewer..... In Fifty-seventh street, between Fifth and Madison avenues.....	3,248 91	" 10	" Avenue A, between Houston and Seventh streets, with granite-block pavement.....	18,716 97
" 11	Receiving basins..... On the northwest and southwest corners of Seventy-third street and Eighth avenue.....	1,695 43	" 20	" Seventh street, from Fourth avenue to Avenue A, with trap-block pavement.....	11,373 18
" 12	Sewers..... In Sixty-ninth street, between Eighth and Ninth avenues.....	10,826 80	" 31	" Eleventh street, from Second to Third avenue; Stanton street, from Columbia to Tompkins; and West Tenth street, from Sixth to Greenwich avenue, with trap-block pavement.....	11,400 21
" 12	" In Seventy-sixth street, between Eighth and Tenth avenues.....	10,849 08	" 31	" Cast-iron water-pipes, branch-pipes, and special castings.....	52,597 26
" 15	Paving Madison avenue, from One Hundred and Twenty-fifth to One Hundred and Thirty-third street, with trap-block pavement.....	12,979 81	Oct. 6	Paving..... One Hundred and Twenty-second street, between Second and Third avenues, and One Hundred and Twenty-ninth street, between Third and Sixth avenues, with trap-block pavement.....	21,395 60
" 18	" Seventy-sixth street, from Third to Fourth avenue, with trap-block pavement.....	5,636 21	" 28	Laying Croton-mains..... In Seventy-ninth, Seventy-third, Sixty-second, Eighty-second streets, Lexington and Madison avenues, etc., etc.....	6,385 41
" 26	Sewer..... In Ninth avenue, east side, between One Hundred and Forty-eighth and One Hundred and Fifty-second streets.....	7,046 26	Dec. 5	Furnishing..... Cast-iron water-pipe, branch-pipe, and special castings, etc.....	4,830 55
" 26	Paving Niney-fourth street, from the crosswalk at the easterly side of Third avenue to Lexington avenue, with trap-block pavement.....	2,983 47			
" 29	Regulating, grading, etc..... Seventieth street, from Eighth to Tenth avenues.....	21,051 15			
" 29	" Ninety-seventh street, from Eighth avenue to the Boulevard.....	12,674 02			
Dec. 5	Sewer..... In One Hundred and Tenth street, in New avenue (between Eighth and Ninth avenues), and in New avenue, west of Morningside Park, between One Hundred and Tenth and One Hundred and Sixteenth streets.....	19,961 84			
" 5	Paving Fifty-first street, from Sixth to Seventh avenue, with trap-block pavement.....	6,158 21			
" 5	" One Hundred and Eighth street, from Third to Fifth avenue, with granite-block pavement.....	12,350 03			
" 8	Sewer..... In Fifteenth street, between Irving place and Fourth avenue, from end of present sewer in Fifteenth street.....	3,979 29			
" 9	Regulating and grading..... One Hundred and Fifty-seventh street, from Tenth avenue to Kingsbridge road.....	1,587 16			
" 14	Flagging Fast side of Avenue D, from Thirteenth to Fourteenth street.....	441 08			
" 14	Regulating, grading, etc..... One Hundred and Twenty-first street, from Sixth to Seventh avenue.....	3,618 50			

RECAPITULATION.

14 Sewer contracts.....	\$83,926 84
10 Paving contracts.....	84,363 15
6 Regulating and grading contracts.....	68,930 73
8 Repairing contracts.....	166,033 93
1 Relaying pavement contract.....	6,325 54
6 Croton pipe contracts.....	103,922 78
1 Basin contract.....	1,695 43
2 Flagging contracts.....	899 09
48 Contracts.....	\$516,173 49

Document "D."

REPORT OF THE CHIEF-ENGINEER OF THE CROTON AQUEDUCT.

DEPARTMENT OF PUBLIC WORKS,
BUREAU OF CHIEF-ENGINEER,
NEW YORK, January 10, 1882.

Hon. HUBERT O. THOMPSON, Commissioner of Public Works:

SIR—I have the honor to submit the following report for quarter ending December 31, 1881, and a recapitulation of the entire year, 1881.

Statement of expenditures for quarter ending December 31, 1881, including materials and land purchased, for which vouchers have been transmitted, as follows:

Aqueduct—Repairs, Maintenance and Strengthening.....	\$76,520 94
Aqueduct—Repairs, Maintenance and Strengthening—Salaries.....	10,886 92
Croton Water Fund.....	243,449 62
Contingencies—Department Public Works.....	41 20
Expenses of Surveying and Laying Out, under chapter 587, Laws 1881.....	840 22
Forty-second street Reservoir—Removal of Pipes.....	7,709 54
Laying Croton Pipes.....	97,412 83
Laying Croton Pipes—Salaries.....	3,603 56
Meter Stock.....	8,441 29
Repairing and Renewal of Pipes, Stop-Cocks, etc.....	3,416 25
Repairing and Renewal of Pipes, Stop-Cocks, etc.—Salaries.....	7,601 37
Supplying Water to Shipping and Building Purposes.....	2,072 00
Water Supply for the Twenty-fourth Ward.....	3,296 61
Water Supply for the Twenty-fourth Ward—Salaries.....	252 00
Total.....	\$465,594 35

Statement of Expenditures for the Year 1881.

NAME OF APPROPRIATION OR FUND.	AMOUNT OF APPROPRIATION.	AMOUNT EXPENDED.
Aqueduct—Repairs, Maintenance, and Strengthening.....	\$230,200 00	\$219,584 76
Aqueduct—Repairs, Maintenance, and Strengthening—Salaries.....	39,800 00	39,528 81
Croton Water Fund.....		473,781 02
Croton Water-main Fund No. 2.....		9,134 39
Croton Water-main Fund—From Taxation.....		1,223 56
Contingencies—Department of Public Works.....	2,500 00	80 55
Expenses of Laying 4-foot Mains.....		6,554 98
Expenses of Surveying, etc., under chapter 587, Laws of 1881.....	1,500 00	840 22
Laying Croton Pipes.....	235,000 00	181,878 90
Laying Croton Pipes—Salaries.....	15,000 00	12,961 85
Meter Stock.....		35,715 26
Repairing and Renewal of Pipes, etc.....	103,250 00	23,241 61
Repairing and Renewal of Pipes, etc.—Salaries.....	58,150 00	39,041 06
Supplying Water to Shipping and Building.....	8,000 00	7,999 00
Water Supply, Twenty-fourth Ward.....	12,250 00	4,164 57
Water Supply, Twenty-fourth Ward—Salaries.....	750 00	693 00
Forty-second Street Reservoir, Removal of Pipes.....	12,500 00	8,832 50
		\$1,065,259 04

Contracts Entered into and Completed, 1881.

WORK.	CONTRACTOR.	DATE OF CONTRACT.	ESTIMATED COST.	DATE OF FINAL ESTIMATE.	AMOUNT OF FINAL ESTIMATE.	AMOUNT PAID IN 1881.
Laying 4-foot mains in Tenth avenue and Eighty-fifth street.....	James Baird.....	May 7, 1880..	\$22,431 00	June 1, 1881..	\$22,292 82	\$6,554 98
Laying 20-inch mains in Ninth avenue, Eighty-first street, Seventy-ninth street transverse road, and Seventy-eighth street.....	Nicholas H. Decker.....	" 10, " ..	10,196 00	Nov. 3, " ..	10,119 85	1,275 76
Laying 12-inch mains in Elm and Washington streets.....	Edward Bradburn.....	July 3, " ..	9,838 00	Sept. 20, " ..	7,640 82	3,835 92
Building reservoir at Kensico.....	George W. Flower.....	Aug. 31, " ..	199,568 00			44,665 30
Laying mains in Washington, Beekman, Mail, One Hundred and Fifty-fourth, One Hundred and Sixty-second, One Hundred and Sixty-seventh, One Hundred and Sixty-third, One Hundred and Fifty-ninth, Seventieth, One Hundred and Fiftieth, One Hundred and First streets, and in Fourth and Morris avenues.....	Geo. Borstman and J. Cornwell, Jr.....	Oct. 2, " ..	8,136 00	Mar. 28, 1881..	7,935 82	3,836 67
Furnishing and laying 48-inch conduit pipe from Woodlawn to Bronxville.....	H. Stollmeyer.....	Dec. 10, " ..	280,657 50			169,316 55
Laying mains in St. Ann's, Union, Locust, Elton, and Franklin avenues, and in Cliff, One Hundred and Thirty-eighth, One Hundred and Forty-third, One Hundred and Sixtieth, and One Hundred and Seventieth streets.....	Charles C. Reed.....	July 22, 1881..	11,627 00			6,381 31
Laying mains in Seventy-ninth, Seventy-third, Seventy-second, Sixty-eighth, and Eighty-second streets, and in Lexington, Fourth, and Madison avenues.....	John Cornwell, Jr.....	" 25, " ..	8,133 50	Oct. 28, 1881..	6,385 41	6,066 14
Furnishing and setting up boiler at High Bridge.....	George H. Robinson.....	Sept. 3, " ..	5,050 00			
Laying mains in Jerome avenue, between Croton avenue and Williamsbridge.....	Edward Bradburn.....	" 12, " ..	19,452 40			
Furnishing and laying 48-inch conduit pipe, between Kensico and Hartzdale.....	R. D. Wood & Co.....	" 14, " ..	484,757 00			
Laying 36-inch main on Fifth avenue, between Fortieth and Forty-second streets.....	John Cornwell, Jr.....	" 14, " ..	2,699 50			1,635 30
Furnishing stop-cocks, hydrants, etc.....	M. B. Flynn.....	Oct. 21, " ..	14,355 00			1,139 40
Laying Croton mains in One Hundred and Sixty-sixth and in other streets and avenues.....	James Everard.....	" 27, " ..	9,310 50			
Laying water-mains in the Twenty-fourth Ward.....	John Cornwell, Jr.....	Nov. 18, " ..	3,769 00			
Laying water-mains in Maiden lane and other streets and avenues.....	" ..	Dec. 13, " ..	14,129 50			
For furnishing cast-iron water pipes, etc.....	Theo. Sturges.....	June 28, " ..	46,725 00	Dec. 31, 1881..	52,597 26	52,597 26
" ..	" ..	Sept. 15, " ..	22,325 00	" 31, " ..	21,629 16	21,629 16
" ..	Walter Wood.....	" 14, " ..	4,375 00	" 5, " ..	4,830 55	4,830 55
" ..	Warren Foundry.....	" 13, " ..	52,272 50			24,448 32
" ..	Walter Wood.....	" 14, " ..	44,352 00			7,817 48
" ..	Warren Foundry.....	Dec. 13, " ..	26,520 00			
" ..	Walter Wood.....	" 16, " ..	4,699 00			

AQUEDUCT REPAIRS, MAINTENANCE AND STRENGTHENING.

Fourth Quarterly and Annual Report of 1881.

The usual routine work along the aqueduct, of clearing out ditches, drains and culverts, to prepare for the ice and snow of winter, has been accomplished during the last quarter, ending December 31, 1881.

The amount of special work done during the past three months on the upper six divisions is given in the accompanying table, which also shows the amount of aqueduct strengthening, masonry, dry wall, earth work, fencing, etc., completed during the year.

The following work was also accomplished on the two lower divisions this quarter, viz.:

On the Seventh Division at High Bridge, the surface of the banks of the High Service Reservoir were repaired, and the railings in the tower were painted. A part of the foundation was laid for the proposed flight of steps on the Westchester end of the bridge.

On the Eighth Division, the roofs of the gate-houses, and the bridges on the Receiving Reservoir were painted, the reservoir pipe chambers whitewashed, the stop-gate screws in the chambers and outside aqueduct mains all thoroughly cleaned, and the coping of the New Reservoir was repointed.

Cement Tests.

The following is a memorandum of experiments made on cement, at the office of the Resident Engineer of the Croton Aqueduct, Yonkers, N. Y., 1881.

In July the office was equipped with a testing scale capable of being worked up to 800 pounds per square inch, together with the necessary appendages, scales, sieves, measures, etc. All cement received during the year, was tested, first as to weight, one barrel in every twenty being weighed; second, as to fineness, one barrel in every ten being tested; third, as to strength, the same number being tested. The requirements were according to the following specifications:

"The cement to be fresh ground hydraulic cement, each barrel to contain not less than 300 pounds net weight; to be of such fineness that 94 per cent. will pass through a sieve of 50 meshes to an inch, and to be of such tensile strength that a briquette, 72 hours old, will sustain a tensile strain of not less than 100 pounds per square inch of section. This briquette will be mixed pure with 25 per cent. (by weight) of water; will be exposed one hour to the air; then immersed 23 hours in water; then exposed 48 hours in the air; and then tested."

The cement generally came up to the specification for weight, and where there was any deficiency it was at once made good by the contractor, on due notice thereof.

Tests for Fineness.

(Each sample tested weighed one-tenth of a pound troy.)

MONTH.	NUMBER OF SAMPLES.	HIGHEST PER CENT.	LOWEST PER CENT.	AVERAGE PER CENT.
July	25	99	84	90.8
August	100	98	77	87.4
September	125	99	81	88.6
October	150	99	83	89.2
November	125	98	73	86.8

It was found that between 83 and 93 per cent. fine, but little additional tensile strength was obtained, but that above that point the increase was noticeable.

Tests for Tensile Strength in Pounds per Square Inch; Briquette, 72 hours old.

MONTH.	NUMBER OF TESTS.	HIGHEST.	LOWEST.	AVERAGE.
July	101	203	108	156.
August	206	228	100	167.5
September	200	226	98	166.3
October	164	218	93	168.5
November	78	253	102	169.4

There were in addition 165 tests made (914 in all) of cement and sand mixed, one of cement to one of sand, and one of cement mixed with two of sand; there were also comparative tests made as to the strength of pure cement for increase in age. The tensile strength of the samples mixed one to one and tested according to the specification, was 63 pounds per square inch, while that of the

samples mixed one to two was 42 pounds per square inch. Some of the samples mixed pure showed the following results; they were, however, exceptionally strong samples:

24 hours old.....	164 pounds.
48 " ".....	244 "
96 " ".....	300 "

The comparative tests showed the following results:

3 days old, average of 149 tests, 165 pounds per square inch.	
10 " ".....	30 " 284 " "
30 " ".....	20 " 340 " "
60 " ".....	20 " 360 " "
90 " ".....	20 " 382 " "
100 " ".....	10 " 433 " "

Two samples of 30 days old showed, respectively, 500 and 570 pounds per square inch.

NOTE.—The number of tests for comparative results have not as yet been sufficiently numerous, but there are now on hand a sufficient number of briquettes to carry the test over a period of two years. The above experiments have greatly improved the quality of the masonry. The total amount of aqueduct top-arch strengthening completed to December 31, 1881, equals 25,788 linear feet. There remains about 24,000 linear feet of embankments to be strengthened, which it is estimated will cost \$330,000. This estimate is approximate only, as the cost per foot depends upon the condition each embankment is found to be in when uncovered. If strong leakage is to be battled with, it causes delay and increased expense. Also if (as was the experience this year) many of the embankments are found to be loaded with seven to nine feet of earth instead of their usual three feet, the cost is again increased; but judging from past results, the above-mentioned amount should cover the expense of re-inforcing the 24,000 feet of conduit masonry; which distance is measured from surface indication. The actual aggregate length discovered as the work progresses may augment or diminish the total length stated, when the cracks themselves are measured.

I would call your attention to the fact that, during the past five years, we have been forced to neglect repairs on embankment protection walls, because the money appropriations were only sufficient for re-inforcing the conduit masonry in dangerous condition. A very considerable portion of the appropriation for 1882 will be required for the purpose of repairs on these outside protection walls.

I would state here also, that many of the line monuments of the aqueduct property are placed on side hills and have slipped out of place by the action of frost and land slides, which renders them useless as points of reference for boundary lines, and other monuments should be replaced by careful surveys on the centre lines of the aqueduct, and an accurate map made of them to avoid future lawsuits from inaccurate boundary lines. I intend to have this done as soon as a party can be spared to execute the work.

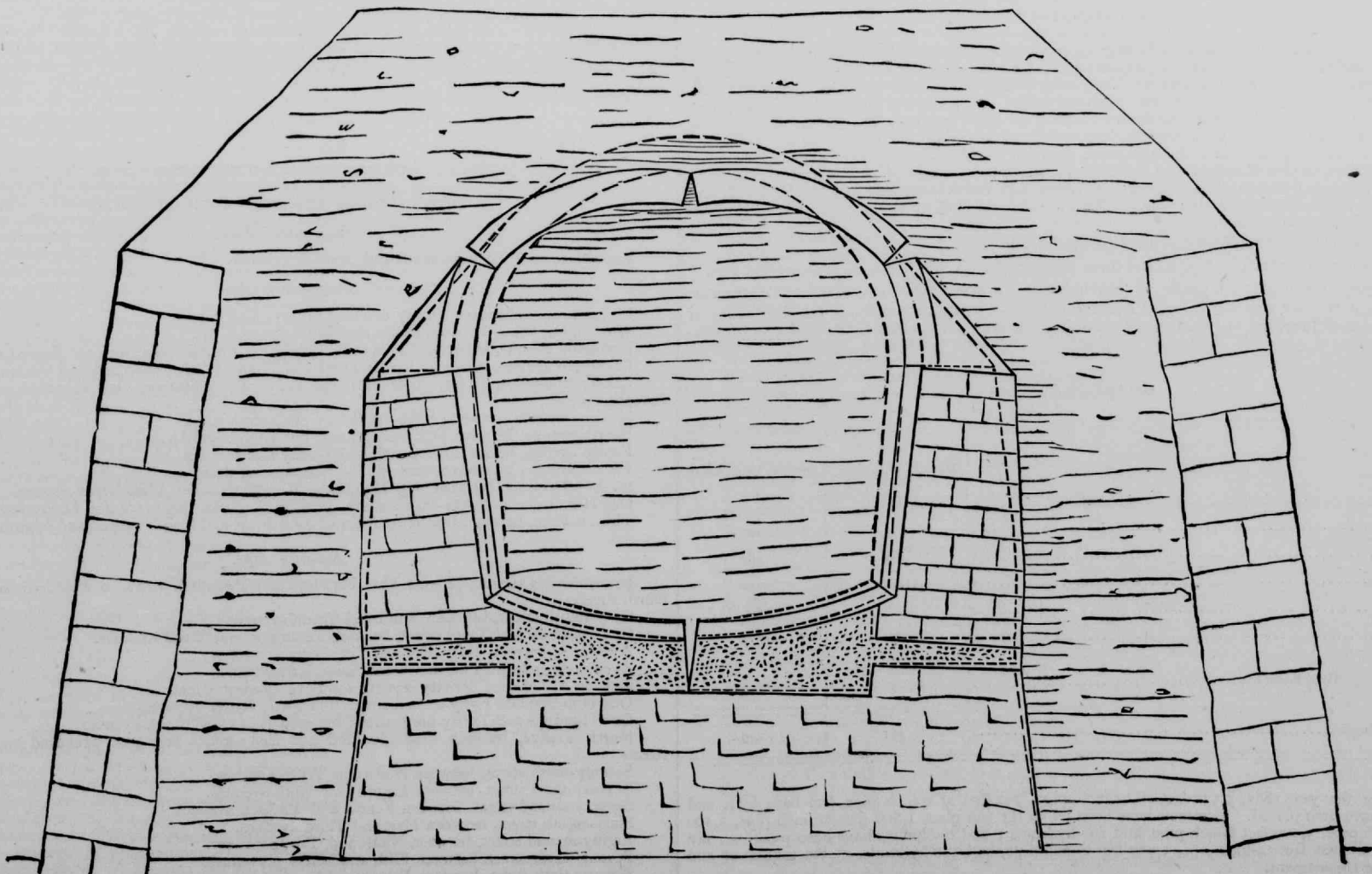
Formerly, when on any embankment along the thirty-three miles of aqueduct a leakage was discovered that might have a tendency to disturb the integrity of foundations and crack the masonry of the conduit, the water was at once shut off and the leakage checked by repairs made to the masonry within the aqueduct; the aqueduct was thus kept in a sound and safe condition. The increased demand for water in the city, however, requiring an uninterrupted daily delivery of all the aqueduct could supply for many years past, has prevented these needed repairs, because of the length of time required to empty the aqueduct and refill it, although the time needed to accomplish the repairs themselves was insignificant. The additional depth of flow required of late years increased the necessity of these repairs, which could not be made (except in extreme cases threatening disaster), consequently there has been a rapid deterioration of the strength of the aqueduct on embankments (the weakest part of the structure), and has necessitated the heavy expenditures now required to reinforce them. To obviate further continuance of this difficulty and enable repairs so important to be made within the aqueduct when required, the four large shut-off cross-gates recommended by Mr. B. S. Church, Resident Engineer, have been designed and completed, one for each of the four waste-weir gatehouses at Sing Sing, Tarrytown, Yonkers, and Kingsbridge during the last quarter. These gates will enable us to empty the conduit in short sections of one division each, in two hours, to make repairs, and let the water on again, all within five hours after shutting off, on any part of the aqueduct between High Bridge and Croton dam. Heretofore, if a repair was required at the lower end, it was necessary that the whole length of the aqueduct should be emptied, a matter of thirty hours. It would generally take two hours to complete the work, and seventeen hours for the water to reach the city after being let on again at Croton dam, making in all forty-nine hours. This deprived the city of its supply for two days and drew down its reservoirs. As soon as the waste weirs at the cross-gates now in place are completed (which can be accomplished in a few weeks), the same repairs can be made, as stated above, viz., within five hours, because the water can then be shut off at the nearest gate-house above the leak (perhaps twenty-five miles below Croton dam), and the water turned on through its waste-weir, and afterwards turned on again at that point instead of at Croton dam. This will enable us to make repairs wherever required.

To save the expense of a waste-weir pipe 2,000 feet long at Sing Sing, it was deemed advisable to build a new gate-house at the Sing Sing Kill Bridge, instead of altering the waste gate-house one-quarter of a mile above to put in the cross-gate. Its superstructure was not completed and the gate could not be swung, but its guides were placed, and the gate can be hung at any time when the walls of this gate-house are raised high enough to put in the iron girder which sustains the gate. The other cross-gates are in place and can be used when the weir-pipes are laid.

On Sunday, the 27th of November, the water was shut off at Croton dam for the annual repairs and inspection of the interior of the aqueduct, and the guides of all four of the cross gate-houses were put in place and bolted to the masonry during the time the water was out of the aqueduct. Six-inch blow-off cocks and chambers were put in also, one on each side of each cross-gate, one of each pair to empty the inverted arch of the conduit above the gate, and as the cross-gates were not expected to be perfectly tight, the other six-inch waste-gate below is to carry off such leakage as may occur.

The following drawing is a fair representation of the condition of the aqueduct where it has settled and cracked on embankments.

DIAGRAM SHOWING CROTON AQUEDUCT ON ASPINWALL'S EMBANKMENT PREVIOUS TO REPAIRS.



Dotted lines show original shape; black lines show present shape (1879).

Roof-arch has dropped 8 inches; top of walls have spread apart 10 inches; embankment has settled 14 inches.

As shown in the table, 2,695 lineal feet of cracks were repaired and the water was let on again at Croton dam, Wednesday, November 30th, at 6 A. M. The hoisting apparatus of the new cross-gate at Tarrytown, which consists of two screw rods on which the gate hangs, and whose screw-box wheels are geared to move together, was tested by closing the gate before the water reached it and allowing the water to rise against the gate to the depth of six feet seven inches.

The gate was then raised by four men, two on each crank, with perfect ease. The Yonkers gate was tested in the same way, and both gates proved much tighter than it was expected they would be.

The throttle valves designed to be placed on the large outlet mains of the south gate-house of the new reservoir for the purpose of letting on additional pressure without loss of time for extinguishing fires, and for which an ordinance has passed the Board of Aldermen, will be placed as soon as possible. The value of all possible expedients to protect the city from disaster consequent upon the great loss of water pressure cannot be overestimated.

The Inspector assigned to the duty of discovering and causing the removal of all nuisances on the Croton river and its branches has done good work.

Estimate of Work done on Croton Aqueduct during Quarter and Year ending December 31 1881

No. of Division.	MASONRY.					DRY STONE WORK.			STONE QUARRIED.
	ARCH STRENGTHENED.		GATE HOUSES.	EXTRA MASONRY.	TOTAL MASONRY.	RETAINING WALLS.			
	Lin. Feet.	Cu. Yds.	Cn. Yds.	Cu. Yds.	Cu. Yds.	Lin. Feet.	Cu. Yds.	Cu. Yds.	
First	156	120	.....	.....	120	.....	.....	.....
Second.....	75	58	199	.....	257	.....	.....	.....
Third	314	242	86	(Culverts)	328	.....	.....	.....
Fourth	210	162	.....	20	182	50	50	.....
Fifth	80	62	91	.....	153	92	270	.....
Sixth.....	535	413	92	.....	505	71	183	430
Seventh .....	.....	.....	.....	(Steps.)	54	.....	.....	.....
				54	54				
Total for Quarter...	1,370	1,057	468	74	1,599	213	503	430	
Total for Year.....	7,229	5,683	603	151	6,437	1,977	3,566	630	

No. of Division.	EARTH EXCAVATION.	GRADING, SEEDING, ETC.	SODDING.	FENCES REPAIRED, ETC.	INSIDE REPAIRS.	ADDITIONAL WORK.
	Cu. Yds.	Lin. Feet.	Yards.	Lin. Feet.	CRACKS.	
					Lin. Feet.	
First.....	1,338	.....	.....	990	676	{ Guides put up in gate-house, gate not slung in position. { Machinery put up in gate-house, gate slung in position.
Second.....	790	600	.....	600	400	
Third.....	2,456	1,100	.....	10,000	.....	{ Machinery put up in gate-house, gate slung in position. { Machinery put up in gate-house, gate slung in position.
Fourth.....	2,222	400	800	.....	1,207	
Fifth.....	1,086	400	.....	1,400	.....	{ Machinery put up in gate-house, gate slung in position. { Machinery put up in gate-house, gate slung in position. Hoisting coal and general repairs.
Sixth.....	3,568	.....	.....	17,262	412	
Seventh.....	132	.....	.....	.....	.....
Total for Quarter ..	11,592	2,500	800	30,252	2,695	Total for Quarter.
Total for Year.....	50,008	17,131	1,800	49,675	2,695	Total for Year.

LAYING CROTON PIPES.

The contract for laying mains in Lexington avenue, between One Hundred and Twenty-fifth and One Hundred and Twenty-seventh streets; in Madison avenue, between Fifty-fourth and Sixty-sixth streets; in Fourth avenue, between Forty-second and Forty-ninth streets; in Seventy-ninth street, between Ninth and Tenth avenues; in Seventy-third street, between Eighth and Ninth avenues; in Seventy-second street, between Fourth and Madison avenues; in Sixty-eighth street, between First and Third avenues; in Avenue A, between Seventy-seventh and Seventy-ninth streets, and in Eighty-second street, between Ninth and Tenth avenues, has been completed, and pipe has been laid, under special contracts, in One Hundred and Fiftieth street, between Courtland and Morris avenues; in One Hundred and Forty-fourth street, between Willis and Brook avenues; in One Hundred and Sixty-fourth street, between Washington and Railroad avenues, and in Seventy-sixth street, between Fourth and Lexington avenues.

Two contracts for furnishing pipe and specials have been filled.

Two contracts for furnishing pipe, and three contracts for laying same have been entered into.

One gang of men has been employed placing hydrants where called for by the Fire Department.

Owing to the fact that the Board of Aldermen did not pass any resolutions for the laying of water pipes until June, but little has been done during the year; most of the contracts are to be completed in 1882.

Amount of Pipe Laid.

	DURING QUARTER.	DURING YEAR 1881.
48-inch.....	.....	409
36-inch.....	481	481
30-inch.....	.....	490
24-inch.....	3,626	16,826
20-inch.....	11,844	29,989
16-inch.....	.....	.....
12-inch.....	.....	.....
10-inch.....	.....	.....
8-inch.....	.....	.....
6-inch.....	.....	.....
Total lineal feet.....	15,951	48,195
Hydrants placed.....	191	449

During the year 1881, 5,530 feet of 12-inch pipe, 794 feet of 6-inch pipe has been laid, and hydrants have been placed. Contracts have been let to lay and place 1,800 feet 20-inch pipe, 1,100 feet 12-inch pipe, 3,000 feet 6-inch pipe, and 100 hydrants; and resolutions have been passed to lay and place 21,000 feet 12-inch pipe, 1,900 feet 6-inch pipe, and 110 hydrants, at the request of and for the Fire Department.

Statement of Pipe Laid for Distribution to December 31, 1881, in the City of New York.

DIAMETER OF PIPE.	PIPES LAID TO DECEMBER 31, 1880.	PIPES LAID IN 1881.	PIPES LAID TO DECEMBER 31, 1881.	STOPCOCKS TO DECEMBER 31, 1881.
	Lineal feet.	Lineal feet.	Lineal feet.	
48-inch.....	65,654	.....	65,654	16
36-inch.....	78,935	.....	78,935	38
30-inch.....	41,773	.....	41,773	29
24-inch.....	11,542	.....	11,542	13
20-inch.....	190,762	490	191,252	178
16-inch.....	17,130	.....	17,130	22
12-inch.....	585,918	16,826	602,744	1,289
10-inch.....	6,629	.....	6,629	15
8-inch.....	1,628,704	29,989	1,658,693	3,727
6-inch.....	29,257	.....	29,257	100
Total feet.....	2,656,304	47,305	2,703,609	5,427
Total miles.....	503.08	9.0	512.	.....

Pipes of all Sizes Laid for the Distribution of Croton Water to December 31, 1881.

	48-INCH.	36-INCH.	30-INCH.	24-INCH.	20-INCH.	16-INCH.	12-INCH.	10-INCH.	8-INCH.	6-INCH.	TOTAL FEET.	MILES.
Previous to January 1, 1880.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Laid in 1880.....	49,477	44,862	9,742	41,324	14,978	282,782	5,875	937,463	9,472	1,395,975	264.38	.....
" 1861.....	.....	.....	.....	.....	.....	6,602	.....	20,331	.....	35,933	6.34	.....
" 1862.....	27,900	.....	.....	.....	.....	5,205	.....	34,597	.....	39,772	7.53	.....
" 1863.....	.....	.....	.....	.....	.....	3,610	.....	21,713	.....	53,223	10.08	.....
" 1864.....	.....	.....	.....	.....	.....	7,560	.....	20,936	.....	28,546	5.41	.....
" 1865.....	.....	.....	.....	.....	.....	4,880	.....	14,999	.....	21,959	4.16	.....
" 1866.....	.....	.....	.....	.....	.....	6,520	.....	12,938	.....	19,458	3.68	.....
" 1867.....	.....	.....	.....	.....	.....	3,670	.....	11,100	.....	21,820	4.13	.....
" 1868.....	.....	.....	.....	.....	.....	1,665	.....	17,660	.....	25,601	4.85	.....
" 1869.....	.....	.....	.....	.....	.....	2,531	.....	8,268	.....	32,252	6.11	.....
" 1870.....	.....	.....	.....	.....	.....	11,300	.....	9,681	.....	18,171	3.41	.....
" 1871.....	.....	.....	.....	.....	.....	10,770	.....	18,500	.....	35,282	6.735	.....
" 1872.....	82	16,402	.....	3,557	.....	19,404	.....	33,481	.....	66,144	12.52	.....
" 1873.....	17,332	481	1,626	38,132	.....	3,098	.....	18,750	.....	107,381	20.34	.....
" 1874.....	9,513	109	2,177	8,050	.....	34,129	.....	57,855	.....	153,032	28.99	.....
" 1875 & 1876	2,032	.....	235	22,108	.....	18,055	.....	754	.....	27,436	5.15	.....
" 1877.....	9,407	.....	.....	14,998	.....	32,771	.....	45,206	.....	102,352	19.34	.....
" 1878.....	6,916	5,880	.....	16,181	.....	20,663	.....	34,142	.....	79,210	15.00	.....
" 1879.....	607	3,536	353	889	.....	35,697	.....	58,445	.....	123,081	23.31	.....
" 1880.....	.....	.....	.....	9,100	.....	14,207	.....	65,033	.....	84,625	16.03	.....
" 1881.....	.....	.....	.....	490	.....	26,164	.....	87,133	.....	123,415	23.37	.....
Total.....	76,009	78,935	47,627	11,542	191,252	17,130	602,744	6,629	1,664,093	32,357	2,732,418	517.45
Less am't taken up.	10,355	.....	5,854	.....	.....	.....	4,100	.....	5,400	3,100	28,809	5.45
Amount now in use.	65,654	78,935	41,773	11,542	191,252	17,130	602,744	6,629	1,658,693	29,257	2,703,609	512.00

The above table shows that there are 512 miles of pipes laid in the City of New York for the distribution of water, and connected with these pipes there are 5,427 stop-cocks. This is believed to be by far the most extensive system of pipes for the supply of water in existence; besides, the whole of this complicated network of distribution (excepting the small area of high service near High Bridge) is supplied from a single reservoir, fed by a single aqueduct. I am now having a new pipe map prepared so that the distribution of water in the city can be more easily studied; it is intended also to make a record of the location of all stop-cocks, so that they may be easily found. There are probably many stop-cocks in the lower part of the city whose location is known only to foremen.

Hydrants.

HYDRANTS.	HYDRANTS PLACED TO DECEMBER 31, 1880.	HYDRANTS PLACED IN 1881.	HYDRANTS PLACED TO DECEMBER 31, 1881.
Victor.....	139	.....	139
Nos. 1, 2, and 3.....	3,388	14	3,402
"A" Hydrants.....	1,373	291	1,664
"B" Hydrants.....	1,147	144	1,291
Totals.....	6,047	449	6,496

PIPES LAID AND HYDRANTS PLACED IN 1881.

Twenty-inch Pipe.

Transverse road, between Sixth and Seventh avenues.

Twelve-inch Pipe.

Eighth avenue, between Eighty-first and Eighty-third streets.
Washington street, between Cedar and Canal streets.
Lexington avenue, between One Hundred and First and One Hundred and Second streets.
Lexington avenue, between One Hundred and Third and One Hundred and Fourth streets.
Lexington avenue, between One Hundred and Twenty-fifth and One Hundred and Twenty-seventh streets.
Madison avenue, between Fifty-fourth and Sixty-sixth streets.
Fourth avenue, between Forty-second and Forty-ninth streets.
Fourth avenue, between Sixty-eighth and Sixty-ninth streets.
Fourth avenue, between Seventieth and Seventy-first streets.
St. Ann's avenue, between One Hundred and Fifty-sixth and Westchester avenue.
One Hundred and Thirty-eighth street, between Southern Boulevard and Locust avenue.
Third avenue, between One Hundred and Fifth street and One Hundred and Eighth streets.

Six-inch Pipe.

Mount Morris avenue, between One Hundred and Twentieth and One Hundred and Twenty-fourth streets.
Sixty-fourth street, between Ninth and Tenth avenues.
One Hundred and Third street, between Lexington and Third avenues.
Avenue A, between Fifty-fifth and Fifty-seventh streets.
Avenue A, between Fifty-ninth and Sixtieth streets.
Avenue A, between Seventy-seventh and Seventy-ninth streets.
One Hundred and Forty-second street, Third and Ryder avenues.
One Hundred and Thirty-ninth street, between Willis and Brook avenues.
Morris avenue, between One Hundred and Sixty-fourth and One Hundred and Sixty-fifth streets.
Seventy-ninth street, between Ninth and Tenth avenues.
Seventy-third street, between Eighth and Ninth avenues.
Seventy-second street, between Fourth and Madison avenues.
Sixty-eighth street, between First and Third avenues.
Eighty-second street, between Ninth and Tenth avenues.
Seventy-sixth street, between Fifth and Madison avenues.
Seventy-sixth street, between Fourth and Lexington avenues.

Ninety-fourth street, between Fourth and Lexington avenues.
 Seventieth street, between Second and Third avenues.
 One Hundred and Forty-first street, between Eighth and New avenues.
 One Hundred and Twenty-second street, between Sixth and Seventh avenues.
 Cliff street, between Concord and Union avenues.
 Union avenue, between One Hundred and Sixty-fifth and Cliff streets.
 Locust avenue between One Hundred and Thirty-eighth and One Hundred and Forty-first streets.
 One Hundred and Forty-third street, between Willis and Brook avenues.
 One Hundred and Sixtieth street, between Courtland and Elton avenues.
 One Hundred and Seventieth street, between Fulton and Franklin avenues.
 Franklin avenue, between Third avenue and Horton street.
 One Hundred and Fifty-ninth street, between Courtland and Railroad avenues.
 One Hundred and Fifty-eighth street, between Courtland and Railroad avenues.
 One Hundred and Sixty-sixth street, between Washington and Railroad avenues.
 One Hundred and Sixty-ninth street, between Washington and Railroad avenues.
 One Hundred and Sixth street, between Third and Second avenues.
 Twenty-fourth Ward extension on Dodge's lane, south.
 One Hundred and Forty-fourth street, between Willis and Brook avenues.
 One Hundred and Sixty-fourth street, between Washington and Railroad avenues.

Double Nozzle Case Hydrants.

Southwest corner of Avenue D and Eighth street.
 Northwest corner of Avenue D and Ninth street.
 Southeast corner of Avenue D and Tenth street.
 Northwest corner of Avenue D and Eleventh street.
 Southwest corner of Avenue D and Twelfth street.
 Southeast corner of Avenue D and Thirteenth street.
 Southwest corner of Avenue D and Fourteenth street.
 Southeast corner of Avenue D and Fourteenth street.
 South side of Tenth street, 150 feet east of Avenue B.
 South side of Tenth street, 150 feet west of Avenue C.
 Southeast corner of Fifth avenue and Sixty-sixth street.
 Southeast corner of Madison avenue and Sixty-sixth street.
 Southwest corner of Fourth avenue and Sixty-sixth street.
 North side of Seventy-fifth street, between Second and Third avenues.
 South side of Seventh street, 150 feet west of Avenue A.
 Southeast corner of Seventh street and Avenue B.
 North side of Seventh street, 150 feet East of Avenue B.
 Northwest corner of Seventh street and Avenue C.
 Southeast corner of Seventh street and Avenue D.
 Southwest corner of Seventh and Lewis streets.
 Southwest corner of Third avenue and Ninety-eighth street.
 Northwest corner of Third avenue and Ninety-ninth street.
 Southwest corner of Third avenue and One Hundredth street.
 Southwest corner of Third avenue and One Hundred and First street.
 Southeast corner of Third avenue and One Hundred and Second street.
 Southeast corner of Fourth avenue and One Hundred and Thirty-first street.
 Northeast corner of Fourth avenue and One Hundred and Thirty-second street.
 Southwest corner of Third avenue and Ninety-fourth street.
 Southeast corner of Fourth avenue and Sixty-sixth street.
 Northwest corner of Third avenue and Sixty-third street.
 Southwest corner of Third avenue and One Hundred and Fifteenth street.
 Southeast corner of Eighty-sixth street and Avenue A.
 Northeast corner of One Hundred and Twenty-eighth street and Fourth avenue.
 Southeast corner of Third avenue and Seventy-sixth street.
 Northeast corner of Third avenue and Eightieth street.
 Southeast corner of Third avenue and Ninety-first street.
 South side of Second street, 150 feet east of Avenue C.
 Southeast corner of Avenue D and Third street.
 Southeast corner of Avenue D and Fourth street.
 Southeast corner of Avenue D and Fifth street.
 Southeast corner of Avenue D and Sixth street.
 South side of Second street, 175 feet east of Avenue A.
 North side of Second street, 175 feet east of Avenue B.
 North side of Second street, 175 feet west of Avenue B.
 South side of Second street, 175 feet west of Avenue C.
 Northeast corner of Fifth avenue and Forty-second street.
 Southeast corner of Fifth avenue and Fortieth street.
 Southeast corner of Fifth avenue and Fifty-seventh street.
 Southeast corner of Avenue A and Fourth street.
 Southwest corner of Avenue A and Fourth street.
 Southeast corner of Avenue A and Third street.
 Southwest corner of Avenue A and Third street.
 Northeast corner of Avenue A and Second street.
 South side of Second street, 200 feet east of First avenue.
 Northeast corner of Avenue A and Fifth street.
 Northeast corner of Avenue A and Sixth street.
 South side of Seventh street, between Avenues A and B, centre of block.
 South side of Seventh street, between Avenues B and C, centre of block.
 South side of Seventh street, between Avenues C and D, centre of block.
 Southeast corner of Seventh street and Second avenue.
 South side of Seventh street, in front of No. 24.
 Southwest corner of Avenue A and Eighth street.
 Southwest corner of Avenue A and Ninth street.
 Southeast corner of Avenue A and Eleventh street.
 North side of Thirteenth street, 200 feet west of Third avenue.
 South side of Thirteenth street, 150 feet east of Third avenue.
 South side of Thirteenth street, 175 feet east of First avenue.
 South side of Thirteenth street, 150 feet east of Avenue A.
 Southwest corner of Avenue A and Thirteenth street.
 Southwest corner of Avenue A and Fourteenth street.
 Southwest corner of Avenue A and Fifteenth street.
 Southeast corner of Avenue D and Sixteenth street.
 Southeast corner of Avenue A and Sixteenth street.
 Southeast corner of Third avenue and Seventeenth street.
 Southeast corner of Avenue A and Eighteenth street.
 Southwest corner of Avenue A and Eighteenth street.
 Northeast corner of Avenue A and Twentieth street.
 South side of East Twenty-first street, in front of No. 22.
 South side of East Twenty-first street, in front of No. 48.
 South side of East Twenty-first street, opposite Lexington avenue.
 North side of East Twenty-first street, in front of No. 153.
 South side of East Twenty-first street, in front of No. 210.
 South side of East Twenty-first street, in front of No. 242.
 Northwest corner of Twenty-first street and Second avenue.
 South side of East Twenty-first street, in front of No. 306.
 South side of East Twenty-first street, in front of No. 334.
 North side of East Twenty-first street, 250 feet east of First avenue.
 Southeast corner of Twenty-first street and Avenue A.
 Southeast corner of Twenty-first street and First avenue.
 West side of Tenth avenue, between Lawrence street and One Hundred and Twenty-ninth street.
 West side of Tenth avenue, 100 feet south of One Hundred and Twenty-ninth street.
 West side of Tenth avenue, 100 feet south of One Hundred and Thirtieth street.

"B" Hydrants.

1 northwest corner of Eighty-first street and Ninth avenue.
 1 southwest corner of Washington and Cortlandt streets.
 1 northeast corner of Washington and Cortlandt streets.
 1 southwest corner of Washington and Dey streets.
 1 northeast corner of Washington and Dey streets.
 1 southwest corner of Washington and Fulton streets.
 1 northeast corner of Washington and Fulton streets.
 1 southwest corner of Washington and Vesey streets.
 1 northeast corner of Washington and Vesey streets.
 1 southwest corner of Washington and Barclay streets.
 1 northeast corner of Washington and Barclay streets.
 1 southwest corner of Washington street and Park place.

1 northeast corner of Washington street and Park place.
 1 southwest corner of Washington and Murray streets.
 1 northeast corner of Washington and Murray streets.
 1 southeast corner of Washington and Warren streets.
 1 northwest corner of Washington and Warren streets.
 1 southwest corner of Washington and Chambers streets.
 1 northeast corner of Washington and Chambers streets.
 1 southwest corner of Washington and Reade streets.
 1 east side Washington, between Reade and Duane streets.
 1 southwest corner of Washington and Jay streets.
 1 northwest corner of Washington and Jay streets.
 1 southwest corner of Washington and Harrison streets.
 1 northeast corner of Washington and Harrison streets.
 1 southwest corner of Washington and Franklin streets.
 1 west side Washington, between Franklin and North Moore streets.
 1 southeast corner of Washington and North Moore streets.
 1 northeast corner of Washington and North Moore streets.
 1 southeast corner of Washington and Beach streets.
 1 southwest corner of Washington and Beach streets.
 1 northeast corner of Washington and Beach streets.
 1 southwest corner of Washington and Hubert streets.
 1 northeast corner of Washington and Hubert streets.
 1 southeast corner of Washington and Lighthouse streets.
 1 northeast corner of Washington and Lighthouse streets.
 1 southwest corner of Washington and Vestry streets.
 1 northeast corner of Washington and Vestry streets.
 1 southwest corner of Washington and Desbrosses streets.
 1 northwest corner of Washington and Desbrosses streets.
 1 southeast corner of Washington and Watts streets.
 1 west side Washington, between Watts and Canal streets.
 1 southeast corner of Washington and Canal streets.
 1 west side Fifth avenue, between Fortieth and Forty-first streets.
 1 south side of Manhattan street, 300 feet east of Twelfth avenue.
 1 south side of Manhattan street, 200 feet west of Broadway.
 1 northeast corner of Manhattan street and Broadway.
 1 north side of Manhattan street, 200 feet east of Tenth avenue.
 1 southeast corner of One Hundred and Twenty-fifth street and Ninth avenue.
 1 southwest corner of Third avenue and Twenty-second street.

Single Nozzle Case Hydrants.

Southwest corner of Avenue C and Thirteenth street.
 Southeast corner of Avenue C and Thirteenth street.
 North side of Fourteenth street, between Avenues C and D.
 South side of Eighth street, 150 feet west of Avenue D.
 South side of Eighth street, 150 feet east of Avenue C.
 North side of Eighth street, 150 feet west of Avenue C.
 North side of Eighth street, 150 feet east of Avenue B.
 North side of Ninth street, 150 feet west of Avenue D.
 North side of Ninth street, 150 feet east of Avenue C.
 South side of Ninth street, 150 feet west of Avenue C.
 South side of Ninth street, 150 feet east of Avenue B.
 North side of Tenth street, 150 feet east of Avenue A.
 North side of Tenth street, 150 feet west of Avenue B.
 Southwest corner of Sixth street and Avenue C.
 North side of Sixth street, 150 feet west of Avenue D.
 North side of Sixth street, 150 feet east of Avenue C.
 South side of Sixth street, 150 feet west of Avenue A.
 South side of Eighth street, 150 feet west of Avenue A.
 South side of Ninth street, 150 feet west of Avenue A.
 South side of Tenth street, 150 feet west of Avenue A.
 North side of Lawrence street, between Ninth and Tenth avenues.
 Northwest corner of One Hundred and Thirtieth street and Lexington avenue.
 Northeast corner of Eighty-sixth street and First avenue.
 Northwest corner of Seventy-first street and Second avenue.
 Northwest corner of Sixty-fourth street and Lexington avenue.
 Southeast corner of Sixty-fifth street and Third avenue.
 Northeast corner of Seventy-first street and Lexington avenue.
 North side of Third street, opposite Goerck street.
 Southeast corner of Third and Lewis streets.
 Northeast corner of Fourth and Lewis streets.
 South side of Fifth street, 200 feet west of Avenue C.
 North side of Fourth street, 175 feet west of Avenue D.
 South side of Fourth street, 175 feet east of Avenue C.
 South side of Third street, 175 feet west of Avenue D.
 North side of Third street, 175 feet east of Avenue C.
 South side of Third street, 175 feet east of Avenue A.
 North side of Third street, 175 feet west of Avenue B.
 South side of Third street, 175 feet west of Avenue C.
 South side of Fourth street, 175 feet east of Avenue A.
 South side of Fourth street, 175 feet east of Avenue B.
 South side of Fourth street, 175 feet west of Avenue B.
 South side of Fourth street, 175 feet west of Avenue C.
 South side of Fifth street, 150 feet west of Avenue C.
 North side of Third street, 175 feet west of Avenue A.
 South side of Fourth street, 175 feet west of Avenue A.
 South side of Fifth street, 175 feet west of Avenue A.
 North side of Fifth street, 175 feet west of Avenue B.
 Southeast corner of Second avenue and Fourth street.
 South side of Fourth street, in front of No. 60.
 South side of Fourth street, in front of No. 90.
 South side of Fourth street, in front of No. 114.
 South side of Fourth street, between Broadway and Lafayette place, centre of block.
 South side of Fifth street, in front of No. 508.
 South side of Fifth street, in front of No. 302.
 South side of Third street, in front of No. 78.
 Southeast corner of Second avenue and Third street.
 South side of Third street, in front of No. 24.
 Southeast corner of Second avenue and Fifth street.
 South side of Fifth street, in front of No. 232.
 Northeast corner of Second avenue and Sixth street.
 Northeast corner of Second avenue and Eighth street.
 South side of Eighth street, in front of No. 12.
 South side of Eighth street, in front of No. 48.
 South side of Ninth street, in front of No. 340.
 Southeast corner of Ninth street and Second avenue.
 South side of Ninth street, in front of No. 232.
 Southeast corner of Ninth and Stuyvesant streets.
 South side of Stuyvesant street, in front of No. 42.
 Southeast corner of Tenth street and Second avenue.
 South side of Eleventh street, 150 feet east of Third avenue.
 South side of Eleventh street, 150 feet west of Second avenue.
 Southwest corner of Eleventh street and Second avenue.
 South side of Eleventh street, 175 feet east of Second avenue.
 South side of Eleventh street, 175 feet east of First avenue.
 North side of Eleventh street, 175 feet west of Avenue A.
 South side of Eleventh street, 150 feet east of Avenue A.
 South side of Eleventh street, 150 feet west of Avenue B.
 South side of Eleventh street, 170 feet west of Avenue C.
 Southwest corner of Eleventh street and Avenue C.
 Southwest corner of Tenth street and Avenue C.
 Southwest corner of Avenue C and Ninth street.
 Southwest corner of Avenue C and Twelfth street.
 South side of Twelfth street, 150 feet west of Avenue C.
 South side of Twelfth street, 150 feet east of Avenue B.
 South side of Twelfth street, 150 feet west of Avenue B.
 South side of Twelfth street, 150 feet east of Avenue A.
 South side of Twelfth street, 150 feet west of Avenue A.
 South side of Twelfth street, 150 feet east of Second avenue.
 South side of Twelfth street, 175 feet west of Second avenue.
 South side of Thirteenth street, 150 feet east of Avenue B.

South side of Thirteenth street, 150 feet west of Avenue C.
 North side of Fourteenth street, 175 feet west of Avenue C.
 South side of Fourteenth street, 150 feet east of Avenue B.
 South side of Fourteenth street, 150 feet west of Avenue B.
 South side of Fourteenth street, 175 feet east of Avenue A.
 North side of Fourteenth street, 150 feet west of Avenue A.
 Southwest corner of Fourteenth street and Avenue C.
 South side of Fourteenth street, 150 feet east of First avenue.
 South side of Fourteenth street, 150 feet west of Second avenue.
 North side of Fourteenth street, 150 feet east of Third avenue.
 Northeast corner of Fifteenth street and Rutherford place.
 Northeast corner of Fifteenth street and Second avenue.
 Northeast corner of Fifteenth street and First avenue.
 South side of East Fifteenth street, in front of No. 314.
 South side of East Fifteenth street, in front of No. 428.
 South side of East Fifteenth street, in front of No. 629.
 Southeast corner of Sixteenth street and First avenue.
 Southwest corner of Sixteenth street and Rutherford place.
 Southwest corner of Sixteenth street and Irving place.
 South side of East Sixteenth street, east end of market.
 South side of East Sixteenth street, in front of No. 518.
 South side of East Sixteenth street, in front of No. 430.
 South side of East Sixteenth street, in front of No. 135.
 South side of East Sixteenth street, in front of No. 110.
 North side of East Sixteenth street, 75 feet east of Third avenue.
 South side of East Seventeenth street, in front of No. 506.
 South side of East Seventeenth street, in front of No. 602.
 South side of East Seventeenth street, in front of No. 530.
 Southwest corner of Seventeenth street and Avenue C.
 Southeast corner of Eighteenth street and Avenue C.
 South side of Eighteenth street, 200 feet east of Avenue B.
 Southwest corner of Eighteenth street and Avenue B.
 South side of Eighteenth street, 200 feet west of Avenue B.
 South side of Eighteenth street, in front of No. 428.
 North side of Eighteenth street, in front of No. 405.
 South side of Eighteenth street, in front of No. 342.
 South side of Eighteenth street, in front of No. 308.
 North side of Eighteenth street, in front of No. 237.
 North side of Eighteenth street, in front of No. 205.
 North side of Eighteenth street, in front of No. 155.
 South side of Eighteenth street, in front of No. 128.
 Northwest corner of Eighteenth street and First avenue.
 Northeast corner of Eighteenth street and Second avenue.
 South side of East Seventeenth street, in front of No. 108.
 South side of East Seventeenth street, in front of No. 126.
 North side of East Seventeenth street, in front of No. 141.
 Southeast corner of Seventeenth street and Irving place.
 Northeast corner of Seventeenth street and Second avenue.
 Southeast corner of Seventeenth street and Second avenue.
 South side of East Seventeenth street, in front of No. 214.
 South side of East Seventeenth street, in front of No. 344.
 South side of East Seventeenth street, in front of No. 404.
 Southeast corner of Irving place and Eighteenth street.
 Southeast corner of Nineteenth street and Irving place.
 Northeast corner of Nineteenth street and Second avenue.
 South side of East Eighteenth street, in front of No. 114.
 South side of East Nineteenth street, in front of No. 102.
 North side of East Nineteenth street, in front of No. 131.
 South side of East Nineteenth street, in front of No. 206.
 South side of East Nineteenth street, in front of No. 236.
 South side of East Nineteenth street, in front of No. 314.
 South side of East Nineteenth street, in front of No. 346.
 North side of East Nineteenth street, in front of No. 403.
 South side of East Nineteenth street, in front of No. 436.
 North side of East Nineteenth street, in front of No. 515.
 South side of East Nineteenth street, in front of No. 636.
 South side of East Nineteenth street, 50 feet east of Avenue A.
 North side of East Nineteenth street, 175 feet west of Avenue B.
 South side of East Twentieth street, in front of No. 532.
 South side of East Twentieth street, 100 feet east of Avenue A.
 Northeast corner of Nineteenth street and Avenue B.
 South side of Twentieth street, 100 feet west of Avenue A.
 South side of East Twentieth street, in front of No. 408.
 South side of East Twentieth street, in front of No. 344.
 South side of East Twentieth street, in front of No. 312.
 North side of East Twentieth street, in front of No. 243.
 North side of East Twentieth street, in front of No. 209.
 Northeast corner of Second avenue and Twentieth street.
 Southwest corner of Third avenue and Twentieth street.
 North side of Twentieth street, east corner of Gramercy park.
 Southeast corner of Irving place and Twentieth street.
 Northeast corner of Twentieth street, west of Gramercy park.
 West side of Second avenue, between Twentieth and Twenty-first streets.
 East side of Second avenue, between Twenty-first and Twenty-second streets.
 South side of East Twentieth street, in front of No. 20.
 South side of East Twentieth street, in front of No. 48.
 South side of One Hundred and Thirtieth street, 150 feet west of Boulevard.
 North side of One Hundred and Thirtieth street, 350 feet west of Boulevard.
 South side of One Hundred and Thirtieth street, 200 feet east of Twelfth avenue.
 Northwest corner of One Hundred and Twenty-ninth street and Broadway.
 North side of Lawrence street, in front of No. 11.
 Northeast corner of Lawrence street and Tenth avenue.
 North side of Lawrence street, west of Tenth avenue.
 Southwest corner Twenty-second street and Lexington avenue.
 In front of No. 118 East Twenty-second street.
 In front of No. 12 East Twenty-fourth street.
 Corner of Fourth avenue and Twenty-fourth street.
 In front of No. 119 East Twenty-fourth street.
 Northeast corner Lexington avenue and Twenty-fourth street.
 In front of No. 149 East Twenty-fourth street.

"A" Hydrants.

1 northwest corner Seventieth street and Second avenue.
 1 northeast corner Seventieth street and Second avenue.
 1 northwest corner Ninety-eighth street and First avenue.
 1 west side Mount Morris avenue, between One Hundred and Twenty-second and One Hundred and Twenty-third streets.
 1 north side of Sixty-fourth street, between Ninth and Tenth avenues.
 1 northwest corner Sixty-fourth street and Ninth avenue.
 1 southwest corner Fifty-seventh street and Avenue A.
 1 southwest corner of Fifty-sixth street and Avenue A.
 1 southwest corner Fifty-fifth street and Avenue A.
 1 west side Mount Morris avenue, between One Hundred and Twentieth and One Hundred and Twenty-first streets.
 1 west side Mount Morris avenue, between One Hundred and Twenty-first and One Hundred and Twenty-second streets.
 1 northeast corner One Hundred and Third street and Lexington avenue.
 1 Morris avenue and Fleetwood Park.
 1 northeast corner One Hundred and Thirty-ninth street and Willis avenue.
 1 north side One Hundred and Thirty-ninth street, 600 feet east of Willis avenue.
 3 north side One Hundred and Forty-second street, between Third and Ryder avenues.
 1 northwest corner One Hundred and Fifth street and Lexington avenue.
 1 southeast corner Sixtieth street and Avenue A.
 1 northeast corner One Hundred and First street and Lexington avenue.
 1 southeast corner Ninety-fourth street and Lexington avenue.
 1 northwest corner Seventy-sixth street and Madison avenue.
 2 north side One Hundred and Forty-first street, between Eighth and New avenues.
 1 northeast corner Seventieth street and Third avenue.
 2 north side One Hundred and Twenty-second street, between Sixth and Seventh avenues.
 2 north side One Hundred and Fifty-eighth street, between Courtland and Railroad avenues.
 1 northeast corner One Hundred and Fifty-ninth street and Railroad avenue.

3 north side One Hundred and Fiftieth street, between Courtland and Morris avenues.
 1 northwest corner One Hundred and Sixty-fourth street and Washington avenue.
 1 northeast corner One Hundred and Sixty-fourth street and Brook avenue.
 3 north side One Hundred and Forty-fourth street, between Willis and Brook avenues.
 1 northeast corner Seventy-sixth street and Fourth avenue.
 1 northeast corner Seventieth street and Fourth avenue.
 1 northwest corner Sixty-eighth street and Fourth avenue.
 2 north side Eighty-second street, between Ninth and Tenth avenues.
 1 northeast corner Seventy-ninth street and Avenue A.
 1 northeast corner Seventy-seventh street and Avenue A.
 1 northeast corner Sixty-eighth street and Third avenue.
 1 northwest corner Sixty-eighth street and Second avenue.
 1 northeast corner Sixty-eighth street and Second avenue.
 1 northwest corner Sixty-eighth street and First avenue.
 1 northeast corner Seventy-second street and Madison avenue.
 1 northwest corner Seventy-second street and Fourth avenue.
 1 south side Seventy-second street, between Madison and Fourth avenues.
 2 north side of Seventy-third street, between Eighth and Ninth avenues.
 1 northwest corner Seventy-ninth street and Ninth avenue.
 1 northeast corner Forty-ninth street and Fourth avenue.
 1 east side Madison avenue, between Sixty-fifth and Sixty-sixth streets.
 1 northeast corner Madison avenue and Fifty-fourth street.
 1 west side Lexington avenue, between One Hundred and Twenty-fifth and One Hundred and Twenty-sixth streets.
 1 west side Lexington avenue, between One Hundred and Twenty-sixth and One Hundred and Twenty-seventh streets.
 1 northeast corner St. Ann's avenue and Carr street.
 1 northwest corner St. Ann's avenue and Rae street.
 1 west side of St. Ann's avenue, between Westchester avenue and Rae street.
 1 northwest corner St. Ann's and Westchester avenues.
 1 northwest corner One Hundred and Thirty-eighth street and Locust avenue.
 1 northwest corner One Hundred and Thirty-eighth street and Oak avenue.
 1 southwest corner Locust avenue and One Hundred and Thirty-ninth street.
 1 southwest corner Locust avenue and One Hundred and Fortieth street.
 1 southwest corner Locust avenue and One Hundred and Forty-first street.
 1 northeast corner Cliff street and Concord avenue.
 1 northeast corner Cliff street and Union avenue.
 3 west side Union avenue, between One Hundred and Sixty-fifth and Cliff street.
 3 north side One Hundred and Forty-third street, between Willis and Brook avenues.
 1 northwest corner One Hundred and Fifty-fifth street and Elton avenue.
 2 north side of One Hundred and Sixtieth street, between Courtland and Elton avenues.
 1 north side of One Hundred and Seventieth street, between Fulton and Franklin avenues.
 1 southwest corner of One Hundred and Seventieth street, between Fulton and Franklin avenues.
 1 southwest corner Franklin avenue and Horton street.
 2 west side Franklin avenue, between One Hundred and Sixty-ninth and One Hundred and Seventieth streets.
 2 west side Franklin avenue, between One Hundred and Sixty-eighth and One Hundred and Sixty-ninth streets.
 2 west side Franklin avenue, between One Hundred and Sixty-seventh and One Hundred and Sixty-eighth streets.
 1 west side Franklin avenue, Spring place and One Hundred and Sixty-seventh street.
 1 west side Franklin avenue, Spring place and Third avenue.
 1 northwest corner Washington avenue and One Hundred and Sixty-sixth street.
 1 northeast corner Railroad avenue and One Hundred and Sixty-sixth street.
 1 northeast corner Railroad avenue and One Hundred and Sixty-ninth street.
 1 north side One Hundred and Sixth street, between Second and Third avenues.
 1 northwest corner One Hundred and Sixth street and Third avenue.
 1 east side of Railroad avenue, between One Hundred and Sixty-sixth and One Hundred and Sixty-seventh streets.
 1 northeast corner of One Hundred and Twenty-fourth street and St. Nicholas avenue.
 1 south side of Third street, 150 feet east of Goerck street.
 1 south side of Third street and East river.

Number One Hydrants.

1 north side of Seventy-ninth street, between Ninth and Tenth avenues.
 1 east side of Thomas street, south of Kingsbridge road.
 1 north side of One Hundred and Thirty-sixth street, between Alexander and Willis avenues.
 1 Delafield's lane, Riverdale.
 1 northwest corner One Hundred and Thirty-eighth street and Walnut avenue.
 1 northwest corner One Hundred and Fifty-eighth street and Elton avenue.
 1 northeast corner One Hundred and Fifty-eighth street and Melrose avenue.
 1 north side One Hundred and Fifty-second street and Hudson River Railroad.
 1 west side Ogden avenue, between Devoe and Wolf streets.
 1 north side of Seventy-fourth street, near East river.
 1 north side of Nineteenth street, near East river.
 2 at Pier No. 1, North river.
 1 at Fifty-ninth street and North river.

HIGH-SERVICE WORKS.

The high-service engines and pumps have steadily performed their work during the quarter. The necessary repairs to the pumps at High Bridge have been made. The contract for the new boiler at High Bridge is about completed. Below is statement of amounts pumped of water; coal oil, etc., used, and cost of same. This statement shows the importance of replacing one of the wasteful pumping engines at High Bridge by one more economical and less liable to derangement. This I recommended in a previous report; the Board of Aldermen have passed the requisite ordinance, and specifications are now being prepared.

Performance of High-Service Pumping Engines at Ninety-eighth Street Engine House for 1881.

MONTH.	NUMBER OF DAYS PUMPING.	NUMBER OF STROKES.	HEIGHT PUMPED, FEET.	NUMBER OF GALLONS PUMPED.	POUNDS OF COAL CONSUMED.	GALLONS OF OIL EXPENDED.	POUNDS OF WASTE EXPENDED.
January	31	2,152,580	71.14	234,631,320	278,200	62	16
February	28	1,948,856	71.14	212,425,306	266,050	56	14
March	31	2,168,100	76.55	236,322,900	309,000	62	16
April	30	1,972,924	72.53	215,048,726	251,550	60	15
May	31	2,235,516	69.36	243,671,244	275,600	62	16
June	30	2,229,788	69.30	243,046,892	277,750	60	15
July	31	2,362,660	69.30	257,529,940	274,350	62	16
August	31	2,383,520	68.62	259,803,680	259,550	62	16
September	30	2,268,860	67.10	247,305,740	259,650	60	15
October	31	2,186,696	60.75	238,349,864	224,200	47	15
November	30	1,975,080	49.41	215,283,720	166,350	37	15
December	31	2,256,988	67.15	246,011,692	209,550	37	15
Total	365	26,141,568	812.35	2,849,431,024	3,051,800	667	184
Average .....	..	2,178,464	67.69	237,452,585	254,316	..	..

Coal	\$7,629 00
Salaries	6,005 00
Oil	667 00
Waste	19 00
Supplies	250 00
Repairs	100 00
Total	\$14,670 00

Report of Examinations made by Inspectors, relative to Leaky Fixtures and Waste of Water, for the Year ending December 31, 1881.

DISTRICTS.	Whole Number of Buildings Inspected.	Number where Plumbing was Defective or Water Wasted.	FAUCETS.		WATER-CLOSETS OR URINALS.		HYDRANTS IN YARD.		Pipes Bursted.	Ball Cocks Wanted.
			Leak.	Waste.	Leak.	Waste.	Leak.	Waste.		
First.....	318	55	34	1	3	9	11	2	1	..
Second.....	4	3	..	..	..	..	3	..	..	..
Third.....	742	54	80	1	3	3	10	20	1	..
Fourth.....	2	2	2	..	..	..	..	..	..	..
Fifth.....	1,200	150	97	1	13	2	15	3	..	..
Sixth.....	1,039	99	93	33	5	13	10	8	..	3
Seventh.....	922	67	86	..	4	..	2	..	3	..
Eighth.....	652	57	49	3	2	1	2	2	..	..
Ninth.....	621	104	50	1	2	2	8	1	..	..
Tenth.....	713	131	151	3	28	..	22	..	4	3
Eleventh.....	1,759	301	149	13	22	6	6	8	5	2
Twelfth.....	984	17	3	..	..	..	2	4	2	..
Thirteenth.....	1,153	70	319	3	6	..	2	3	1	..
Fourteenth.....	1,072	129	155	30	7	6	8	..	1	..
Fifteenth.....	963	93	101	19	12	20	2	..	5	10
Sixteenth.....	380	19	47	3	1	..	1	1	..	..
Seventeenth.....	1,111	112	8	6	..	..	..	..	..	..
Eighteenth.....	1,244	51	20	2	5	1	1	..	..	..
Nineteenth.....	872	14	31	1	2	..	..	4	..	2
Twentieth.....	761	8	209	6	16	2	5	1	..	..
Twenty-first.....	269	51	31	2	2	..	..	..	..	..
Twenty-second.....	202	18	2	2	..	..	2	..	1	1
Twenty-third.....	1,326	417	308	31	15	12	4	..	..	3
WARDS.										
Twenty-third & Twenty-fourth.....	1,083	100	103	10	..	20	..	6	..	..
Total.....	19,392	2,122	2,150	171	148	97	116	63	24	24

Extracts which show that New York is not the only City which suffers from the Waste of Water

Report of Boston Water Board, 1881, page 2: "On October 4, 1880, the Board was requested to report to the City Council the best method, in their judgment, for arresting waste of water. On November 18 a report, in answer to the above mentioned order, was made, stating that, in the judgment of the Board, the most efficient permanent method of accomplishing this purpose would be by the application of meters."

Report of Engineer's Department, District of Columbia, 1879, page 14: "The alternative of repression, notably by the use of meters to divide the supply equitably, proportioning the cost for each consumer to the quantity consumed, is the first to suggest itself, being in the line of retrenchment. In the experience of all other localities it seems to be the last to be adopted. Mr. Davis says:

"Three methods of limiting or preventing waste have been adopted or proposed in various cities.

"First—The rigid enforcement of ordinances prescribing the class of fixtures that may be used, and requiring the plumbing of buildings to be done under competent inspectors.

"Second—Thorough house-to-house inspection, to discover faulty fixtures and to detect waste, from whatever source it may arise.

"The third method of preventing waste is the application of meters to the service pipes, or, in other words, the sale of water by meter measurement. The effectiveness of this method is beyond question; but there are many serious objections to its general application, especially in large cities and to old works. It is not worth while at this time to enumerate these objections nor to discuss the manner of overcoming them.

"Undoubtedly meters can with benefit be used much more extensively than they now are, especially in high-service districts, where the consumption per capita is much greater than in other parts of the city."

Mr. Chesbrough, in his report as City Engineer of Chicago for 1878, says:

"That for all legitimate purposes whatever, in a city like ours, it should require a hoghead and a quarter of water for each man, woman, and child is not possible, and is simply evidence of enormous waste. How to prevent it has become, in this as well as in other cities, a great and perplexing problem. Everywhere the conviction is gaining strength that nothing but meters can do this within available means. So far as used here they bring a revenue twice as great in proportion as the frontage and other rates for the balance of the water furnished to the city. Yet they are not popular, and various objections are made to them, none well grounded, however, against their accuracy or the strict justice of charging according to their registers. Their immediate and universal adoption would cause a serious decline in the total water revenue; but a very few years, however, would restore the revenue and be accompanied by other and lasting benefits.

"In this case the consumption has increased from 32.8 gallons per capita, with 19.5 inhabitants to each tap, in 1858, to 122.7 gallons per capita, with 7.1 inhabitants to each tap, in 1878."

Capacity of the Fire Engines in the City.

Number of fire engines in the city..... 57
Number of fire engines in use..... 43
of which nine are first-class and the rest in use second-class, with a pumping capacity of 1,810,000 gallons per hour if all were working, which would, with the low pressures general throughout the city, equal the capacity of one 20-inch pipe, or four 12-inch pipes, or sixteen 6-inch pipes.

From the report of the Fire Department for the year 1880, "the consumption of water by the engines of the Department (including that drawn from the river by the floating engine, which consumes no Croton water, and by other engines at fires along the river front) was 33,102,000 gallons for the entire year," equal to eighteen hours' work for all of the engines in use.

OPENING STREETS.

The following tables, copies of ordinances, and lists of permits to open streets for the purposes named, will show how very difficult it is for this Department to supervise the restoration of pavements where they have been torn up.

	LINEAL FEET.	MILES.
Edison Electric Illuminating Co. have permits to open trench in streets.....	57,150	10.8
United States Heating and Power Co. have permits to open trench in streets.....	15,200	2.9
United States Heating and Power Co. have permits to open trench in streets.....	14,000	2.7
The New York Steam Co. have permits to open trench in streets.....	7,850	1.5
Total.....	94,200	17.9

1,945 permits have been issued by Engineer in Charge of Sewers to open streets for sewer connections, and

3,821 permits have been issued by the Water Register to open streets for water connections.

Permits to open streets have been issued by this Bureau during 1881 to—

Metropolitan Gas-light Co.:

Sixty-ninth street, between Avenue A and East river.
Sixty-second street, between Ninth and Tenth avenues.
Avenue A, between Fifty-seventh and Sixtieth streets.
Avenue A, between Fifty-fifth and Fifty-sixth streets.
First avenue, between Sixty-eighth and Sixty-ninth streets.
Seventy-seventh street, between First avenue and Avenue A.
Sixty-eighth street, between First and Third avenues.
Sixty-seventh street, between First and Third avenues.
First avenue, between Fifty-seventh and Fifty-eighth streets.
First avenue, between Sixty-third and Sixty-eighth streets.
Avenue A, between Seventy-second and Seventy-ninth streets.
Seventy-second street, between Fourth and Madison avenues.
Sixty-ninth street, between Avenue A and First avenue.
Tenth avenue, between Seventy-third and Seventy-ninth streets.
Seventy-second street, between Tenth and Eleventh avenues.
Seventy-first street, between First and Second avenues.
Ninth avenue, between Seventy-seventh and Seventy-ninth streets.
Sixty-first street, between Boulevard and Ninth avenue.
Sixty-ninth street, between Boulevard and Ninth avenue.
Sixty-fourth street, between Second avenue and Avenue A.

Knickerbocker Gas-light Co.:

Eightth avenue, between One Hundred and Twenty-sixth and One Hundred and Thirty-third streets.
Seventh avenue, between One Hundred and Twenty-seventh and One Hundred and Thirty-third streets.
Sixth avenue, between One Hundred and Twenty-fourth and One Hundred and Thirty-third streets.
One Hundred and Thirty-third street, between Sixth and Eighth avenues.
One Hundred and Thirty-second street, between Sixth and Eighth avenues.
One Hundred and Thirty-first street, between Sixth and Eighth avenues.
One Hundred and Thirtieth street, between Sixth and Eighth avenues.
One Hundred and Twenty-ninth street, between Seventh and Eighth avenues.
One Hundred and Twenty-seventh street, between Sixth and Eighth avenues.
Madison avenue, between One Hundred and Seventh and One Hundred and Twenty-fourth streets.
One Hundred and Fourth street, between Second avenue and river.

Manhattan Gas-light Co.:

Fourteenth street, between Tenth and Eleventh avenues.

Western Union Telegraph Co.:

Broadway, between Nos. 145 and 135.
West street, between Piers 16 and 18, North river.
Broad street, between Nos 6 and 8.

Edison Electric Illuminating Co.:

Goerck street, between Stanton and Rivington streets.
Stanton street, between Goerck and Mangin streets.
Mangin street, between Stanton and Rivington streets.
Rivington street, between Goerck and Mangin streets.
Peck slip and Ferry street, between South and Gold streets.
Spruce street, between Gold and Nassau streets.
South street, between Peck slip and Beekman streets.
Front street, between Peck slip and Beekman street.
Water street, between Peck slip and Beekman street.
Pearl street, between Ferry and Beekman streets.
Cliff street, between Ferry and Beekman streets.
Gold street, between Ferry and Beekman streets.
William street, between Spruce and Beekman streets.
Nassau street, between Spruce and Beekman streets.
Cliff street, between Ferry and John streets.
Beekman street, between South and Nassau streets.
Front street, between Beekman and Wall streets.
Nassau street, between Beekman and Wall streets.
William street, between Beekman and Wall streets.
Water street, between Beekman and Wall streets.
Gold street, between Beekman and Maiden lane.
Wall street, between South and Nassau streets.
Pine street, between South and Nassau streets.
Cedar street, between Pearl and Nassau streets.
Maiden lane, between South and Nassau streets.
Liberty street, between Maiden lane and Nassau street.
John street, between South and Nassau streets.
South street, between Beekman and Wall streets.
Pearl street, between Beekman and Wall streets.
Depeyster street, between Water and South streets.
Fletcher street, between Pearl and South streets.
Cedar street, between Pearl and Nassau streets.
Platt street, between Pearl and William streets.
Ann street, between Nassau and Gold streets.
Dutch street, between Fulton and John streets.

New York Steam Co.:

Barclay street, between College place and Broadway.
Cortlandt street, between Greenwich street and Broadway.
Greenwich street, between Cortlandt and Chambers streets.
Warren street, between Greenwich street and Broadway.
Broadway, between Liberty and Dey streets.
Barclay street, between Greenwich street and Broadway.

The following are the ordinances passed giving permission to the electric and steam companies to lay pipes, etc., in the streets and avenues; copies of general permits issued to same, and a statement of all the special permits issued by this Bureau during 1881:

Ordinance of Board of Aldermen giving Franchise to the Edison Electric Illuminating Company.

Resolved, That the Edison Electric Illuminating Company of New York is hereby authorized and empowered to lay tubes, wires, conductors, and insulators, and to erect lamp-posts in the streets, avenues, parks, and public places in the city for the purpose of conveying, using and supplying electricity or electrical currents for purposes of illumination.

All excavations in streets, removals, and replacements of pavements or sidewalks to be done under and according to the direction of the Commissioner of Public Works, and under such further conditions as to security against damage to sewers, water-pipes, gas-pipes, or other pipes, as may be prescribed by his Honor the Mayor, the Comptroller, and the Commissioner of Public Works, who are now by law authorized to make provision for lighting the streets of the city.

Whenever, at any time, any permit shall be granted to open the streets, pavements, or sidewalks, for the purpose of laying the tubes, wires, conductors and insulators of the company, a sum equal to one cent per lineal foot of streets occupied under such permit shall be paid to the city.

Nothing herein contained shall be deemed to authorize the laying of any mains or pipes for conveying gas nor the erection of any lamps or lamp-posts to be used for illuminating by gas.

Permits Granted in Accordance with above Ordinance.

JULY 9.

The Edison Electric Illuminating Company, its agents and employees, hereby has permission to open Nassau street, east side, between Wall and Spruce streets; Dutch street, both sides, between John and Fulton streets; William street, both sides, between Wall and Spruce streets; Gold street, both sides, between Maiden lane and Spruce street; Ryder's alley, west side, between Eden's alley and Fulton street; Cliff street, both sides, between John and Ferry streets; Pearl street, both sides, between Wall and Ferry streets; Water street, both sides, between Wall street and Peck slip; Front street, both sides, Wall street and Peck slip; South street, west side, between Wall street and Peck slip; Pine street, both sides, between Nassau and South streets; Wall street, both sides, between Nassau and South streets; Cedar street, both sides, between Nassau and Pearl streets; Depeyster street, south side, between Water and South streets; Liberty street, both sides, between Nassau and Maiden lane; Maiden lane, both sides, between Nassau and South streets; Fletcher street, both sides, between Pearl and South streets; Platt street, both sides, between William and Pearl streets; John street, both sides, between Nassau and Platt streets; Burling slip, both sides, between Water and South

streets; Eden's alley, north side, between Gold street and Ryder's alley; Fulton street, both sides, between Nassau and South streets; Ann street, both sides, between Nassau and Gold streets; Beekman street, both sides, between Nassau and South streets; Spruce street, south side, between Nassau and Gold streets; Ferry street, south side, between Water and South streets; for the purpose of laying pipes and appurtenances for electric illuminating purposes.

The centre of trenches to be two feet from curb lines; and the depth so that the pipes and appurtenances when laid shall be at least two feet below the surface of the pavement.

The work to be done so as to strictly conform to all the ordinances of the City of New York; the trenches for the pipes and appurtenances shall be properly protected against accidents, and pipes laid so as not to interrupt the business traffic of the streets more than is absolutely necessary; the pipes and appurtenances to be laid so as not to interfere with the water-mains or service connections, or with the main service or sewer connections.

The trench, after the pipe and appurtenances are laid, to be filled with clean earth, well and thoroughly rammed while being put in, and the pavement, curb and flagging restored, as provided in the ordinances of the Common Council, approved by the Mayor August 3, 1880, and under the Rule of the Department of Public Works, dated August 31, 1880; all to be done at the expense of said company.

The Edison Electric Illuminating Company shall place sufficient and proper guards for the prevention of accidents, and put up and keep at night suitable and sufficient lights; and they shall indemnify and save harmless the City of New York, their officers, agents, and servants against and from all damages, costs, and expenses which they may suffer or to which they may be put by reason of injury to the person or property of another resulting from negligence or carelessness in the performing of the work; and shall immediately remove any obstructions when ordered so to do by the Commissioner of Public Works.

If, in the excavation for the pipes and appurtenances, a Croton-main, sewer, or other impediment is uncovered or interfered with, no further work shall be allowed at such point until the plan for the protection of the water-main or sewer, or for the change necessary to clear the impediment, is prepared, submitted to, and approved by the Commissioner of Public Works.

All of the work, from the time the excavation is commenced to the time the pavement is relaid, is to be under the supervision of inspectors, who shall be appointed by and receive their instructions from the Commissioner of Public Works, and whose salary shall be paid by the said Edison Electric Illuminating Company.

The work shall be carried on at such places and for such distances in each of the streets as the Commissioner of Public Works shall from time to time designate; but no street shall be opened without a special permit in writing from the Commissioner of Public Works.

If any of the foregoing regulations or provisions should not be complied with, this permit thereby becomes immediately null and void.

(Signed) ISAAC NEWTON, Chief Engineer Croton Aqueduct.

Approved.

Commissioner of Public Works.

Amounting to 57,150 feet, or 10.8 miles of trench to be opened.

Permits Granted to the Edison Electric Illuminating Company.

OCTOBER 11.

The Edison Electric Illuminating Company has permission to open the sidewalk on Nassau street, east side, between Wall and Spruce streets; Dutch street, both sides, between John and Fulton streets; William street, both sides, between Wall and Spruce streets; Gold street, both sides, between Maiden lane and Spruce street; Ryder's alley, west side, between Eden's alley and Fulton street; Cliff street, both sides, between John and Ferry streets; Pearl street, both sides, between Wall and Ferry streets; Water street, both sides, between Wall street and Peck slip; Front street, both sides, between Wall street and Peck slip; South street, west side, between Wall street and Peck slip; Wall street, north side, between Nassau and South streets; Pine street, both sides, between Nassau and South streets; Cedar street, both sides, between Nassau and Pearl streets; Depeyster street, south side, between Water and South streets; Liberty street, both sides, between Nassau street and Maiden lane; Maiden lane, both sides, between Nassau and South streets; Fletcher street, both sides, between Pearl and South streets; Platt street, both sides, between William and Pearl streets; John street and Burling slip, both sides, between Nassau and South streets; Eden's alley, north side, between Gold street and Ryder's alley; Fulton street, both sides, between Nassau and South streets; Ann street, both sides, between Nassau and Gold streets; Beekman street, both sides, between Nassau and South streets; Spruce street, south side, between Nassau and Gold streets; Ferry street and Peck slip, south side, between Gold and South streets, to place test boxes, the exact position, form, and pattern of same to be approved by the Commissioner of Public Works, and placed subject to the approval thereof.

They shall be placed so as not to interfere with any private property or rights.

The pavement, curbing, and flagging will be replaced by the Department of Public Works at the expense of the Edison Electric Illuminating Company, and the whole work to be subject to the terms and conditions of general permit issued to said company July 9, 1881.

(Signed) ISAAC NEWTON, Chief Engineer, Croton Aqueduct.

Approved.

FRED. H. HAMLIN, Deputy Commissioner of Public Works.

Ordinances of Board of Aldermen Granting Franchise to United States Steam Heating and Power Company.

Resolved, That the United States Heating and Power Company, a corporation existing and duly organized under the Laws of the State of New York, their heirs, successors, and assigns, shall have and is hereby granted the right to lay mains and pipes in the streets, avenues, alleys, lanes, and public places in this city, with such connections as may be required for the purpose of conveying hot water and steam, to supply to the city and its inhabitants heat and power for all domestic and other purposes for which hot water or steam may or can be used, under the following conditions, viz.:

The company shall, in advance of opening the streets, furnish to the Department of Public Works an accurate map of the work proposed to be done, with the intended position of the mains and pipes, and give a bond to the city, to be approved by the Comptroller, in the sum of fifty thousand dollars, to protect the city against any accident that may occur under the permission hereby conferred, as well as to replace the pavement in any of the streets, avenues, or places where such mains or pipes may be laid.

The Department of Public Works shall have the right to change the positions of such mains and pipes whenever they interfere with free access to the sewers, mains, and pipes belonging to the city, and should any changes be hereafter made in the mains, pipes, and sewers belonging to the city, by which a necessity should arise for changing the position of the mains and pipes of the United States Heating and Power Company, such change shall be made without expense to the city.

The company shall furnish such heat and power as may be required for streets and public buildings at prices to be fixed by the Board of Estimate and Apportionment.

The number and position of the hydrants shall be determined by the Department of Public Works.

An annual report, under oath, shall be made by the Secretary of the company to the Board of Estimate and Apportionment, which shall have the power, after receipt of such report, if in its judgment shall be just, to impose a tax of three cents per lineal foot on the mains laid by the company, and two per cent. of the net profits of the company for the year for which such report has been made.

The right to lay mains and pipes in this city shall cease and determine in three years from this date, unless the company shall have then laid and opened for public use two miles of mains, unless prevented by legal proceedings.

Under and subject to the foregoing conditions, the United States Heating and Power Company shall and is hereby granted the right to lay mains and pipes in the streets, avenues, alleys, lanes, and public places within the limits of this city.

Permits Granted in Accordance with above Ordinance.

The United States Heating and Power Company, its agents and employees, hereby has permission to open Cedar street, between Broadway and William street, four feet from south curb-line; Pine street, between Broadway and William street, four feet from south curb-line; Wall street, between Water and Broadway, four feet from south curb-line; Broad street, between Pearl and Wall streets, five feet from east and west curb-lines; Nassau street, between Wall and Cedar streets, five feet from west curb-line; Pearl street, between Broad and Wall streets, six feet from south curb-line; Beaver street, between Broadway and Broad street, six feet from north curb-line; Beaver street, between Broad and Wall streets, four feet from north curb-line; Exchange place, between Broadway and Hanover street, five feet from south curb-line; Hanover street, between Hanover square and Wall street, four feet from east curb-line; South William street, between Broad and Beaver streets, six feet from south curb-line; Hanover square, between Stone and Wall streets, eight feet from north curb-line; Old slip, between Front and Beaver streets, six feet from east curb-line; Water street, between Coenties slip and Wall street, four feet from north curb-line; New street, between Beaver and Wall streets, five feet from east curb-line; Coenties slip, between Pearl and Water streets, in centre of street, and in Cyler's alley, between Water and Front streets, in centre of street; for the purpose of laying steam pipes and appurtenances.

The distance from the curb-line to be to the centre of the trench, which shall be five to seven feet wide and from four to ten feet deep.

The work to be done so as to strictly conform to all the ordinances of the City of New York.

The trenches for the main pipes and branches shall be properly protected and laid so as not to interrupt the business traffic of the street, more than is absolutely necessary. The pipes and appurtenances to be laid so as not to interfere with the water-mains or service connections therewith, or with the main sewers or sewer connections, and so as not to interfere with the connections in said street yet to be made with the sewers and water-mains.

The trench after the pipes and appurtenances are laid to be filled with clean earth, well and thoroughly rammed while being put in, and the pavement immediately replaced, and kept in order for the period of one year after said pipes and appurtenances are laid, all to be done at the expense of said company.

The United States Heating and Power Company shall place sufficient and proper guards for the prevention of accidents, and put up and keep at night suitable and sufficient lights; and they shall indemnify and save harmless the City of New York, their officers, agents, and servants, against and from all damages, costs and expenses which they may suffer, or to which they may be put, by reason of injury to the person or property of another, resulting from negligence or carelessness in the performing of the work; and shall immediately remove any obstructions when ordered so to do by the Commissioner of Public Works.

If, in the excavation for the pipes and appurtenances, a Croton main, or sewer, or other impediment is uncovered or interfered with, no further work shall be allowed at such point until the plan for the protection of the water main or sewer, or for the change necessary to clear the impediment is prepared, submitted to, and approved by, the Commissioner of Public Works.

All of the work, from the time the excavation is commenced to the time the pavement is relaid, is to be under the supervision of inspectors, who shall be appointed by and receive their instructions from the Commissioner of Public Works, and whose salary shall be paid by the said United States Heating and Power Company.

The work shall be carried on at such places and for such distances in each of the streets, as the Commissioner of Public Works shall from time to time designate; but no street shall be opened without a special permit in writing from the Commissioner of Public Works.

(Signed) ISAAC NEWTON, Chief-Engineer Croton Aqueduct.

Approved.

FRED. H. HAMLIN, Deputy Commissioner of Public Works.

Amounting to 14,000 feet, or 2.7 miles of trench to be opened.

Additional Permits Granted to United States Heating and Power Company.

The United States Heating and Power Company, its agents and employees, hereby has permission to open Beaver street, between Broadway and Broad street, six feet from north curb-line; Beaver street, between Broad and William streets, four feet from north curb-line; William street, between Beaver and Liberty streets, four feet from west curb-line; Liberty street, between William and Maiden lane, three feet from south curb-line; Maiden lane, between Liberty and Gold streets, six feet from south curb-line; Gold street, between Maiden Lane and Fulton street, three feet from east curb-line; Gold street, between Fulton and Ferry streets, six feet from east curb-line; Ferry street, between Gold and Pearl streets, three feet from north curb-line; Ferry street, between Pearl and Water streets, six feet from north curb-line; Water street, between Ferry street and James slip, four feet from north curb-line; Broadway, between Beaver street and Exchange place, five feet from east curb-line; Broadway, between Exchange place and City Hall Park, eight feet from east curb-line; Broadway, along City Hall Park to Chambers street, eighteen feet from east curb-line; Chambers street, between Broadway and Chatham street, five feet from south curb-line; New Chambers street, between Chatham and Pearl streets, twelve feet from south curb-line; New Chambers street, between Pearl and Cherry streets, seven feet from south curb-line; and James slip, between Cherry and Water streets, seven feet from south curb-line, for the purpose of laying steam pipes and appurtenances.

The distance from the curb-line to be to the centre of the trench, which shall be six feet wide and eight feet deep.

The work to be done so as to strictly conform to all the ordinances of the City of New York.

The trenches for the main pipes and branches shall be properly protected, and laid so as not to interrupt the business traffic of the street more than is absolutely necessary. The pipes and appurtenances to be laid so as not to interfere with the water-mains or service connections therewith, or with the main sewers or sewer connections, and so as not to interfere with the connections in said street yet to be made with the sewers or water-mains.

The trench, after the pipes and appurtenances are laid to be filled with clean earth, well and thoroughly rammed while being put in, and the pavement immediately replaced and kept in order for the period of one year after said pipes and appurtenances are laid; all to be done at the expense of said company.

The United States Heating and Power Company shall place sufficient and proper guards for the prevention of accidents, and put up and keep at night suitable and sufficient lights; and they shall indemnify and save harmless the City of New York, their officers, agents, and servants, against and from all damages, costs, and expenses which they may suffer, or to which they may be put by reason of injury to the person or property of another resulting from negligence or carelessness in the performing of the work; and shall immediately remove any obstructions when ordered so to do by the Commissioner of Public Works.

If, in the excavation for the pipes and appurtenances, a Croton-main or sewer, or other impediment is uncovered or interfered with, no further work shall be allowed at such point until the plan for the protection of the water-main or sewer, or for the change necessary to clear the impediment is prepared, submitted to, and approved by the Commissioner of Public Works.

All of the work, from the time the excavation is commenced to the time the pavement is relaid, is to be under the supervision of inspectors, who shall be appointed by and receive their instructions from the Commissioner of Public Works, and whose salary shall be paid by the said United States Heating and Power Company.

The work shall be carried on at such places and for such distances in each of the streets as the Commissioner of Public Works shall from time to time designate; but no street shall be opened without a special permit, in writing, from the Commissioner of Public Works.

(Signed) ISAAC NEWTON, Chief-Engineer Croton Aqueduct.

Approved.

HUBERT O. THOMPSON, Commissioner of Public Works.

Amounting to 15,200 feet or 2.9 miles of streets to be opened.

Ordinance of Board of Aldermen giving Franchise to New York Steam Company.

Resolved, That the New York Steam Company, a corporation formed under the laws of the State of New York, (certificate of incorporation filed July 26, 1880), its successors or assigns, shall have and is hereby granted the right to lay mains and pipes in any and all the streets, avenues, lanes, alleys, squares, highways, and public places in the City of New York, with the necessary and proper laterals and service pipes thereto, for the purpose of supplying to the city and its inhabitants, for motive power, heating, cooking, or other useful applications, steam, water, air, and other fluids, at both high and low pressure, with necessary return pipes, and to make all necessary excavations in said streets, avenues, and other places aforesaid, for the purpose of laying such mains and pipes and of making all necessary additions, repairs, and alterations thereto, and of putting in place any manholes and vaults necessary to secure convenient access to parts requiring adjustment, subject, however, to the following regulations and conditions:

First—The company, its successors, or assigns, shall, in advance of opening streets, give a bond to the city, to be approved by the Comptroller, in the sum of fifty thousand dollars, conditioned that the obligors, their legal representatives or assigns, will save the city harmless from all damages that may result from the use of said mains and pipes; and further conditioned that the obligors, their legal representatives or assigns, will properly replace the pavement in any of the streets, avenues, or other places aforesaid, where such mains or pipes may be laid.

Second—In consideration of the rights hereby granted, the said company, its successors, or assigns, shall pay into the Sinking Fund, for the benefit of the City of New York, the sum of three cents per lineal foot of streetway in which its mains are laid, until such payments shall have amounted to one hundred thousand dollars, after which such payments shall cease and terminate; such payments shall be made quarterly, within ten days after the first day of January, April, July, and October, for the number of feet of streetway in which such mains shall have been laid during the quarter preceding such first day of January, April, July, and October, respectively.

Third—The company, its successors or assigns, shall furnish to the city such heat and power as may be required for public buildings, hydrants, and other ordinary and permanent public purposes, within the district supplied by its pipes, at reasonable prices, not exceeding those paid by its most favored customer.

Fourth—After the filing and approval of the bond hereinbefore mentioned, and before opening any street, or portion thereof, the said company, its successors or assigns, shall, from time to time, file with the Department of Public Works, a map or maps of such streets or other places, aforesaid, or such portion or portions thereof as it may, from time to time, desire to enter, specifying therein one or more of such streets or places, or one or more portions of one or more of them, and showing also the station or stations where it is proposed to generate or manufacture the fluids to be conveyed in the pipes to be laid therein, as well as approximating the number and size, including coverings of mains and laterals, it is proposed at that time to lay in the streets or places, or portions thereof, aforesaid specified, with the location and size of the principal manholes and vaults, it being understood that the location of the laterals and other short or small pipes may be laid out on a map previously filed, instead of filing a special map in reference thereto. Upon the filing of such map or maps as aforesaid, it is hereby made the duty of the Commissioner of Public Works to promptly locate such mains in the streets, places, or portions thereof specified, as aforesaid, in such manner as to be least expensive to the company, and where such mains will be accessible, and out of the way of floods, if possible, and

where the foundations will not be liable to disturbance. When the sewers, water-mains, or other street-pipes or obstructions controlled by the city, or in respect to which the city has the power of alteration or removal, obstruct the laying of the mains of this company, its successors or assigns, so as to prevent the laying of its mains and pipes at reasonable expense, or seriously to impair their efficiency, it is hereby made the duty of the Commissioner of Public Works to rearrange such sewers, pipes, or other obstructions at the request and expense of this company, its successors and assigns, where the same can be done without serious detriment to the public interest.

Any location assigned to this company, its successors or assigns, by the Commissioner of Public Works, as aforesaid, shall be reserved by the said Commissioner for the company, its successors and assigns, a reasonable time, not exceeding six months, to permit the preparation of the pipe and special connections.

Pipes shall be relocated by the Commissioner of Public Works, and additional pipes located, in any street, place, or portion thereof where pipes have already been laid, or a location has been forfeited, upon a new application by the company, its successors or assigns, similar in all respects to an original one, as above specified.

Fifth—From time to time, as the work progresses, the said company, its successors or assigns, shall file with the Commissioner of Public Works tables showing accurately, by reference to street lines, the position of its mains and vaults as actually put in position.

Sixth—The work of the said company, its successors or assigns, in the streets shall be done under reasonable regulations by the Commissioner of Public Works, as to the safety of the public and the times during which public travel may be interrupted in particular locations.

Adopted by the Board of Aldermen, November 16, 1880.

Received from his Honor the Mayor, November 30, 1880, with his objections thereto; in Board of Aldermen, December 14, 1880, taken up and considered, as provided in section 13 chapter 335, Laws of 1873, and adopted, notwithstanding the objections of his Honor the Mayor, two-thirds of all the members elected voting in favor thereof.

Permits Granted in accordance with above Ordinance.

The New York Steam Company, its agents and employees, hereby has permission to open Greenwich street, between Cortlandt and Barclay streets, five feet from the east curb-line; Cortlandt street, between Greenwich street and Broadway, four feet from the south curb-line; Barclay street, between Greenwich street and Broadway, twelve feet from the north curb-line at Greenwich street, and nineteen feet from the north curb-line at Church street and at Broadway; Whitehall street, between Morris and Beaver streets, eighteen feet from the west curb-line at Morris street, and fourteen feet from the east curb-line of Bowling Green; at Beaver street and Broadway, between Morris and Chambers streets, eighteen to twenty feet from the west curb-line for the purpose of laying steam pipes and appurtenances.

The distance from the curb-line to be the centre of the trench, which shall be six feet wide and seven feet deep.

The work to be done so as to strictly conform to all the ordinances of the City of New York.

Branches from the Broadway pipe may be located as follows:

Chambers street, east and west.....	26 feet from the south curb.
Warren street, west.....	22 " "
Murray street, west.....	20 " "
Mail street, east.....	37 " "
Park Place, west.....	14 " "
Vesey street, west.....	4 " "
Ann street, east.....	15 " "
Fulton street, east and west.....	21 " "
Dey street, west.....	14 " "
John street, east.....	4 " "
Maiden lane, east.....	4 " "
Liberty street, east.....	4 " "
Liberty street, west.....	13 " "
Cedar street, east.....	3 " "
Cedar street, west.....	13 " "
Thames street, west.....	11 " "
Fine street, east.....	4 " "
Wall street, east.....	5 " "
Rector street, west.....	8 " "
Exchange place, east.....	4 " "
Exchange alley, west.....	4 " "
Morris street, west.....	3 " "
Beaver street, east.....	20 " "

The trenches for the main pipes and branches shall be properly protected, and laid so as not to interrupt the business traffic of the street more than is absolutely necessary. The pipes and appurtenances to be laid so as not to interfere with the water-mains or service connections therewith, or with the main sewers or sewer connections, and so as not to interfere with the connections in said streets yet to be made with the sewers or water-mains.

The trench, after the pipes and appurtenances are laid, to be filled with clean earth, well and thoroughly rammed while being put in, and the pavement immediately replaced and kept in order for the period of one year after said pipes and appurtenances are laid. All to be done at the expense of said company.

The New York Steam Company shall place sufficient and proper guards for the prevention of accidents, and put up and keep at night suitable and sufficient lights; and they shall indemnify and save harmless the City of New York, their officers, agents, and servants against and from all damages, costs, and expenses which they may suffer or to which they may be put by reason of injury to the person or property of another resulting from negligence or carelessness in the performing of the work; and shall immediately remove any obstructions where ordered so to do by the Commissioner of Public Works.

If, in the excavation for the pipes and appurtenances, a Croton main, or sewer, or other impediment is uncovered or interfered with, no further work shall be allowed at such point until the plan for the protection of the water main or sewer, or for the change necessary to clear the impediment is prepared, submitted to, and approved by the Commissioner of Public Works.

All of the work, from the time the excavation is commenced to the time the pavement is relaid, is to be under the supervision of inspectors, who shall be appointed by and receive their instructions from the Commissioner of Public Works, and whose salary shall be paid by the said New York Steam Company.

The work shall be carried on at such places and for such distances in each of the streets as the Commissioner of Public Works shall, from time to time designate, but no street shall be opened without special permit in writing from the Commissioner of Public Works.

(Signed) ISAAC NEWTON, Chief-Engineer Croton Aqueduct.

Approved.

(Signed) HUBERT O. THOMPSON, Commissioner of Public Works.

Amounting to 7,850 feet, or 1.5 miles of trench to open.

As I have already stated to you I think a revision of the water-rates should be made, and with your sanction this will be done at the earliest opportunity. A revision of these rates will accomplish much in preventing waste.

I have given you figures of the Boston water revenue in order that you may compare them with the New York water-rates.

Respectfully submitted,

ISAAC NEWTON, Chief-Engineer.

Document "E."

WATER PURVEYOR'S REPORT.

DEPARTMENT OF PUBLIC WORKS,
WATER PURVEYOR'S OFFICE, 31 CHAMBERS STREET, ROOM 1,
NEW YORK, January 10, 1882.

Hon. HUBERT O. THOMPSON, Commissioner of Public Works:

SIR—In compliance with your instructions I herewith submit the following report of the transactions of this Bureau for the quarter ending December 31, 1881, together with a summary of the work done under the direction of this Bureau during the year 1881.

REPAIRS AND RENEWAL OF PAVEMENTS.

The average force employed on repairs of pavements during the quarter was as follows:

In October, 305 men and 60 carts.

In November, 314 men and 63 carts.

On the 30th day of November the repair force was disbanded, only five men being retained to attend to cases of emergency, such as dangerous places in the pavements, etc.

The work done by the repair gangs includes, in addition to the minor repairs in all parts of the city, the complete relaying of the pavements from curb to curb in several streets.

In addition to the above work, 25,721 square yards of pavement were relaid by contract in the following streets:

	Square Yards.
Madison avenue, between Thirty-first and Forty-second streets.....	12,480
Twenty-second street, between First and Fourth avenues.....	7,467
Thirty-ninth street, between Tenth avenue and Hudson river.....	5,774
Total.....	25,721

And the following pavements were relaid during the quarter, without contract, the expense in each case being less than \$1,000, viz.:

	Square Yards.
Seventy-seventh street, between Madison and Fifth avenues.....	1,490
Sixty-sixth street, between Madison and Fifth avenues.....	1,497
Sixty-sixth street, between Madison and Fourth avenues.....	1,411
Clinton place, between Fifth avenue and University place.....	730
Park row, between Beekman street and Broadway.....	1,220
Sixty-third street, between Fourth and Madison avenues.....	1,395
Fifty-sixth street, between Madison and Fourth avenues.....	1,388
Seventy-first street, between Lexington and Fourth avenues.....	1,475
Third avenue, between Sixty-eighth and Sixty-ninth streets.....	1,280
Thirty-second street, at East river.....	550
Jones lane, between Front and South streets.....	276
Fifth avenue, between Clinton place and Ninth street.....	2,223
Total.....	14,935

Add square yards relaid under contract..... 25,721

Total number of square yards of pavement completed during the quarter. 40,656

The relaying of pavements in the following streets was in progress at the close of the quarter, viz.:

South street, opposite Pier 21, East river.
Thomas street, between Church street and West Broadway.

REPAVING UNDER CHAPTER 476, LAWS OF 1875.

The following repaving contracts were completed during the quarter, viz.:

STREET.	BETWEEN.	Area, Square Yards.	Length, Feet.
Christopher street.....	Greenwich avenue and West street.....	10,829	2,740
Stanton street.....	Columbia and Tompkins streets.....	3,747	1,280
Avenue A.....	Houston and Seventh streets.....	7,574	1,599
Eleventh avenue.....	Fifteenth and Twenty-fifth streets.....	15,919	2,550
Tenth street.....	Sixth and Greenwich avenues.....	789	300
Eleventh street.....	Second and Third avenues.....	2,147	649
Fourteenth street.....	Ninth and Eleventh avenues.....	11,795	1,798
Thirty-third street.....	Tenth and Eleventh avenues.....	2,713	822
Thirty-sixth street.....	Eighth and Tenth avenues.....	5,375	1,630
Fifty-fourth street.....	Sixth and Seventh avenues.....	2,690	816
One Hundred and Twenty-second street.....	Second and Third avenues.....	2,103	636
One Hundred and Twenty-ninth street.....	Third and Sixth avenues.....	9,311	2,800
Total.....		74,958	17,620

The following repaving contracts were in progress at the close of the quarter, viz.:

† Ann street, between Broadway and Gold street.
† Frankfort street, between Nassau and Jacob streets.
† Jacob street, between Frankfort and Ferry streets.
† Front street, between Fulton and Roosevelt streets.
† Broadway, between Seventeenth and Twenty-second streets.
† Water street, between Market and Clinton streets, 5,260 square yards.
† Bayard street, between Bowery and Market street, 1,357 square yards.
† Pike street, between Division and South streets.
† Rutgers street, between East Broadway and Cherry street.
† Tenth avenue, between Forty-second and Forty-eighth streets, 9,394 square yards.
† One Hundred and Twenty-fourth street, between First and Third avenues, 4,288 square yards.

† Now completed.
† Suspended until Spring.

NEW PAVEMENTS UNDER ASSESSMENT.

The following streets were completed during the quarter, viz.:

STREET.	BETWEEN.	Area, Square Yards.	Length, Feet.
Fifth avenue.....	Ninetieth and One Hundred and Tenth streets.....	22,579	5,283
Lexington avenue.....	Eighty-sixth and Ninety-third streets.....	6,219	1,770
Madison avenue.....	One Hundred and Twenty-fifth and One Hundred and Thirty-third streets.....	7,537	2,029
Ninth avenue.....	Boulevard and Seventy-seventh street.....	20,475	2,950
Forty-fourth street.....	First and Second avenues.....	2,053	683
Fifty-fifth street.....	Sixth and Seventh avenues.....	2,701	816
Seventy-sixth street.....	Third and Fourth avenues.....	2,869	870
Eighty-third street.....	Eighth avenue and Boulevard.....	7,019	2,200
Ninety-fourth street.....	Third and Lexington avenues.....	1,372	420
One Hundred and Eighth street.....	Third and Fifth avenues.....	4,954	1,486
One Hundred and Fifteenth street.....	Third avenue and Avenue A.....	5,909	1,900
Total.....		83,687	20,417

The only unfinished streets under contract for this class of work at the close of the quarter are:
Tenth avenue, between One Hundred and Fifty-first and One Hundred and Fifty-fifth streets, and Seventy-fifth street, between Third and Fourth avenues.

REPAIRS AND RENEWAL OF PIPES, STOP-COCKS, ETC.

The average force employed in repairing pipes, stop-cocks, and hydrants under the direction of this Bureau during the quarter was as follows:

In October, 80 men and 9 carts.

In November, 95 men and 9 carts.

In December, 76 men and 9 carts.

804 fire hydrants were repaired.

64 new fire hydrants were substituted for old ones worn out and useless.

619 defects in pipes and stop-cocks were repaired, and

129 taps were shut off on account of leaks in service pipes.

PUBLIC DRINKING HYDRANTS.

Repairs were made to 30 public drinking hydrants and 4 new drinking hydrants were furnished and placed during the quarter.

The total number of drinking hydrants in use at the close of the quarter was 572.

WELLS AND PUMPS.

Repairs were made to 12 pumps during the quarter.

The total number of pumps in use at the close of the quarter was 45.

VAULTS.

During the quarter 38 permits were issued for the construction of vaults, and the amount received from the same was \$16,411.56.

24 permits were issued to repair vaults.

18 permits were issued to repair pavements.

The following amounts were expended during the quarter and charged to the several appropriations, as stated below, viz.:

Public Drinking Hydrants.....	\$1,614 99
Repaving Streets and Avenues.....	137,471 59
Salaries charged to.....	2,707 49
Repairs and Renewal of Pavements and Regrading.....	64,633 95
Salaries charged to.....	12,791 80

Repairs and Renewal of Pipes, Stop-cocks, etc.	\$16,260 56
Salaries charged to	3,171 45
Wells and Pumps	105 00
Street Improvement Fund (Assessment work)	110,790 45
Total expenditures	\$349,547 28

SUMMARY OF WORK DONE DURING THE YEAR 1881.

The following streets were repaved during the year, viz.:

STREETS.	BETWEEN.	Area, Square Yards.	Length, Feet.
Beekman street	Park row and Nassau street	225	160
Broome street	Bowery and Clinton street	3,697	928
Christopher street	Greenwich avenue and West street	10,829	2,740
Carmine street	Sixth avenue and Varick street	4,185	1,025
Clinton place	Fifth avenue and University place	730	290
Gouverneur street	Grand and Water streets	2,624	1,211
Jones lane	Front and South streets	276	207
New street	Intersection of Exchange place	247	93
Park row	Beekman and Spruce streets	1,632	320
"	Beekman street and Broadway	1,220	481
Rivington street	Bowery and Clinton street	6,515	2,326
Rutherford place	Fifteenth and Sixteenth streets	682	264
Stanton street	Columbia and Tompkins streets	3,747	1,280
Staple street	Duane and Jay streets	274	192
Avenue A	Houston and Seventh streets	7,574	1,597
"	Twenty-third and Twenty-fourth streets	1,312	207
First avenue	Houston and Eighth streets	12,315	1,842
"	Twenty-third and Thirtieth streets	11,198	1,710
Second avenue	Nineteenth and Twenty-third streets	4,360	919
Third avenue	Sixty-eighth and Sixty-ninth streets	1,280	246
Lexington avenue	Twenty-eighth and Twenty-ninth streets	880	212
Madison avenue	Thirty-first and Forty-second streets	12,480	2,843
Fifth avenue	Clinton place and Ninth street	2,200	500
Eleventh avenue	Fifteenth and Twenty-fifth streets	15,919	2,550
Seventh street	Fourth avenue and Avenue A	6,782	1,932
"	Avenue A and East river	8,966	2,068
Eighth street	Avenues B and D	4,588	1,380
Eleventh street	Sixth and Greenwich avenues	789	300
Fourteenth street	Second and Third avenues	2,147	649
Fifteenth street	Ninth and Eleventh avenues	11,795	1,798
Twenty-second street	Second and Third avenues	2,097	636
Thirtieth street	First and Fourth avenues	7,497	2,254
Thirty-second street	Broadway and Eighth street	6,344	1,929
Thirty-third street	At East river	550	165
"	Lexington and First avenues	5,694	1,728
Thirty-sixth street	Tenth and Eleventh avenues	2,713	822
Thirty-eighth street	Eighth and Tenth avenues	5,375	1,630
Thirty-ninth street	Tenth and Eleventh avenues	1,000	309
Fifty-fourth street	Tenth avenue and Hudson river	5,774	1,698
Fifty-fifth street	Sixth and Seventh avenues	2,690	816
Fifty-sixth street	Madison and Fifth avenues	600	180
"	" Fourth avenues	1,388	417
Sixty-third street	" " "	1,395	417
Sixty-sixth street	" " "	1,411	417
"	" " Fifth avenues	1,497	453
Seventy-first street	Lexington and Fourth avenues	1,475	436
Seventy-sixth street	Madison and Fifth avenues	1,490	453
One Hundred and Fifth street	Tenth avenue and Boulevard	204	60
One Hundred and Twenty-second street	Second and Third avenues	2,103	636
One Hundred and Twenty-ninth street	Third and Sixth avenues	9,311	2,800
Total		202,052	51,077

New pavements to be paid for by assessments, were laid in the following streets, viz.:

STREETS.	BETWEEN.	Area, Square Yards.	Length, Feet.
Fourth avenue	Intersection of One Hundred and Fourth street	532	35
Fifth avenue	Nineteenth and One Hundred and Tenth streets	22,579	5,283
Lexington avenue	Eighty-sixth and Ninety-third streets	6,219	1,770
Madison avenue	One Hundred and Twenty-fifth and One Hundred and Thirty-third streets	7,537	2,029
Ninth avenue	Boulevard and Seventy-seventh street	20,475	2,950
Forty-fourth street	First and Second avenues	2,053	660
Fifty-fifth street	Sixth and Seventh avenues	2,701	816
Sixty-third street	Eighth and Tenth avenues	4,672	1,716
Sixty-eighth street	Boulevard and Tenth avenue	905	289
Sixty-ninth street	First and Third avenues	3,924	1,280
Seventy-sixth street	Third and Fourth avenues	2,859	870
Seventy-eighth street	First avenue and Avenue A	1,935	623
Eightieth street	Second avenue and Avenue A	4,080	1,280
Eighty-first street	First and Second avenues	2,072	660
Eighty-third street	Eighth avenue and Boulevard	7,019	2,200
Ninety-fourth street	Third and Lexington avenues	1,372	430
Ninety-sixth street	Boulevard and Hudson river	7,592	1,486
One Hundred and Eighth street	Third and Fifth avenues	4,954	1,486
One Hundred and Eleventh street	Second and Third avenues	1,901	620
One Hundred and Twelfth street	Third and Fourth avenues	2,829	920
One Hundred and Fifteenth street	Third avenue and Avenue A	5,999	1,930
One Hundred and Twenty-sixth street	Seventh avenue and Avenue St. Nicholas	3,932	1,269
One Hundred and Twenty-seventh street	Second and Third avenues	1,921	620
One Hundred and Thirty-second street	Fifth and Sixth avenues	2,847	940
Total		122,898	31,815

2,600 notices and complaints of defects in pavements were received and attended to during the year.

3,200 repairs were made to fire-hydrants.
 307 new fire-hydrants were substituted for those worn out and useless.
 2,147 defects in pipes and stop-cocks were repaired.
 513 taps were shut off on account of leaks in service-pipes.
 286 drinking-hydrants were repaired.
 22 new drinking-hydrants were substituted for those worn out and useless.
 14 new drinking-hydrants were furnished and placed.
 15 pumps were repaired.
 1 pump was removed and discontinued.
 183 permits for construction of vaults were issued. The amount received for the same is \$80,139.54.
 76 permits were issued to repair vaults.
 87 permits were issued to repair pavements.
 205 resolutions of the Board of Aldermen were referred to this Bureau for examination and report, which was promptly done in every case.

The following statement shows the total financial transactions of the Bureau under the several appropriations in its charge.

TITLE OF APPROPRIATION.	APPROPRIATION AND TRANSFER.	PAYMENTS.	ESTIMATED LIABILITIES.	ESTIMATED BALANCES.
Public Drinking-hydrants	\$6,000 00	\$5,999 37	.....	\$0 63
Repairing Streets and Avenues	393,000 00	285,781 37	\$106,208 34	1,110 29
Repairing Streets and Avenues—Salaries charged to	7,200 00	7,133 93	.....	66 07
Repairing and Renewal of Pavements and Regrading	147,000 00	139,074 11	7,901 99	23 90
Repairing and Renewal of Pavements and Regrading—Salaries charged to	44,000 00	43,997 84	.....	2 16
Wells and Pumps	500 00	203 74	250 00	46 26
Repairing and Renewal of Pipes, Stop-cocks, etc.	103,250 00	50,437 94	.....	52,812 06
Repairing and Renewal of Pipes, Stop-cocks, etc.—Salaries charged to	58,150 00	10,861 70	.....	47,288 30
* Street Improvement Fund	234,645 74	234,645 74	.....	.....
Total	\$993,745 74	\$778,135 74	\$114,260 33	\$1,249 31

* Paid by assessment on property.

NOTE—The appropriations for Repairs and Renewal of Pipes, Stop-cocks, etc., are not under the sole control of this Bureau, and therefore the payments only are stated above which were made by this Bureau.

Total Number of Miles of Paved Streets in the City.

	DECEMBER 31, 1880.	LAI D AND RELAI D IN 1881.	DECEMBER 31, 1881.
Macadam	24 1/2 Miles.	1 Mile.	25 1/2 Miles.
Asphalt	2 1/2 "	14 1/2 Miles.	244 1/2 "
Stone blocks	229 1/2 "	.....	70 1/2 "
Cobble	80 "	.....	.....
Total	334 1/2 Miles.	15 1/2 Miles.	340 1/2 Miles.

Very respectfully,

DANIEL O'REILLY, Water Purveyor.

Document "F."

REPORT OF ENGINEER IN CHARGE OF SEWERS.

DEPARTMENT OF PUBLIC WORKS,
 OFFICE OF ENGINEER IN CHARGE OF SEWERS,
 ROOM 9, NO. 31 CHAMBERS STREET.

Hon. HUBERT O. THOMPSON, Commissioner of Public Works:

SIR—With the report for the quarter ending December 31, 1881, I would respectfully submit a statement of the transactions of this office for the year 1881.

There has been constructed,
 33,132 linear feet of sewer;
 487 linear feet of culvert;
 21 receiving-basins;

making a total length of sewerage in the city of 383 7-100 miles, with 4,594 receiving-basins.

Particular attention has been given to the repairs and improvements of the old sewers; and the following amount of work has been done:

8,850 linear feet of sewer rebuilt.
 424 linear feet of culvert rebuilt.
 44 new manholes built.
 663 " repaired.
 246 " furnished with new iron frames and ventilating covers.
 80 receiving-basins have been rebuilt,
 131 " repaired, and
 111 " furnished with solid stone heads in place of the old ones formed

of several pieces. The repairs have not been confined to the old system of those built previous to 1865, but has extended to some built under the present sewerage plans.

The systematic examination and inspection of all sewers to ascertain their actual condition has gone on without interruption, and has brought to light many unforeseen and unexpected defects, impairing, more or less, the proper working of the sewers.

In most instances the defects were removed at little cost, but in some, entire sewers had to be taken up and relaid. This was particularly the case with pipe sewers laid on made ground, without proper precautions to secure a foundation, or strengthen them to resist the unequal settlement of the street filling.

This has not only been the case in pipe sewers, but also in some brick ones similarly laid, or when laid before the filling in of the street, in deference to the wishes of the owners, who thought to save the expense of excavating again for the sewer, have been found, on examination, crushed out of form and injured to an extent necessitating their being entirely rebuilt. It is almost impossible to so place the filling over and about a new sewer in the grading of a street so as not to injure it.

The experiment has been a costly one, both to the city, in the way of repairs, and to the owners, in not having a perfect sewer; and it is alike to the interests of both city and owner to grade the street before excavating for the sewer, except in cases where the sewer can be placed entirely within the natural ground, or where means are possible to secure the new sewer from injury.

The more particular cases of material repairs and improvements are as follows:

Sewer at foot of East Fourteenth street.
 Sewer in Seventy-seventh street, between Fourth and Fifth avenues.
 Sewer in One Hundred and Third street, between Madison and Fourth avenues.
 Sewer in Tenth avenue, between One Hundred and Fifty-second street and One Hundred and Fifty-third street.
 Sewer in One Hundred and Twenty-sixth street, between Lexington and Fourth avenues.
 Sewer in Fifty-fifth street, between Avenue A and First avenues.
 Sewer in Avenue C, between Tenth and Eleventh avenues.
 Sewer in Seventy-first street, between Eighth and Ninth avenues.
 Sewer in Thirty-ninth street, between Eleventh avenue and Hudson river.
 Sewer in Sixty-third street, between Fourth and Madison avenues.
 Sewer in Seventy-seventh street, between Madison and Fifth avenues.
 Sewer in Avenue C, between Twelfth and Thirteenth streets.
 Sewer in Thirty-ninth street, between Eleventh avenue and intersection.
 Sewer in Sixty-third street, between Madison and Fourth avenues.
 Sewer in Seventy-seventh street, between Madison avenue and 150 feet east of same.
 Sewer in Seventy-eighth street, between 100 feet west of Madison avenue.
 Sewer in Thirty-ninth street, between 300 feet east of outlet.
 Sewer in Third avenue (east side), at One Hundred and Sixth street.
 Sewer in Lawrence street, between Ninth and Tenth avenues.
 Sewer in One Hundred and Twenty-sixth street, between Fourth and Lexington avenues.
 Sewer in Ninety-fifth street, between First and Second avenues.
 Sewer in One Hundred and Third street, between Fourth and Madison avenues.
 Sewer in Fourteenth street, between Avenues C and D.

The sewers of the city are provided with over 20,500 manholes, or openings, for the purpose of examination and cleaning.

The manholes of the sewers built since 1876 have perforated covers, for the purpose of ventilation; those of the sewers built previous to 1876 have solid air-tight covers, and of these, some 1,550 have been fitted with ventilating covers, of which 425 have been done during the past year.

In the different plans adopted for the improvement of house plumbing, as to ventilating the soil or waste-pipes, every means are taken to cut off, by "traps," the passage of air through the soil-pipes, to and from the roof, necessary to regulate the pressure on the air within the sewer caused by the daily fluctuation of the sewage.

The pressure exerted by the rising tide, influx of storm water, or wind blowing into the mouth of the sewer is too great for the best devised "trap" to resist, and other means of escape for the sewer air must be provided, as well as to supply the sewer with air to take the place of the receding tide and storm flow; this can be best done by slightly perforating the manhole covers.

The perforated ventilating covers are found to work with perfect satisfaction in all weather, and have been the means of relieving the dwellings in whole districts from the presence of "sewer air" that other means had failed to prevent.

The substitution of the perforated covers on the old sewers has been necessarily slow, and has been done as funds could be spared from the limited annual Appropriation for the Repair and Maintenance of the Sewerage.

During the past year 1,105 loads of sewer dirt were removed from the sewers alone. This large amount is due to the dirty condition of the streets last spring and to the protracted drought of last summer and fall.

Sewers necessarily receive a large portion of the washings from the street surface, and if there is not an occasional rain or a fair supply of liquid waste from the houses to float or carry on this dirt and the heavier sewage matter, obstructions are formed which require the assistance of manual labor to remove.

Had there been Croton water to spare, to have occasionally flushed the sewers, little or no expense would have been necessary for cleaning.

The cleaning of the basins has been done by day labor, and 6,200 loads of dirt removed.

There are 4,594 basins in the city which have to be kept clean; for, on their good order, in a great measure, depends the condition of the sewers.

The office of the basin is not only to carry off the rain-fall from the street surface, but to retain the variety of substances (washed into them from the carriage-way and gutters) that might obstruct the sewers.

If the streets are clean but little street dirt is carried to the sewer; on the contrary, if ashes and dirt are not removed, and particularly from the gutters, more or less is carried through the basin to the sewer, which has to be removed at a very greatly increased cost over what would be necessary to remove it from the surface of the street.

From a personal inspection of the basins I am pleased to say, that I have never known them to be so clean; which is due, in a great measure, to the friendly co-operation of the Street Cleaning

Department in removing the street sweepings from the gutters and placing it so as not to be washed into the basins at every storm.

During the past year contracts have been made for the construction of 45,512 feet of sewer, 105 receiving-basins, with 2,260 feet of culvert to connect them with the sewers.

The following list shows the location of the several contracts:

LIST OF SEWERS CONTRACTED FOR DURING THE YEAR 1881.

Sewer in West Fourth street between West Tenth and Charles streets.
Sewer in Prince street between Broadway and Crosby street.
Branch sewer in Eighty-second street at Avenue A.
Sewer in First avenue, between Twenty-first and Twenty-fourth streets.
Sewer in Sixty-eighth street, between Eighth avenue and Boulevard.
Sewer in Seventy-eighth street, between Ninth and Tenth avenues.
Sewer in Eighty-first street, between Ninth avenue and summit west of Ninth avenue.
Sewer in Eighty-second street, between Eighth and Tenth avenues.
Sewer in Water street, between Dover and Roosevelt streets.
Sewer in Fifteenth street, between Irving place and Fourth avenue, from end, etc.
Sewer in Ninety-sixth and Ninety-seventh streets, between Third and Lexington avenues.
Sewer in One Hundred and First street, between Tenth avenue and Boulevard.
Sewer in One Hundred and Twenty-third street, between Fourth and Madison avenues.
Sewer in First avenue, between Forty-sixth and Forty-seventh streets.
Sewer in Second avenue, east side, between Sixtieth and Sixty-first streets, and west side, between Sixty-first street and Sixty-second streets.
Sewer in Ninth avenue, east side, between One Hundred and Forty-eighth and One Hundred and Fifty-second street, connecting with present sewer, etc.
Sewer in Riverside avenue, between Seventy-sixth and Ninety-second streets, and outlet through Riverside park, etc.
Sewer in Riverside avenue, between Ninety-second and One Hundred and Sixth streets.
Sewer in Tenth avenue, between Forty-ninth and Fiftieth streets.
Sewer in Second avenue, west side, between Ninety-fifth and Ninety-sixth streets, with branch in Ninety-sixth street, between Second and Third avenues.
Sewer in One Hundred and Twelfth street, between Madison and Sixth avenues.
Sewer in One Hundred and Thirteenth street, between Seventh and Eighth avenues.
Sewer in Lexington avenue, between Thirty-eighth and Thirty-ninth streets, from end of present sewer.
Sewer in Pearl street, between Coenties and Old slips.
Alterations and improvements, Fifty-seventh street, between Fifth and Madison avenues.
Sewer in Riverside avenue, between One Hundred and Sixth and One Hundred and Eleventh streets.
Sewer in West End avenue (formerly Eleventh avenue), between Ninety-sixth and One Hundred and Fifth streets.
Sewer in Riverside avenue, between One Hundred and Eleventh and One Hundred and Twenty-second streets, with outlet through Riverside park and One Hundred and Fifteenth street to Hudson river.
Sewer in Front street, between Beekman and Fulton streets.
Sewer in West Fourth street, between Christopher and West Tenth streets.
Sewer in Avenue B, between Sixteenth and Seventeenth streets.
Sewer in Montgomery street, between Madison and Monroe streets.
Sewer in Fourth avenue, west side, between One Hundred and Eighth and One Hundred and Tenth streets, and in One Hundred and Ninth street, between Fourth and Fifth avenues, and in Madison avenue, between One Hundred and Ninth and One Hundred and Tenth streets.
Sewer in Eighty-fifth street, between Eighth and Ninth avenues.
Sewer in Fourth avenue, east side, between One Hundred and Second and One Hundred and Third streets; and in One Hundred and Second street, between Fourth and Lexington avenues.
Sewer in West End avenue (formerly Eleventh avenue), between Ninety-first and Ninety-sixth streets, and in Ninety-third street, between West End avenue and Boulevard.
Sewer in Riverside avenue and Twelfth avenue, between One Hundred and Twenty-second street and Manhattan street.
Sewer in Madison avenue, between One Hundred and Nineteenth street and One Hundred and Twenty-first streets, and in One Hundred and Twentieth street and One Hundred and Twenty-first street, between Fourth and Madison avenues, connecting with present sewer in Fourth avenue and One Hundred and Twentieth street.
Sewer in Ninth avenue, between One Hundred and Fifty-second and One Hundred and Fifty-fifth streets, and in One Hundred and Fifty-fifth street between Ninth avenue and Avenue St. Nicholas.
Sewer in One Hundred and First street, between Riverside and West End avenue (formerly Eleventh avenue).
Sewer in One Hundred and Forty-first street, between Seventh and Eighth avenues.
Sewer in One Hundred and Fifty-third street, between Tenth avenue and Avenue St. Nicholas.
Sewer in Broadway, east side, between Liberty street and Maiden lane.
Sewer in Front street, between Broad street and Old slip, and in Coenties slip, etc.
Sewer in Twenty-third street, between Eleventh and Thirteenth avenues, with branch in Thirteenth avenue, between Twenty-third and Twenty-fourth streets.
Sewer in Seventy-third street, between First and Third avenues.
Sewer in Eighty-third street, between Riverside and West End avenues.
Sewer in Eighty-seventh street, between Ninth and Tenth avenues.
Sewer in One Hundred and Sixth street, between summit east of Tenth avenue, and the new avenue between Eighth and Ninth avenues.
Sewer in One Hundred and Fifteenth street, between Fifth and Sixth avenues.
Sewer in One Hundred and Twenty-third street, between Fourth and Madison avenues, from end of present sewer.
Extension sewer in Eighty-first street, between Fourth and Madison avenues, from end of present sewer.
Sewer in Seventieth street, between Boulevard and Ninth avenue.
Basins northwest and southwest corners of Seventy-third street and Eighth avenue.
Basin at junction Christopher and Grove streets.
The deep sewer in Fifth avenue, from Fifty-fifth to Fifty-ninth street, was finished in September. Its construction was both difficult and tedious on account of its great depth, varying from 15 to 35 feet below the street pavement, and within a few feet of the large double Croton-main on one side, and the stoops of dwellings on the other. The most careful street-piling and bracing was necessary. To add to the difficulties, large volumes of stagnant and subsoil water was met with throughout the whole length of the sewer; at some points the level of stagnant water was but a few feet below the cellar floors, filling the interstices of the rock filling that underlies street and houses adjoining the sewer, partly from the leaky sewers that are laid in made ground of loose rock filling. This sewer has most effectually drained a greater part of the district, between Madison and Sixth avenues, and between Fiftieth and Sixtieth streets, and cannot but be of great and lasting benefit to the health of this whole neighborhood.
The West street collective sewer, discharging through pier foot of Clarkson street, is within a few weeks of completion. It is one of large extent and dimensions, the size varying from four feet to nine and a half feet in diameter, and located in West street, between Spring and West Eleventh streets, partly on the street as widened, and partly through the old crib work of West street. Unusual difficulties were met with in its construction, particularly in securing a firm foundation, and building the sewer below low-water mark.
The inspection and supervision of this contract has been most rigid, and the work will compare favorably with any similar work ever constructed.
During the progress of the work, access to the several steamship piers have not been interfered with, and the great travel through West street kept open.
This sewer is the first section of the grand collective sewers that are to be built along the Hudson and East rivers, from the Battery northward. It will intercept all the sewers now discharging into slips and at the bulkheads, and will have but few outlets, and these selected with a view for future disposal of the sewage. These outlets will be carried through the piers to their extreme ends, and discharge the sewage into the rapid tideway.
Fortunately for the city, the construction of several sewers in business thoroughfares fell into the hands of experienced contractors, and were finished with but little inconvenience to the public, which is not always the case, as the law requires that the contract be awarded to the lowest bidder, and sometimes the most difficult work falls to the lot of a contractor who is without capital, character, or experience to surmount unforeseen difficulties that are likely to be met with in the older part of the city.
The recent amendment to the law requiring a deposit to accompany the bid, has prevented many irresponsible parties from bidding for the work, and in this way very greatly lessened the chances of work falling into the hands of parties who only take the contract to sell it out at an advance.
In the construction of the sewer in First avenue, between Twenty-second and Twenty-third streets, it was necessary to excavate in rock close to and below the foundation of the Elevated Railroad columns. The work was both difficult and dangerous, but has been completed without accident.
The sewer to be built in Front street is likewise under the elevated railroad, and every precaution will be taken to secure against accident.
Fair progress has been made on the sewer in Riverside avenue, from Seventy-second street to Manhattan street, which was only placed under contract in September last. Several large and important sewer contracts made at low prices before the great advance in the price of materials and

labor two years ago, were greatly delayed by the embarrassment of the contractors. These are all completed except West One Hundred and Fifty-eighth street outlet, with branches in Boulevard, Tenth avenue to One Hundred and Sixty-second street, which is in a fair condition to be speedily completed without further interruption.

The close competition and high price of labor and materials make a rigid inspection of the work more necessary, in order to secure a faithful compliance with the terms of the contract; but your selection of the inspectors for their fitness alone, has greatly aided me in obtaining the best quality of work.

The prompt reference to each bureau officer of complaints, and the requirements of an immediate report, has served greatly to insure prompt attention, especially of complaints affecting sewers, where timely notice is so important, and where delay might cause serious damage and inconvenience and additional expense to the city.

It is found, however, on investigating the complaints, that the trouble is in no way caused by the sewer, but is occasioned by obstructed house-drains or waste-pipes within the premises, which is not our duty to remedy. The trouble is pointed out by the examiner, and the occupant advised of the best way to remedy it.

Such complaints are growing more frequent, and are generally from dwellings recently built by speculative builders, where but little attention had been given to the manner or quality of the plumbing, and only the cheapest kind of materials and work used, one 6-inch connection with the sewer sufficing for the drainage of a whole block of houses, which is inadequate to carry off the storm water from roofs; as a consequence, the premises are flooded, and a complaint made that the public sewer is at fault.

The Department of Public Works cannot remedy the defects or compel separate connection, its jurisdiction being only over the public sewer, and the manner of connecting with it. The complaint is forwarded to the Health Department, who can compel a compliance with its Sanitary Code.

The law passed last year, and which takes effect on the first day of March, 1882, will give to the Health Department full supervision over all house-drainage, and by directing the proper laying of the house-drain, and of material strong enough to resist the unequal settlement when laid in the rock filling of the street, will cause the repairs to the sewers and settlement of the pavement to be less frequent; for it is found that holes and damage to the pavement are often caused by its being undermined by these leaky house-drains.

Surveys and examinations for the improvement of the old sewers have been continued and satisfactory progress made.

Plans are complete for a section of the West street collective sewer, between Chambers and Canal streets, and can be placed under contract as soon as the new bulkhead and river street (now being built) has advanced so that there will be space to build the sewer without greatly obstructing the travel on West street and access to the several piers.

For sanitary reasons, it is very important, that this sewer be built without unnecessary delay, as the several old sewers which it will intercept now discharge through temporary wooden boxes into the slips, and the drains from stores on West street have been interfered with by the filling in between the old bulkhead and the new bulkhead wall.

On the East river the plan is about finished for the collective sewer in South street, between Pike and Fulton streets, having an outlet through a pier to be built for the purpose near the foot of Roosevelt street, at which point the present main outlet sewer discharges.

This collective sewer will intercept the sewers now emptying into the still water of the slips at the foot of Fulton, Peck slip, Dover, Roosevelt, James slip, Oliver, Catherine, Market, and Pike streets, where at low tide the sewer mud is exposed and constantly stirred up by the boats of the several Brooklyn ferries, giving out most unhealthy and offensive odors.

In view of the importance of commencing this improvement without delay, and the uncertainty of getting possession of the pier (now occupied by the trustees of the bridge), and of the building of the bulkhead wall and new river street, I would suggest that the Dock Department be asked to build a pier near by through which the outlet may be extended to tide water.

The old sewers have been greatly improved and maintained in fair working order from the yearly appropriation for the cleaning and repairing of all city sewers.

This fund is the only one available since the repeal (in 1876) of the law authorizing the rebuilding and material repairs of these old sewers, and under it many important changes and improvements were made.

There are yet many miles of these old sewers that are kept open only by the closest attention and heavy expenditure.

These sewers, originally faulty in design and poorly built, should be systematically reconstructed, and to this end the law repealed in 1876 should be reenacted, or one passed similar to the "Repeating Act."

Most of these defective sewers are in crowded business thoroughfares, where work of reconstruction will be both difficult and expensive, and can be well done only by experienced and competent parties.

It would be advisable to so amend the present contract law, so that in all work of reconstructing and improving of sewers the Commissioner of Public Works may select parties of some ability and responsibility to do the work.

Very respectfully,

STEVENSON TOWLE, Engineer in Charge of Sewers.

Document "G."

REPORT OF SUPERINTENDENT OF STREET IMPROVEMENTS.

DEPARTMENT OF PUBLIC WORKS,
BUREAU OF STREET IMPROVEMENTS, ROOM 5, 31 CHAMBERS STREET,
NEW YORK, January 9, 1882.

Hon. HUBERT O. THOMPSON, Commissioner of Public Works:

SIR—In compliance with your instructions, I have the honor to submit herewith my report of the operations of the Bureau of Street Improvements for the three months of October, November, and December, as also for the year 1881.

During the year 34 contracts have been completed at a cost of \$99,363.48, and for which assessment lists have been transmitted to the Chief Clerk's office.

WORKS UNDER CONTRACT.

Fourth avenue, from Ninety-sixth to One Hundred and Second street—

This work, which was the last part of Fourth avenue not yet graded, is now nearly completed, thus opening the avenue for public use through its entire length to Harlem river.

Ninth avenue, from Eighty-first to One Hundred and Tenth street—

The curbing and flagging of this avenue is a much-needed improvement, there having been hitherto very little convenience for pedestrian travel thereon. The contractor has been somewhat delayed, so far as rapid progress was concerned, by sheer inability to obtain and keep a steady force of men on the work, the great activity in the building interest rendering it difficult to obtain the services of skilled workmen in this line. Access to Eighty-first and One Hundred and Fourth street elevated railroad depots has, however, been made much more convenient for the winter by the flagging of six or eight blocks in their vicinity, and it is expected that with the advent of spring the work will be actively progressed to an early completion.

Sixty-sixth street, Eighth avenue to the Boulevard—

This is an old contract (mostly rock-cutting), it having been abandoned and afterward relet at very low price. The present contractor, after doing considerable work thereon, suspended operations for a long time. He has now, however, recommenced with a considerable force, so that, I think, its completion may reasonably be expected during the coming season.

Seventy-third street, Third avenue to the East river—

This is a large contract, mainly of rock and earth excavation; it has been energetically carried on by the contractor, and will be fully completed in the early part of next spring.

Seventy-fifth street, Tenth avenue to Riverside drive—

This work has progressed quite favorably since its commencement and will in all probability be completed during the fore part of next summer.

Eighty-first street, Boulevard to Riverside drive—

The work on this contract is well advanced and bids fair to be completed during the spring months; it is an important one, as it forms another connecting link between the main Boulevard and the Riverside drive.

Eighty-fifth street, Ninth to Tenth avenue—

This contract, which is one mainly of rock excavation, has just been commenced and will likely be finished during the year.

Eighty-eighth street, Tenth avenue to Riverside drive—

This work is in fair progress, and when completed, which will probably be during the ensuing season, will open up a considerable amount of property for improvements, as well as furnish another connection with Riverside drive for convenience of public travel.

Ninety-fourth street, Eighth avenue to Boulevard—

This much-needed improvement is so far advanced that it will be completed during the early spring months, which will not only be an advantage to the owners on the line thereof, but, from its proximity to the elevated railroad station at Ninety-third street, will also furnish the public increased accommodation, connecting as it does two such main thoroughfares as the Eighth avenue and Boulevard.

Ninety-eighth street, Third to Fourth avenue—

The work on this contract, which is composed mainly of rock and earth excavation, will be finished about the first of May. It will, when completed, form an outlet for Lexington avenue, which comes into but does not cross this street.

Ninety-eighth street, Fourth to Fifth avenue, and Ninety-ninth street, Fourth to Fifth avenue—

These are both large works of filling in only, and are let to a responsible contractor for a very low price. It is probable that they will not be completed till next year.

One Hundredth street, Third to Second avenue, and One Hundred and First street, Second to Third avenue—

These contracts are both works on which embankments only have to be created. Lying, as they do, across a part of what are known as the Harlem marshes, and connecting two such important thoroughfares as Second and Third avenues, makes them both desirable improvements. They are so far progressed that their completion may be expected during the coming season.

One Hundred and First street, Ninth to New avenue—

This work is about half done and is progressing quite favorably, and will be finished during the early part of summer.

One Hundred and Twelfth street, Madison to Sixth avenue—

Work has not yet commenced on this contract. There is considerable filling required thereon, and it will probably be finished during the year.

One Hundred and Thirteenth street, Fourth to Fifth avenue—

This work is so nearly done that its completion may be expected in the spring months.

One Hundred and Fifteenth street, Tenth avenue to Morningside avenue, and One Hundred and Sixteenth street, Tenth avenue to Morningside avenue—

These are both works of combined earth and rock excavation. The contracts are signed but not yet in actual work. They will be finished in about one year.

One Hundred and Seventeenth street, Fifth to Sixth avenue—

This contract will soon be completed, the present main advantage of which will be the opening of the property thereon for improvements.

One Hundred and Nineteenth street, Sixth to Seventh avenue—

This work is in active progress and will be finished during the coming season.

One Hundred and Nineteenth street, Fourth to Sixth avenue—

The work of flagging this street is necessary for the convenience of pedestrian travel, and will be finished in the early part of the coming season.

One Hundred and Twenty-fifth street, Manhattan street to Boulevard—

This contract, quite an extensive one, was hoped could have been finished last year. It is now reported that it will be completed during the spring months, which will be of great advantage to travel, as it connects Harlem by a direct route with the Boulevard.

One Hundred and Seventy-fifth street, Tenth avenue to Kingsbridge road—

This is also a large work, much of it being rock excavation. It probably will not be completed this year. When finished it will form a much-needed connecting link between High Bridge and Kingsbridge road.

Filling in low and sunken lands between One Hundred and Forty-third and One Hundred and Fifty-fifth streets, and Eighth and Ninth avenues—

The work of filling in on the low lands between One Hundred and Forty-third and One Hundred and Fifty-fifth streets, west of Eighth avenue up to a point about five feet above tide-waters, now just commencing, will, when completed, be of great advantage not only to the owners of property there in furnishing them with a basis of soil that will admit of the using thereof for various purposes, but also to the large district surrounding it in the future prevention of malarious influences, arising from the poisonous gases that were continually arising from the mucky soil, saturated with more or less of stagnant water. The surface to be filled in covers a large space and will probably take nearly a year to complete it properly.

APPROPRIATIONS.

"Street Improvements for Surveying, Monumenting, and Numbering of Streets."

The amount appropriated for this purpose was \$1,250, which sum has been expended by the Bureau, mainly in continuing a system of the establishment of a corrected set of levels over the upper part of the city, which was commenced last year and which has already proved on great advantage to city surveyors and others requiring elevations that could be considered somewhat reliable.

Flagging Sidewalks and Fencing Vacant Lots in Front of City Property.

The sum set apart for this purpose was \$1,500, which has been nearly all expended for such repairs and materials as were from time to time absolutely necessary.

Numbering of Streets.

The numbering of streets and renumbering of the same, was duly cared for during that portion of the year set apart by ordinance of the Common Council for such purpose.

The ordinance for street numbering above Ninth street, which provides for the numbers one to commence at Fifth avenue with the prefix east and west attached, and to commence with an additional hundred at the intersection of each of the leading avenues, has been very satisfactory in its operations, in that it enables both citizens and travelers to at once locate and reach the place sought by the shortest possible route.

This, however, not being the case with the avenues, causes much personal discomfort as well as unnecessary pedestrian labor. Circumstances having formed a main east and west line of uptown travel; the bulk of persons take one or the other of these routes, and, leaving the public conveyance at the avenue corner bearing a near number to the one upon a parallel avenue which they seek, are much disappointed and put to useless personal inconvenience, often rendered more intense by stormy weather, in addition to the time lost thereby, which is also a matter of importance, in finding that they are a quarter of a mile (more or less) from the place sought. These discrepancies arise mainly from the fact that our longitudinal avenues commence, and their numbering as well, from a number of points varying between Houston and Twenty-third streets. The only remedy that I can see for this state of affairs, could be obtained through the passage of an ordinance in regard to avenue numbering (if deemed advisable) by the Common Council, declaring that the northerly corners of all avenues at their intersection with Twenty-third street, be numbered 460 and 461 respectively; that said numbering extend northerly at the ratio of 20 numbers (10 each side) to a block; that where this amount of number is not required in a block, the surplus be left sub silentio in the intersecting street, and where more than 20 per block (which would be seldom) are needed, that half numbers be used to make up the deficiency; that said numbers be extended southerly, also, in inverse ratio back to the commencement of said avenue. This would take First and Second avenues, and Avenue A, down to No. 1 at Houston street, and so proportionately with the others except Madison avenue, the lowest number of which would be 460 and 461 respectively. It is true that the passing of this ordinance would compel the renumbering of all the leading avenues, but when once done, its operation would be so beneficial, both in the saving of time and personal comfort, and would enable any place to be so easily located in the mind, that I doubt much if any owner, tenant or business man would ever regret the abolishment of the old system. Under this new plan, the fact that a simple division of the avenue number by 20 would give the cross street nearest thereto, would soon become known and practically used by the whole community.

All of which is respectfully submitted.

GEORGE A. JEREMIAH, Superintendent Street Improvements.

Statement of Works in Progress in the Bureau of Street Improvements, on the 31st day of December, 1881.

LOCATION OF WORK.	CONTRACTOR.	SURVEYOR.	INSPECTOR.	CONTRACT TIME.	ESTIMATED COST.	AMOUNT EARNED.	AMOUNT RETAINED.	AMOUNT PAID.	REMARKS.
Regulating, Grading, Curb, Gutter, and Flagging—									
Fourth avenue, Ninety-sixth street to One Hundred and Second street.	Thomas F. Kane.	W. V. Smith.	W. S. Edwards.	150 days.	\$17,100 00	\$32,642 00	\$9,792 60	\$22,849 40	
Ninth avenue, Eighty-first street to One Hundred and Tenth street.	Matthew Baird.	W. V. Smith.	M. L. Ogden.	100 "	21,318 50	.....	.....	.....
Sixty-sixth street, Eighth avenue to Boulevard.	John Mulholland.	F. M. Leonard.	J. Chadwick.	300 "	14,372 76	6,626 50	1,987 95	4,638 55	
Seventy-third street, Third avenue to East river.	Patrick Farley.	W. V. Smith.	J. Lawrence.	300 "	40,217 00	36,135 00	10,840 50	25,294 50	
Seventy-fifth street, Tenth avenue to Riverside Drive.	James Slattery.	M. A. Kellogg.	J. J. Mulqueen.	125 "	10,878 20	3,305 00	991 50	2,313 50	
Eighty-first street, Boulevard to Riverside Drive.	Butler & Reilly.	H. V. M. Dennis.	J. E. Kratt.	150 "	8,838 90	3,111 00	933 30	2,177 70	
Eighty-fifth street, Ninth avenue to Tenth avenue.	Hugh Duffy.	W. V. Smith.	D. D. Lum.	150 "	7,029 00	.....	.....	.....
Eighty-eighth street, Tenth avenue to Riverside Drive.	John Brady.	E. L. Viele.	J. Tubbs.	75 "	9,185 80	.....	.....	.....
Ninety-fourth street, Eighth avenue to Boulevard.	James Slattery.	F. E. Towle.	J. McNary.	200 "	12,661 10	9,707 50	2,912 25	6,795 25	
Ninety-eighth street, Third avenue to Fourth avenue.	Michael Finn.	F. E. Towle.	C. M. Jeroloman.	100 "	8,205 00	17,180 00	5,154 00	12,026 00	
Ninety-eighth street, Fourth avenue to Fifth avenue.	Abraham Dowdney.	M. A. Kellogg.	J. Brown.	350 "	6,101 50	.....	.....	.....	Work not commenced.
Ninety-ninth street, Fourth avenue to Fifth avenue.	Abraham Dowdney.	J. McIntyre Smith.	L. Keenan.	350 "	8,611 50	.....	.....	.....
One Hundredth street, Third avenue to Second avenue.	Patrick Farley.	J. McIntyre Smith.	W. E. Tallister.	585 "	3,546 20	.....	.....	.....
One Hundred and First street, Second avenue to Third avenue.	Thomas E. Crimmins.	M. A. Kellogg.	S. Bennett.	225 "	5,307 00	.....	.....	.....
One Hundred and First street, Ninth avenue to New avenue.	Thomas E. Crimmins.	M. A. Kellogg.	S. Bennett.	200 "	5,912 50	.....	.....	.....
One Hundred and Twelfth street, Madison avenue to Sixth avenue.	Phelan & Haughton.	W. V. Smith.	J. J. Finley.	320 "	10,359 50	.....	.....	.....	Work not commenced.
One Hundred and Thirteenth street, Fourth avenue to Fifth avenue.	Joseph F. Gallagher.	W. V. Smith.	J. J. Finley.	100 "	2,955 00	.....	.....	.....
One Hundred and Fifteenth street, Tenth avenue to Morningside avenue.	A. A. Irvine.	R. L. Waters.	.....	60 "	5,774 85	.....	.....	.....	Work not commenced.
One Hundred and Sixteenth street, Tenth avenue to Morningside avenue.	Patrick Farley.	R. L. Waters.	.....	550 "	10,813 60	.....	.....	.....	Work not commenced.
One Hundred and Seventeenth street, Fifth avenue to Sixth avenue.	Thomas F. Kane.	W. V. Smith.	R. J. Wilkinson.	175 "	5,741 00	4,573 00	1,371 90	3,201 10	
One Hundred and Nineteenth street, Sixth avenue to Seventh avenue.	Michael Finn.	W. V. Smith.	J. H. Madigan.	250 "	7,219 90	.....	.....	.....
One Hundred and Nineteenth street, Fourth avenue to Sixth avenue.	Thomas Gearty.	W. V. Smith.	.....	20 "	3,300 00	.....	.....	.....	Work not commenced.
One Hundred and Twenty-fifth street, Manhattan street to Boulevard.	John Phelan.	W. V. Smith.	P. H. Kedney.	450 "	17,911 47	10,754 00	3,226 20	7,527 80	
One Hundred and Seventy-fifth street, Tenth avenue to Kingsbridge road.	George F. Doak.	M. A. Kellogg.	G. W. Nash.	224 "	28,398 50	.....	.....	.....
Special Contracts.									
Filling in Low and Sunken Lands—									
One Hundred and Forty-third and One Hundred and Fifty-fifth streets, Eighth avenue to Ninth avenue.	William Everard.	W. V. Smith.	A. J. Fleming.	350 "	47,260 00	.....	.....	.....
Boulevard and Avenues—									
Eleventh avenue, One Hundred and Fifty-fifth street to Kingsbridge road.	Michael Noonan.	G. E. Babcock.	.....	300 "	65,523 20	53,545 60	16,063 68	37,481 92	
Total.....					\$384,746 78	\$177,579 60	\$53,273 88	\$124,305 72	

AMOUNT OF WORK DONE DURING THE QUARTER ENDING DECEMBER 31, 1881.

Earth excavation, cubic yards.	18,756
Rock " "	14,360
Filling furnished, " "	16,155
Curb stones set, linear feet.	5,394
Curb and gutter stones set, linear feet.	4,668
Flagging laid, square feet.	23,736

AMOUNT OF VOUCHERS DRAWN.

On account of—	
Street Improvement Fund, contracted for after June 9, 1880.	\$36,021 11
" " " June 9, 1880.	18,822 43
Street Improvements above Fifty-ninth street, June 9, 1880.	730 33
Street Improvements—For Surveying, Monumenting, and Numbering of Streets.	264 17
Flagging Sidewalks and Fencing Vacant Lots in front of City Property.	462 69
Contingencies—Department of Public Works.	75 56
Total	\$56,376 29

WORKS COMPLETED.

Regulating, Grading, etc.—	
Seventieth street, Eighth to Tenth avenue.	\$21,051 15
Seventy-first street, Fifth avenue to East river.	21,184 22
Ninety-seventh street, Eighth avenue to Boulevard.	12,674 02
Ninety-eighth street, Eighth avenue to Boulevard.	8,821 68
One Hundred and Twenty-first street, Sixth avenue to Seventh avenue.	3,618 50

Regulating, Grading, etc.—

One Hundred and Forty-seventh street, Tenth avenue to Kingsbridge road.	\$1,587 16
Flagging—	
East side Avenue D, Thirteenth to Fourteenth street.	\$441 08
North side Seventy-first street, Ninth to Tenth avenue.	488 01
Total	\$2,516 25

APPROPRIATIONS.

Street Improvements—For Surveying, Monumenting, and Numbering of Streets.	\$1,250 00
Amount of vouchers drawn.	\$404 17
Outstanding liabilities (estimated).	845 83
Total	1,250 00
Flagging Sidewalks and Fencing Vacant Lots in front of City Property.	\$1,500 00
Amount of vouchers drawn.	\$1,139 85
Outstanding liabilities (estimated).	325 00
Balance (estimated).	35 15
Total	1,500 00
Contingencies—Department of Public Works—	
Amount of vouchers drawn.	\$75 56

The following is the amount appropriated for Boulevards, Roads, and Avenues—Maintenance of, and for Incidental Surveys, Salaries Account, for 1881:

Amount appropriated for 1881.....	\$8,800 00
Amount expended for first quarter.....	3,174 93
Balance April 1.....	\$5,625 07
Amount expended for second quarter.....	2,347 25
Balance July 1.....	\$3,277 82
Amount expended for third quarter.....	1,707 19
Balance October 1.....	\$1,570 63
Amount expended for fourth quarter is as follows:	
Pay-roll of foremen, etc., for October.....	\$514 00
“ “ “ November.....	504 50
“ “ “ December.....	552 06
	1,570 56
Balance January 1, 1882.....	\$0 07

The following is the amount expended on Restoring and Repaving, Special Fund, during the year 1881:

Amount expended for second quarter.....	\$574 56
“ “ “ third “.....	2,000 57
Amount expended for fourth quarter is as follows:	
Pay-roll of laborers, etc., for October.....	581 52
“ “ “ November.....	351 59
“ “ “ December.....	318 07
Total amount expended during the year 1881.....	\$3,826 31

The following is a list of repairs made over sewer and water connections, and the macadam roadways during the quarter ending December 31, 1881, and the amount expended:

North side of Seventy-second street, 100 feet east of Madison avenue. S. C.	
North side of Seventy-second street, 100 feet east of Madison avenue. W. T.	
No. 307 East One Hundred and Sixteenth street. W. T.	
South side of One Hundred and Sixteenth street, 144, 170, and 200 feet west of Avenue A. W. T.	
South side of One Hundred and Twenty-third street, 125, 150, and 175 feet east of Sixth avenue. W. T. T. D. S.	
West side of Avenue A, 66 and 83 feet south of One Hundred and Twenty-second street. W. T.	
North side of One Hundred and Twenty-fourth street, 150 feet west of Sixth avenue. W. T.	
North side of Seventy-second street, 50 feet east of Lexington avenue. S. C. R. N. C.	
North side of Seventy-second street, 45 feet east of Lexington avenue. S. C.	
No. 327 East One Hundred and Sixteenth street. W. T. R.	
No. 122 West One Hundred and Twenty-fourth street. W. T.	
South side of Seventy-second street, 10, 23, 40, 58, 76, 94, 112, and 130 feet east of Lexington avenue. W. T.	
North side of One Hundred and Sixteenth street, 80 feet west of First Avenue. S. C.	
South side of Seventy-second street, 100 feet west of Fourth avenue. S. C.	
Nos. 83, 85, and 87 East One Hundred and Tenth street, south side, near Fourth avenue. S. C.	
Nos. 54, 56, and 58 East One Hundred and Tenth street, north side, near Madison avenue. W. T. S. C.	
Nos. 71, 119, 123, and 154 East One Hundred and Tenth street, north side. W. T. S. C.	
One Hundred and Twenty-fourth street, corner Pleasant avenue. W. T.	
Avenue A, corner One Hundred and Tenth street. Repaired manhole.	
Nos. 210, 212, 214, and 216 West One Hundred and Twenty-third street. W. T. S. C.	
South side of One Hundred and Twenty-fourth street, 40 feet west of Madison avenue. S. C.	
Nos. 15, 17, 19, and 23 West One Hundred and Twenty-third street. W. T. S. C.	
Nos. 6, 8, and 12 East One Hundred and Twenty-third street, south side. W. T. S. C.	
Nos. 124 and 126 West One Hundred and Twenty-third street. W. T. S. C.	
Northwest corner of One Hundred and Twenty-first street and Pleasant avenue. S. C.	
South side of One Hundred and Sixteenth street, 144 feet west of Avenue A. S. C.	
Nos. 213, north side, and 208 and 218, south side, of One Hundred and Twenty-third street. S. C.	
Nos. 208 and 210 East One Hundred and Sixteenth street, south side. S. C.	
Total number of sewer and water connections, 66.	

The following was the force employed during the quarter:

1 skilled laborer, 7 laborers, and 2 teams. Total force, 10.

The following is a statement of the unpaved roads, streets, and avenues that have been repaired, and the amount of material used during the quarter ending December 31, 1881:

One Hundred and Sixteenth street, from Avenue St. Nicholas to Eighth avenue.
One Hundred and Twenty-first street, from Fourth to Sixth avenue.
One Hundred and Twenty-sixth street, from Sixth to Seventh avenue.
One Hundred and Twenty-seventh street, from Sixth to Eighth avenue.
One Hundred and Twenty-eighth street, from Seventh to Eighth avenue.
One Hundred and Thirtieth street, from Sixth to Eighth avenue.
One Hundred and Thirty-first street, from Sixth to Eighth avenue.
One Hundred and Thirty-second street, from Sixth to Eighth avenue.
One Hundred and Thirty-third street, from Sixth to Eighth avenue.
One Hundred and Thirty-fourth street, from Sixth to Eighth avenue.
One Hundred and Thirty-fifth street, from Fifth avenue to Avenue St. Nicholas.
One Hundred and Twenty-ninth street, from Boulevard to Hudson river.
One Hundred and Fifty-eighth street, from Eleventh avenue to Hudson river.
Fifth avenue, from One Hundred and Tenth to One Hundred and Twenty-first street.
Eighth avenue, from One Hundred and Twenty-sixth to One Hundred and Fiftieth street.
Twelfth avenue, from One Hundred and Twenty-ninth to One Hundred and Thirty-third street.
Kingsbridge road, from One Hundred and Sixty-second street to Kingsbridge.
Tenth avenue, between One Hundred and Forty-third and One Hundred and Fifty-fifth streets.
Avenue St. Nicholas, between One Hundred and Fifty-fifth and One Hundred and Sixty-second streets.

Old Broadway, between One Hundred and Thirty-eighth and One Hundred and Forty-third streets.

One Hundred and Fifty-fifth street, from Avenue St. Nicholas to Ninth avenue.

The following is the amount of material used on the above works during the quarter:

1,800 cubic yards of sharp gravel.
900 cubic yards of limestone chips.
1,000 cubic yards of earth filling.
450 cubic yards of broken stone.

4,150 cubic yards of material.

The following is a list of roads, streets, and avenues, unpaved, that have been sprinkled during the quarter:

Kingsbridge road, from One Hundred and Sixty-second street to Kingsbridge.
Tenth avenue, from One Hundred and Forty-fifth to One Hundred and Fifty-fifth street.
Eighth avenue, from One Hundred and Twenty-fifth to One Hundred and Forty-fifth street.
McComb's dam road, from One Hundred and Forty-fifth street to McComb's dam bridge.
One Hundred and Fifty-fourth street, from Seventh to Eighth avenues.

The following is the force employed during the quarter:

1 foreman, 5 street laborers, 35 laborers, 12 teams, 2 horses and carts, 3 sprinklers. Total force employed, 58.

The following is the amount appropriated for Roads, Streets, and Avenues, Unpaved—Maintenance of, and Sprinkling, for 1881:

Amount appropriated.....	\$29,100 00
Amount expended for first quarter.....	3,727 31
Balance April 1.....	\$25,372 69
Amount expended for second quarter.....	6,771 93
Balance July 1.....	\$18,600 76
Amount expended for third quarter.....	5,759 45
Balance October 1.....	\$12,841 31
Amount expended for fourth quarter is as follows:	
Pay-roll of laborers, etc., for October 15.....	\$845 71
“ “ “ “ 31.....	1,055 67
“ “ “ November 15.....	1,075 19
“ “ “ “ 30.....	1,143 79
“ “ “ December 15.....	1,145 49
“ “ “ “ 31.....	1,251 87

Repairing tools, etc., for July and August.....	\$66 60
“ “ “ September and October.....	60 35
“ “ “ November and December.....	67 70
Sharp gravel.....	1,800 00
Limestone chips.....	1,800 00
Broken stone.....	855 00
Earth filling.....	350 00
Lumber and spikes.....	158 58
Horsekeeping and shoeing.....	168 00
	\$11,843 95

Balance January 1, 1882..... \$997 36

The following is the amount appropriated for Roads, Streets, and Avenues, Unpaved—Maintenance of, Salaries Account, for 1881:

Amount appropriated.....	\$900 00
Amount expended for first quarter.....	267 00
Balance April 1.....	\$633 00
Amount expended for second quarter.....	273 00
Balance July 1.....	\$360 00
Amount expended for third quarter.....	171 00
Balance October 1.....	\$189 00
Amount expended for fourth quarter is as follows:	
Pay-roll of foreman for October.....	\$33 00
“ “ “ November.....	63 00
“ “ “ December.....	93 00
	189 00

Balance January 1, 1882..... \$0 00

Respectfully,

JAMES J. MOONEY, Superintendent of Streets.

Document "I."

REPORT OF SUPERINTENDENT OF LAMPS AND GAS.

DEPARTMENT OF PUBLIC WORKS,
BUREAU OF LAMPS AND GAS,
NEW YORK, January 7, 1882.

Hon. HUBERT O. THOMPSON, Commissioner of Public Works:

SIR—In compliance with the directions contained in your circular letter of the 29th instant, I herein submit a report of the transactions of the Bureau of Lamps and Gas for the three months ending December 31, 1881, with a summary of the same for the whole year.

In Exhibit "A" will be found a statement showing the amounts expended for gas to the various public markets, offices, armories, etc., and for fitting up, lighting, and maintaining the public lamps for the first, second, third, and fourth quarters, and the sum total for the whole year. Exhibit "B" is a summary of the appropriation for "Lamps and Gas," and shows an expenditure during the last quarter of one hundred and seventy-seven thousand three hundred and twelve dollars and twenty-five cents (\$177,312.25), and for the year, of five hundred and twelve thousand nine hundred and thirty-three dollars and thirty-seven cents (\$512,933.37), leaving a balance of seventeen thousand and sixty-six dollars and sixty-three cents, from which there has been transferred to other accounts the sum of seventeen thousand dollars, and leaving a surplus balance of sixty-six dollars and sixty-three cents. Exhibit "C" is a summary of the appropriation for "Salaries—Lamps and Gas," and shows an expenditure during the quarter of eleven hundred and thirty-six dollars (\$1,136), and for the year, of five thousand three hundred and forty-four dollars (\$5,344), leaving a surplus balance of fifty-six dollars. Exhibit "D" is a summary of the "Lamp Account," and shows the number of new lamps lighted, old lamps relighted, and lamps discontinued by each gas company during the quarter and the year, one hundred and thirty-three new lamps having been lighted, sixty-seven old lamps relighted, and two hundred and twenty-nine lamps discontinued during the quarter, and a total of four hundred and fifty-eight new lamps lighted, one hundred and seventy-three old lamps relighted, and six hundred and fifty-five lamps discontinued during the year. The total number of public gas-lamps lighted on the streets, avenues, piers, bridges, parks, and places of the city, on December 31, 1881, was twenty-three thousand four hundred and sixty-six, and the number of electric lamps was fifty-five; the net decrease of gas-lamps during the year being forty-five. The total number of gas-lamps discontinued on account of the electric lights was four hundred and thirty-four. Exhibit "E" is a statement showing the lowest, highest, and average illuminating power of the gases supplied by the New York, Municipal, New York Mutual, Metropolitan, Manhattan, and Harlem Gas-light companies during the quarter and the year. Exhibit "F" is a copy of the contract for the public lamps of lighting this city. Exhibit "G" is a copy of the time table for lighting the public gas-lamps for the year 1882. The electric lamps are lighted from thirty to forty minutes after sunset, according to the condition of the weather, and are kept lighted until about thirty minutes before sunrise.

The following statement shows the number of new lamps fitted up, lamp-posts removed, reset, straightened, etc., during the year:

BY WHAT GAS COMPANY.	New Lamps Fitted up.	Lamp-posts Removed.	Lamp-posts Reset.	Lamp-posts Straightened.	Columns Relighted.	Columns Relighted.
New York Gas-light Co.....	25	55	79	175	68	130
Manhattan Gas-light Co.....	37	73	100	398	82	94
Metropolitan Gas-light Co.....	121	51	78	397	8	62
New York Mutual Gas-light Co....	....	1	4	43	1	6
Harlem Gas-light Co.....	133	55	47	232	19	32
Central Gas-light Co.....	65	26	29	211	2	3
Northern Gas-light Co.....	67	4	4	285	....	....
Yonkers Gas-light Co.....	14	9	9	....	....	....
Totals.....	462	274	350	1,741	180	327

The following table will show the number of new lamps lighted by the several gas companies in each year from 1876 to 1881, inclusive:

BY WHAT GAS COMPANY.	NEW LAMPS LIGHTED IN—					
	1876.	1877.	1878.	1879.	1880.	1881.
New York Gas-light Co.....	11	59	150	78	30	26
Manhattan Gas-light Co.....	4	112	72	131	58	41
Metropolitan Gas-light Co.....	187	67	148	110	137	126
New York Mutual Gas-light Co....	5	1	....	152	1	....
Harlem Gas-light Co.....	235	130	130	134	138	99
* N. Y. and N. J. Globe Gas-light Co.	....	8	13	....	....	....
Central Gas-light Co.....	2	55	89	115	42	65
Northern Gas-light Co.....	15	41	27	90	....	67
Yonkers Gas-light Co.....	....	72	....	....	16	14
Totals.....	459	545	628	810	422	438

* Lighted by naphtha.

The following statement shows the average number of lamps lighted under the supervision of the Department of Public Works in each of the years from 1874 to 1881, inclusive:

BY WHAT GAS COMPANY.	AVERAGE NUMBER OF LAMPS LIGHTED IN—							
	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.
New York Gas-light Co.....	3,008	3,009	2,638	2,830	3,148	3,381	3,560	3,565
Manhattan Gas-light Co.....	6,546	6,550	4,996	5,954	6,618	6,689	6,804	6,677
Metropolitan Gas-light Co.....	3,382	3,514	3,633	3,767	3,800	4,068	4,282	4,349
N. Y. Mutual Gas-light Co.....	440	584	2,516	1,323	587	800	1,037	986
Harlem Gas-light Co.....	4,084	3,915	3,938	2,554	3,960	4,280	4,688	4,774
*N. Y. and N. J. Globe Gas-light Co.....	.....	.....	.....	2,106	506	510	.....	.....
Central Gas-light Co.....	1,523	1,524	1,536	1,569	1,649	1,764	1,834	1,874
Northern Gas-light Co.....	924	932	932	969	989	1,026	1,090	1,117
Yonkers Gas-light Co.....	.....	.....	.....	71	72	72	76	91
Total.....	20,047	20,026	20,159	21,203	21,419	22,590	23,365	23,433

* Lighted by naphtha.

The following shows the prices named in the proposals which were received on December for furnishing gas during the year 1882 to such of the public buildings as are lighted by the Department of Public Works, also the illuminating or candle power of the gas each gas company proposes to furnish:

PROPOSALS OF—	PRICE PER 1,000 CUBIC FEET FOR 1882.	ILLUMINATING POWER OF GAS IN CANDLES.	CUBIC FEET OF GAS USED IN THE PUBLIC BUILDINGS IN YEAR 1881.	PRICE PAID PER 1,000 CUBIC FEET IN 1881.
New York Gas-light Co.....	\$1 75	18	6,505,405	\$1 75
Manhattan Gas-light Co.....	1 75	16	7,097,514	1 75
Metropolitan Gas-light Co.....	1 75	20 to 23	3,019,428	1 75
Harlem Gas-light Co.....	2 25	16	547,253	2 25
			17,169,600	

No bids were received from the other gas companies, and contracts have been made with the New York Gas Company for the public buildings south of Grand street; with the Manhattan Gas Company for the buildings between Grand and Thirty-fourth streets; with the Metropolitan Gas Company for the buildings between Thirty-fourth and Seventy-ninth streets; and with the Harlem Gas Company for the buildings on Manhattan Island situate north of Seventy-ninth street.

The prices charged to private consumers are as follows:	
By New York Gas-light Co.....	\$2 25 per 1,000 cubic feet.
“ Manhattan Gas-light Co.....	2 25 “
“ Metropolitan Gas-light Co.....	2 25 “
“ Harlem Gas-light Co.....	2 25 “
“ N. Y. Mutual Gas-light Co.....	2 25 “
“ Municipal Gas-light Co.....	2 25 “
“ Knickerbocker Gas-light Co.....	2 25 “
“ Central Gas-light Co.....	2 25 “
“ Northern Gas-light Co.....	3 00 “
“ Yonkers Gas-light Co.....	2 50 “

The following statement will show the prices now paid the several gas-light companies, under the existing contracts, for furnishing the gas to and lighting, extinguishing, cleaning, repairing, etc., the public lamps for the year ending April 30, next.

GAS COMPANY.	For Gas to and Lighting, etc., each Lamp.	For each Lamp-post Straightened.	For each Column Relined.	For each Column Refitted.	For each Lamp-post Removed.	For each Lamp-post Reset.	For each new Lamp Fitted up.
New York Gas-light Company.....	\$17 50	\$1 50	\$1 50	\$3 50	\$3 50	\$10 00	\$10 00
Manhattan Gas-light Company.....	17 50	1 50	1 50	3 50	3 50	10 00	10 00
Metropolitan Gas-light Company.....	17 50	2 00	2 00	3 00	3 00	8 00	8 00
New York Mutual Gas-light Company.....	17 50	1 50	1 50	3 50	3 50	10 00	10 00
Harlem Gas-light Company.....	19 50	2 50	2 50	3 50	3 50	8 00	8 00
Central Gas-light Company.....	29 00	1 50	1 50	1 50	3 50	8 00	8 00
Northern Gas-light Company.....	32 00	1 50	1 50	3 00	3 00	8 00	8 00
Yonkers Gas-light Company.....	30 00	1 00	1 00	1 00	1 50	8 00	10 00

For Electric Lamps.

Brush Electric Illuminating Company, for lighting Broadway, from Fourteenth to Thirty-fourth street; Fifth avenue, from Fourteenth to Thirty-fourth street; Fourteenth street, from Fourth to Fifth avenue; Thirty-fourth street, from Broadway to Fifth avenue; and Union and Madison Parks, at the rate of \$7,400 per annum; this price to include each and every cost of maintenance.

Gas-mains have been laid by the several gas-light companies during the year, as follows:

	Feet.
By New York Gas-light Co.....	11,834
By Manhattan Gas-light Co.....	2,256
By Metropolitan Gas-light Co.....	21,485
By N. Y. Mutual Gas-light Co.....	.....
By Municipal Gas-light Co.....	234
By Harlem Gas-light Co.....	23,557
By Knickerbocker Gas-light Co.....	6,159
By Central Gas-light Co.....	7,300
By Northern Gas-light Co.....	2,640
By Yonkers Gas-light Co.....	300
Total miles laid in 1881.....	141,888

Total miles laid to December 31, 1881—

	Miles.	Feet.
By New York Gas-light Co.....	14	1,176
By Manhattan Gas-light Co.....	174	3,720
By Metropolitan Gas-light Co.....	138	80
By N. Y. Mutual Gas-light Co.....	118	2,868
By Municipal Gas-light Co.....	76	686
By Harlem Gas-light Co.....	123	3,283
By Knickerbocker Gas-light Co.....	66	898
By Central Gas-light Co.....	44	4,501
By Northern Gas-light Co.....	25	2,310
By Yonkers Gas-light Co.....	4	1,461
Total miles of gas-mains in the city on December 31, 1881.....	885	11,111

The New York Gas-light Company has taken up..... 7,679 feet.
The Manhattan Gas-light Company has taken up..... 914 “
The Harlem Gas-light Company has taken up..... 4,636 “
The Central Gas-light Company has taken up..... 5,050 “

The following statement will show the average amount of impurities found in the gases of the several companies, as ascertained by the analyses made by Mr. E. G. Love, our Gas Examiner, at the laboratories of this Department:

OF WHAT COMPANY.	SULPHUR. (Grs. in 100 cu. ft.)	AMMONIA. (Grs. in 100 cu. ft.)	SULPHURETTED HYDROGEN.
New York Gas-light Co.....	10.59	Trace.	None.
Manhattan Gas-light Co.....	16.90	3.39	“
New York Mutual Gas-light Co.....	6.06	0.24	Frequent traces.
Municipal Gas-light Co.....	3.77	Trace.	None.
Metropolitan Gas-light Co.....	18.62	3.58	“
Harlem Gas-light Co.....	34.87	0.80	Frequent traces.

The tests for the above were made with the “Referee’s” apparatus, the amount of gas burned for each test was ten cubic feet, the volume being corrected to the standard barometric pressure of 30 inches of mercury, and the temperature of 60 degrees Fahrenheit.

The following is the specific gravity of the gases:

New York Gas-light Company, specific gravity.....	.637 to .650
Manhattan Gas-light Company, “.....	.407 to .430
New York Mutual Gas-light Company, “.....	.741 to .761
Municipal Gas-light Company, “.....	.628 to .650
Metropolitan Gas-light Company, “.....	.545 to .562
Harlem Gas-light Company, “.....	.420 to .444

The following statement will show the average maximum and minimum pressure on the mains of such of the gas companies as connect with our photometrical stations, as recorded on the pressure registers during the quarter, this average being made for the time during which the public lamps are to be kept lighted:

OF WHAT GAS COMPANY.	AVERAGE MAXIMUM PRESSURE.	AVERAGE MINIMUM PRESSURE.	WHERE TAKEN.	DISTANCE FROM GAS-WORKS.
	Inches.	Inches.		Miles.
New York Gas-light Co.....	1.79	1.29	Cor. Grand and Centre streets..	2 1/10
Manhattan Gas-light Co.....	1.79	1.06	“ “ “ “	1 1/10
N. Y. Mutual Gas-light Co.....	2.20	1.45	“ “ “ “	1 1/10
Municipal Gas-light Co.....	2.87	0.88	“ “ “ “	1 1/10
Metropolitan Gas-light Co.....	1.75	0.93	{ Seventy-ninth street, between } { Second and Third avenues. }	3 1/10
Harlem Gas-light Co.....	2.91	1.23	{ Seventy-ninth street, between } { Second and Third avenues. }	1 1/10

Under the contract with the Brush Electric Illuminating Company, 23 lamps are lighted on Broadway, from Fourteenth to Thirty-fourth street; 16 on Fifth avenue, from Fourteenth to Thirty-fourth street; 1 in Fourteenth street, between Broadway and Fifth avenue; 3 in Thirty-fourth street, between Broadway and Fifth avenue; 6 in Union Park, and 6 in Madison Park—55 in all. The lamps in Broadway are on iron lamp-posts, while the lamps on the other streets are on wooden lamp-posts, each 20 feet in height. The street lamps are on two circuits; they have 3/4 carbons, and the electric current is transmitted through No. 6 insulated copper wire. The six lamps in each of the parks are on poles 160 feet in length, of which 10 feet is placed under ground. The carriage on which the lamps are suspended is 140 feet from the earth, and is lowered and raised daily for replacing the carbons, by means of a windlass. These lamps have 3/4 carbons, each cluster is on an independent circuit, and the electric current for each set is generated by a No. 7 dynamo-machine, wound for 6 lights, and is transmitted through No. 4 insulated copper wire. All these electric lamps are kept lighted with great regularity; they are remarkable for their steadiness or freedom from the wavering or blinking generally noticed in “arc” lights, and the police reports of extinction are quite rare. As evidence of the progress made in electric lighting in this city, it is only necessary to state that this company now has five stations in operation, it has 75 miles of insulated copper conductors, and is lighting over 600 “arc lights.”

All of which is respectfully submitted,
S. McCORMICK, Superintendent of Lamps and Gas.

EXHIBIT “A.”

Statement showing the Amounts on Vouchers drawn for Gas to the various Public Markets, Armories, Offices, etc., and for fitting up, repairing, and lighting the Public Lamps, etc., for the First, Second, Third, and Fourth Quarters of the Year 1881, with the totals for the whole year.

	FIRST QUARTER, ENDING MARCH 31.	SECOND QUARTER, ENDING JUNE 30.	THIRD QUARTER, ENDING SEPT. 30.	FOURTH QUARTER, ENDING DEC. 31.	TOTAL.
Washington Market.....	\$460 24	\$355 77	\$315 00	\$497 18	\$1,538 19
Catharine Country Market.....	26 06	18 91	13 12	5 66	64 05
Catharine Meat Market.....	15 76	10 33	7 00	17 84	50 93
Fulton Meat Market.....	125 05	105 19	72 10	15 93	318 27
Fulton Country Market.....	250 15	230 87	226 80	330 06	1,038 88
Essex Market.....	90 47	71 92	71 04	93 27	326 70
Centre Market.....	304 67	229 43	221 54	280 87	1,036 51
Clinton Market.....	215 57	160 99	166 95	196 18	742 69
Un on Market.....	11 55	7 00	7 18	12 07	37 80
Jefferson Market.....	116 37	94 50	92 22	122 86	425 95
Tompkins Market.....	261 81	205 45	194 95	324 62	986 83
First District Police Court.....	190 05	163 80	145 42	176 40	675 67
Second District Police Court.....	122 68	57 59	39 55	111 83	331 65
Third District Police Court.....	98 52	74 54	66 33	93 97	333 36
Fourth District Police Court.....	68 96	52 33	34 66	97 73	253 68
Fifth District Police Court.....	29 61	20 70	7 66	23 15	81 12
Court of Special Sessions.....	36	36	18	83	173
Second District Civil Court.....	12 07	10 67	9 97	15 40	47 11
Fourth District Civil Court.....	5 77	11 91	8 39	17 50	43 57
Fifth District Civil Court.....	11 38	7 17	4 03	8 23	30 81
Sixth District Civil Court.....	2 62	6 99	5 25	5 77	20 63
Eighth District Civil Court.....	2 98	3 80	1 74	9 81	17 33
Ninth District Civil Court.....	4 27	4 05	1 80	4 50	14 62
Brown Stone (Court Room) Building.....	30 91	32 90	24 85	48 12	142 78
New Court-house.....	1,164 27	938 17	740 08	995 92	3,838 44
City Hall.....	511 28	410 73	359 45	534 97	1,816 33
Department of Public Works.....	237 89	142 10	91 00	185 31	656 30
Receiver of Taxes' Office.....	226 79	148 40	68 61	323 75	767 55
Corporation Attorney's Office.....	44 28	45 71	25 03	41 04	156 06
Assessment Commission Office.....	.....	.....	.....	1 05	1 05
Pipe Yard, Rivington street.....	7 70	3 15	1 39	3 32	15 56
County Jail.....	574 70	513 40	397 44	504 88	1,990 48
South Gate-house.....	13 49	3 14	4 20	20 47	41 36
Engineer of Boulevards' Office.....	45	22	44	22	133
Engine-house, High Bridge.....	80 99	62 99	74 48	126 68	345 14
Engine-house, Ninety-eighth street.....	185 84	149 40	135 89	280 83	651 96
Clock, Third District Court-house Tower.....	227 33	285 42	260 06	280 62	999 43
Photometrical Room, Grand street.....	31 24	12 29	7 80	28 16	79 49
Photometrical Room, Seventy-ninth street.....	22 41	24 39	1 07	15 87	63 74
Armory Fifth Regiment.....	205 62	99 93	77 00	124 22	506 77
Armory Seventh Regiment.....	1,374 80	571 51	176 05	1,168 31	3,290 67
Armory Eighth Regiment.....	207 72	148 22	100 62	214 90	671 46
Armory Ninth Regiment.....	547 75	253 57	96 08	399 70	1,297 10
Armory Eleventh Regiment.....	97 48	55 48	45 85	81 21	280 02
Armory Twelfth Regiment.....	275 46	181 66	66 50	268 44	792 06
Armory Twenty-second Regiment.....	417 73	385 00	176 05	375 90	1,354 68
Armory Sixty-ninth Regiment.....	295 22	228 02	95 91	221 19	840 34
Armory Seventy-first Regiment.....	190 05	141 40	71 75	214 02	617 22
Armory Troop “A,” Calvary.....	26 26	.....	.....	.....	26 26
Armory Gaiting Battery “E”.....	78 57	43 74	20 30	78 05	220 66

	FIRST QUARTER, ENDING MARCH 31.	SECOND QUARTER, ENDING JUNE 30.	THIRD QUARTER, ENDING SEPT. 30.	FOURTH QUARTER, ENDING DEC. 31.	TOTAL.
Armory Battery "B".....	\$23 97	\$19 08	\$9 63	\$24 34	\$77 02
Armory Battery "K".....	10 50	4 19	37 10	28 35	43 04
Public Bath, Battery.....	4 90	43 22	2 45	44 45	58 55
Public Bath, Gouverneur slip.....	13 13	43 22	2 45	44 45	58 55
Public Bath, Fifth street, East river.....	6 83	36 93	2 10	45 86	40 60
Public Bath, Bethune street, North river.....	6 47	34 13	1 23	26 07	35 70
Public Bath, Nineteenth street, East river.....	2 45	22 39	1 23	26 07	35 70
Public Bath, Thirty-seventh street, East river.....	3 67	30 45	1 23	26 07	35 70
Public Bath, Fifty-first street, North river.....	5 43	29 92	2 62	37 97	49 96
Public Bath, One Hundred and Twelfth street, East river.....	8 78	41 18	.....	49 96	1,339 00
Lighting Public Markets, Pay-rolls.....	285 00	312 76	436 24	1,339 00	60 00
Cleaning Photometrical Rooms.....	15 00	15 00	15 00	15 00	4,504 00
New Lamp-posts, Twenty-third and Twenty-fourth Wards.....	740 25	7,528 75	1,235 00	1,605 00	3,716 00
New Street-lamps.....	450 00	900 00	1,466 00	900 00	450 00
New Street-lamps, Twenty-third and Twenty- fourth Wards.....	.....	.....	.....	450 00	4,335 02
New Boulevard Lamps.....	400 00	1,400 00	1,318 35	1,216 67	222 00
New Cross-heads.....	.....	190 00	295 00	174 60	659 60
New Lamp-irons.....	.....	.....	.....	112 50	1,134 19
New Lamp-irons, Twenty-third and Twenty- fourth Wards.....	.....	57 42	1,076 77	.....	228 00
New Street Signs.....	.....	.....	.....	228 00	15 83
New Street Signs, Twenty-third and Twenty- fourth Wards.....	.....	.....	.....	132 50	132 50
Drawing Materials.....	.....	.....	.....	14 00	16 00
Map of Kingsbridge District.....	.....	.....	.....	62 50	280 20
Iron Bolts.....	.....	2 00	.....	485 59	1,167 57
Traveling Expenses.....	77 70	77 70	62 50	62 50	9 96
Supplies for Photometrical Rooms.....	297 69	.....	384 29	485 59	9 96
Madison Park, Repairing Gas-mains.....	9 96	.....	.....	.....	450 00
Photometrical Rooms, Grand street (Rent).....	87 50	87 50	87 50	187 50	300 00
Photometrical Rooms, Seventy-ninth street (Rent).....	75 00	75 00	75 00	75 00	427 00
Gas Examinations.....	.....	.....	113 00	314 00	56 25
New Lamp Brackets.....	.....	.....	56 25	.....	118 73
Granite Base, and setting same.....	.....	.....	118 73	.....	2,652 00
Fitting-up New Lamps.....	290 00	1,596 00	766 00	1,196 00	7,166 50
Fitting-up New Lamps, Twenty-third and Twenty- fourth Wards.....	40 00	648 00	508 00	1,196 00	.....
Resetting and Repairing Lamp-posts.....	338 00	1,263 00	3,216 00	2,349 50	1,204 00
Resetting and Repairing Lamp-posts, Twenty- third and Twenty-fourth Wards.....	.....	68 00	92 00	1,044 00	348,785 65
Lighting Public Gas-lamps.....	52,465 61	82,799 28	91,840 64	121,080 12	97,127 28
Lighting Public Lamps, Twenty-third and Twenty- fourth Wards.....	17,334 96	25,059 11	23,189 53	31,543 68	3,058 02
Lighting Electric Lamps.....	.....	.....	.....	3,058 02	.....
Totals.....	\$81,413 47	\$120,440 28	\$133,767 37	\$177,312 25	\$512,933 37

RECAPITULATION.

Gas to Public Buildings.....	\$9,577 25	\$6,860 90	\$5,115 99	\$8,851 33	\$30,404 57
Supplies for Public Lamps, etc.....	1,097 65	4,059 99	7,937 61	5,116 10	18,809 35
Supplies for Public Lamps, Twenty-third and Twenty-fourth Wards.....	.....	.....	132 50	2,395 50	2,528 00
Resetting and Repairing Lamp-posts.....	338 00	1,263 00	3,216 00	2,349 50	7,166 50
Resetting and Repairing Lamp-posts, Twenty- third and Twenty-fourth Wards.....	.....	68 00	92 00	1,044 00	1,204 00
Fitting-up New Lamps.....	290 00	1,596 00	766 00	1,196 00	2,652 00
Fitting-up New Lamps, Twenty-third and Twenty- fourth Wards.....	40 00	648 00	508 00	1,196 00	.....
Lighting Public Lamps.....	52,465 61	82,799 28	91,840 64	121,080 12	351,845 67
Lighting Public Lamps, Twenty-third and Twenty- fourth Wards.....	17,334 96	25,059 11	23,189 53	31,543 68	97,127 28
Totals.....	\$81,413 47	\$120,440 28	\$133,767 37	\$177,312 25	\$512,933 37

EXHIBIT "B."

Summary of the Appropriation for Lamps and Gas for 1881, showing the Amount of Expenditure during the year, with the Balance standing to the Credit of the Appropriation.

Amount appropriated for "Lamps and Gas, 1881".....	\$530,000 00
Amount of vouchers drawn in first quarter, ending March 31.....	\$81,413 47
Amount of vouchers drawn in second quarter, ending June 30.....	120,440 28
Amount of vouchers drawn in third quarter, ending September 30.....	133,767 47
Amount of vouchers drawn in fourth quarter, ending December 31.....	177,312 25

Total amount expended for "Lamps and Gas," for the year 1881 .. 512,933 37

Unexpended balance..... \$17,066 63

Of which there was transferred by "Board of Estimate and Apportionment" on—	
October 14—To account of "Supplies for and Cleaning Public Offices".....	12,000 00
December 13—To account of "Repairing and Renewal of Pipes, Stop-cocks, etc.".....	4,000 00
December 13—To account of "Repairs and Renewal of Pavements".....	1,000 00
	17,000 00

Surplus balance..... \$66 63

EXHIBIT "C."

Summary of the Appropriation for "Salaries—Lamps and Gas, for 1881," showing the Amount Expended during the year, with the Balance standing to the Credit of the Appropriation.

Amount appropriated for "Salaries—Lamps and Gas, 1881".....	\$5,400 00
Amount of vouchers drawn in first quarter.....	\$1,432 50
Amount of vouchers drawn in second quarter.....	1,439 50
Amount of vouchers drawn in third quarter.....	1,336 00
Amount of vouchers drawn in fourth quarter.....	1,136 00

Total expenditures for the year..... \$5,344 00

Surplus balance..... \$56 00

EXHIBIT "D."

Summary of the "Lamp Account," showing the number of New Lamps Lighted, Old Lamps Relighted, and Number Discontinued by each Gas Company during the Quarter ending December 31, 1881, with a Recapitulation for the Year.

NEW YORK GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1881.....	3,566
Number of new lamps lighted during the quarter.....	1
Number of old lamps relighted during the quarter.....	17
Less lamps discontinued during the quarter.....	12
Number of lamps lighted December 31, 1881.....	3,572

MANHATTAN GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1881.....	6,628
Number of new lamps lighted during the quarter.....	8
Number of old lamps relighted during the quarter.....	7
Less lamps discontinued during the quarter.....	70
Number of lamps lighted December 31, 1881.....	6,573

METROPOLITAN GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1881.....	4,359
Number of new lamps lighted during the quarter.....	60
Number of old lamps relighted during the quarter.....	25
Less lamps discontinued during the quarter.....	5
Number of lamps lighted December 31, 1881.....	4,439

NEW YORK MUTUAL GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1881.....	1,017
Number of new lamps lighted during the quarter.....	0
Number of old lamps relighted during the quarter.....	3
Less lamps discontinued during the quarter.....	129
Number of lamps lighted December 31, 1881.....	891

HARLEM GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1881.....	4,809
Number of new lamps lighted during the quarter.....	15
Number of old lamps relighted during the quarter.....	9
Less lamps discontinued during the quarter.....	12
Number of lamps lighted December 31, 1881.....	4,821

CENTRAL GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1881.....	1,887
Number of new lamps lighted during the quarter.....	19
Number of old lamps relighted during the quarter.....	6
Less lamps discontinued during the quarter.....	1
Number of lamps lighted December 31, 1881.....	1,911

NORTHERN GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1881.....	1,141
Number of new lamps lighted during the quarter.....	16
Number of old lamps relighted during the quarter.....	0
Less lamps discontinued during the quarter.....	0
Number of lamps lighted December 31, 1881.....	1,157

YONKERS GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1881.....	88
Number of new lamps lighted during the quarter.....	14
Number of old lamps relighted during the quarter.....	0
Less lamps discontinued during the quarter.....	0
Number of lamps lighted December 31, 1881.....	102

Total number of gas lamps lighted December 31, 1881..... 23,466

BRUSH ELECTRIC ILLUMINATING COMPANY.	
Number of electric lamps lighted September 30, 1881.....	43
Number of new lamps lighted during the quarter.....	12
Number of old lamps relighted during the quarter.....	0
Less lamps discontinued during the quarter.....	0
Total number of electric lamps lighted December 31, 1881.....	55

23,521

RECAPITULATION.

Number of lamps lighted September 30, 1881.....	23,538
Number of new lamps lighted during the quarter.....	145
Number of old lamps relighted during the quarter.....	67
Less lamps discontinued during the quarter.....	212
Number of lamps discontinued during the quarter.....	229
Total number of lamps lighted December 31, 1881.....	23,521

Statement of the "Lamp Account" for the Year 1881.

NEW YORK GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1880.....	3,573
Number of new lamps lighted during the year 1881.....	26
Number of old lamps relighted during the year 1881.....	30
Less lamps discontinued during the year 1881.....	57
Number of lamps lighted December 31, 1881.....	3,572

MANHATTAN GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1880.....	6,821
Number of new lamps lighted during the year 1881.....	41
Number of old lamps relighted during the year 1881.....	42
Less lamps discontinued during the year.....	331
Number of lamps lighted December 31, 1881.....	6,573

METROPOLITAN GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1880.....	4,306
Number of new lamps lighted during the year 1881.....	126
Number of old lamps relighted during the year 1881.....	43
Less lamps discontinued during the year 1881.....	36
Number of lamps lighted December 31, 1881.....	4,439

NEW YORK MUTUAL GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1880.....	1,045
Number of new lamps lighted during the year 1881.....	24
Number of old lamps relighted during the year 1881.....	1,069
Less lamps discontinued during the year 1881.....	178
Number of lamps lighted December 31, 1881.....	891

HARLEM GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1880.....	4,738
Number of new lamps lighted during the year 1881.....	99
Number of old lamps relighted during the year 1881.....	25
Less lamps discontinued during the year 1881.....	41
Number of lamps lighted December 31, 1881.....	4,821

CENTRAL GAS-LIGHT COMPANY.

Number of lamps lighted December 31, 1880.....	1,850
Number of new lamps lighted during the year 1881.....	65
Number of old lamps relighted during the year 1881.....	8
Less lamps discontinued during the year 1881.....	1,923
Number of lamps lighted December 31, 1881.....	1,911

NORTHERN GAS-LIGHT COMPANY.

Number of lamps lighted December 31, 1880.....	1,090
Number of lamps lighted during the year 1881.....	67
Number of old lamps relighted during the year 1881.....	1,157
Less lamps discontinued during the year 1881.....	1,157
Number of lamps lighted December 31, 1881.....	1,157

YONKERS GAS-LIGHT COMPANY.

Number of lamps lighted December 31, 1880.....	88
Number of new lamps lighted during the year 1881.....	14
Number of old lamps relighted during the year 1881.....	102
Less lamps discontinued during the year 1881.....	102
Number of lamps lighted December 31, 1881.....	102

BRUSH ELECTRIC ILLUMINATING COMPANY.

Number of lamps lighted December 31, 1880.....	22
Number of new lamps lighted during the year 1881.....	32
Number of old lamps relighted during the year 1881.....	55
Less lamps discontinued during the year 1881.....	55
Number of electric lamps lighted December 31, 1881.....	55

RECAPITULATION.

Number of lamps lighted December 31, 1880.....	23,533
Number of new lamps lighted during the year 1881.....	458
Number of old lamps relighted during the year 1881.....	173
Number of lamps discontinued during the year 1881.....	631
Total number of lamps lighted December 31, 1881.....	24,164
	655
	23,521

EXHIBIT "E."

Statement giving the Illuminating Power of the Gas supplied by the several Gas-light Companies during the Quarter ending December 31, 1881, as shown by the Daily Observations at the Photometrical Rooms of the Department of Public Works, with the Average for the Year.

FOR WHAT TIME.	NEW YORK GAS CO.			MUNICIPAL GAS CO.			N. Y. MUTUAL GAS CO.			METROPOLITAN GAS CO.			MANHATTAN GAS CO.			HARLEM GAS CO.		
	ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.		
Week Ending—	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.
Oct. 8.....	23.53	30.66	26.84	25.85	28.59	27.15	25.68	28.89	27.33	22.01	23.69	23.15	18.64	19.25	18.94	17.43	19.18	18.46
" 15.....	24.21	26.91	25.78	26.08	30.36	29.48	23.77	26.21	25.03	21.50	23.25	22.55	18.45	20.05	19.23	18.65	19.47	19.08
" 22.....	21.43	26.23	24.45	29.00	30.80	29.81	25.73	26.56	26.21	23.50	24.96	24.44	20.08	21.15	20.64	19.61	20.42	19.97
" 29.....	24.07	26.40	25.52	30.07	30.78	30.72	24.74	27.38	26.03	23.10	24.20	23.49	20.10	21.19	20.58	19.06	20.19	19.71
Nov. 5.....	20.70	28.66	24.57	28.81	30.44	29.59	24.48	26.14	25.46	21.88	23.18	22.47	19.06	20.36	19.45	18.46	19.70	18.97
" 12.....	23.34	25.40	24.28	28.96	31.63	30.37	23.09	25.61	24.68	21.92	22.72	22.30	18.38	19.55	19.51	18.39	20.01	18.93
" 19.....	23.08	28.89	25.62	29.14	30.90	29.88	24.13	27.80	26.12	22.48	24.03	23.47	18.88	19.55	19.30	18.54	19.54	19.16
" 26.....	23.91	27.44	24.77	27.05	29.92	28.83	20.62	24.59	22.69	20.93	22.32	21.78	18.20	19.36	18.93	18.15	19.64	18.73
Dec. 3.....	23.24	25.41	24.07	24.76	27.27	26.02	21.14	24.67	23.53	22.51	23.64	23.66	17.71	19.30	18.44	18.69	20.13	19.56
" 10.....	*	*	*	*	*	*	*	*	*	21.40	23.20	22.61	*	*	*	17.16	18.87	17.95
" 17.....	*	*	*	*	*	*	*	*	*	21.84	24.59	23.47	*	*	*	18.02	19.26	18.33
" 24.....	*	*	*	*	*	*	*	*	*	22.11	23.24	22.87	*	*	*	17.42	18.74	18.33
" 31.....	23.87	24.70	24.26	25.68	26.95	26.31	18.56	24.51	20.41	22.93	23.85	23.34	17.34	18.58	17.99	18.31	19.36	18.76

* No tests were made at these times in consequence of the removal of down-town station from Grand and Centre streets to Grand street and the Bowery.

Average Illuminating Power, in Candles, for the Year 1881.

FOR WHAT TIME.	NEW YORK GAS CO.			MUNICIPAL GAS CO.			N. Y. MUTUAL GAS CO.			METROPOLITAN GAS CO.			MANHATTAN GAS CO.			HARLEM GAS CO.		
	ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.		
MONTH.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.
January	19.72	27.02	22.67	21.53	28.21	25.48	20.31	26.48	24.35	22.59	24.97	23.75	18.60	20.20	19.59	17.51	19.97	19.14
February.....	23.43	27.48	25.74	28.28	31.84	30.17	24.18	29.67	25.01	22.71	24.70	23.84	18.63	20.38	19.48	18.10	20.11	19.03
March.....	22.54	29.50	25.74	27.76	32.04	30.54	23.92	28.76	25.38	22.34	25.28	23.37	18.44	20.37	19.20	17.90	20.74	19.06
April.....	23.41	28.06	26.61	29.78	32.84	30.95	26.24	30.18	27.71	22.23	24.31	23.54	18.63	21.54	20.12	17.41	20.39	19.09
May.....	24.49	28.83	26.91	29.74	32.33	30.98	24.93	29.38	27.88	23.86	26.40	25.21	19.26	21.50	20.42	18.48	20.58	19.78
June.....	20.17	28.21	25.62	28.85	31.19	29.94	24.61	28.08	26.64	22.12	26.59	24.47	18.53	21.51	19.65	18.15	21.31	19.44
July.....	23.49	29.70	26.59	27.90	31.84	29.55	25.37	29.00	27.52	23.03	25.36	23.67	18.25	21.47	20.51	17.99	19.57	19.02
August.....	22.26	28.82	26.30	29.68	30.09	29.85	24.47	28.39	26.09	22.63	25.29	23.34	17.41	19.57	18.43	17.72	20.82	19.00
September.....	22.48	27.19	25.51	27.50	30.61	29.17	23.25	29.33	26.11	22.23	24.68	23.41	18.04	19.91	18.93	17.94	19.35	18.46
October.....	21.43	30.66	25.64	25.85	30.80	29.20	23.77	28.99	26.15	21.56	24.96	23.41	18.45	21.19	19.85	17.43	20.49	19.30
November.....	20.70	28.89	25.81	27.65	31.65	29.67	20.62	27.80	24.74	20.98	24.03	22.50	18.20	20.36	19.29	18.15	20.01	18.94
December.....	23.24	25.41	24.36	24.76	27.27	26.16	18.56	24.67	21.97	21.40	24.59	23.07	17.34	19.30	18.21	17.16	20.13	18.64
Year	Average	Average	24.76	Average	Average	29.31	Average	Average	25.88	Average	Average	23.65	Average	Average	19.81	Average	Average	18.99

Distance from Gas Works.	2 1/10 Miles.	3 1/10 Miles.	1 7/10 Miles.	3 1/10 Miles.	1 3/10 Miles.	1 7/10 Miles.
Testing burner.	Bray's Slit Union No. 7.	Bray's Slit Union No. 7.	Bray's Slit Union No. 7.	Bray's Slit Union No. 6.	Empire, 5 feet.	Empire, 5 feet.
Gas.....	Water gas (Tessie du Motay).	Water gas (Tessie du Motay).	Pine wood and naphtha.	Coal and naphtha.	Coal gas.	Coal gas.

EXHIBIT "F."

Contract with the New York Gas-light Company.

This agreement, made and entered into this thirtieth day of April, in the year one thousand eight hundred and eighty-one, by and between the Mayor, Aldermen, and Commonalty of the City of New York, parties of the first part, by the Commissioner of Public Works of said city, acting in conjunction with the Mayor and Comptroller thereof and the New York Gas-light Company of said city, party of the second part:

A. Witnesseth, That the said party of the second part hereto has agreed, and by these presents does agree, with the said parties of the first part, for the consideration hereinafter mentioned; and under

the penalty expressed in a bond bearing even date with these presents and hereunto annexed, to furnish illuminating gas to, and to light and extinguish the public lamps belonging to the parties of the first part in the portion of the City of New York bounded and described as follows, to wit:

In the district lying south of the centre of Grand street, from the East river to Sullivan street; through Sullivan street to Canal street, and through Canal street to the Hudson river, for and during the term of one year, commencing on the first day of May, A. D. 1881, and ending on the 30th day of April, A. D. 1882, both days inclusive. And during the same period to repair and paint the lamp-posts and lanterns of such lamps, and replace the cocks, tubes, and burners, cross-heads, lamp-irons, and lanterns thereof, and clean and reglaze such lanterns; and to fit up, light, and extinguish such new lamps as may be required by the said parties of the first part in said portion of said city, and to repair, paint, clean, reglaze, and replace such new lamps and the appurtenances thereof.

B. And it is further agreed that the said parties of the first part shall have the right to order the pipes or conductors of the party of the second part to be extended and new lamps to be erected in and along all the streets, avenues, and public places within the limits aforesaid or adjacent thereto.

C. All the gas or materials furnished, and all the work and labor done by the party of the second part hereto, shall be of the kinds and qualities, and furnished and done in all respects in strict conformity to the terms, conditions, and requirements of the hereinafter contained specifications.

D. Should any alteration or any attachment be required to any portion of the lamps to be lighted under this agreement, for the purpose of using any other material than illuminating gas, then such alteration will be done and attachments placed and maintained on the lamps by the party of the second part hereto at its own cost and expense.

E. If the estimate or bid of the party hereto of the second part included any lamps with which the pipes or conductors of said party of the second part were not connected at the time of the making such estimate or bid, thirty days from the date of the execution of this agreement, and such further time, not exceeding thirty days, as may be deemed reasonable by the Commissioner of Public Works, will be allowed the party of the second part in which to connect such pipes or conductors with such lamps: Provided, the said party of the second part have or shall procure a grant or franchise from the Mayor, Aldermen, and Commonalty, authorizing the laying of gas-mains or conductors in the streets or parts of streets in which the said lamps are located.

F. But no payment on account of any such lamps will be made to the party of the second part for the time so allowed, nor until the same shall have been connected with the mains or conductors of the party of the second part, nor will payment be made on account of any lamp except for the time during which all the requirements herein mentioned shall have been fully performed in accordance with the following

Specifications:

1. Lighting.—The lamps shall be lighted during such times as the public lamps throughout the City of New York may be required to be lighted, by the regulations of the said parties of the first part, in accordance with a time-table to be furnished by the Commissioner of Public Works. Also, the Department of Public Works may direct and require, by notice to that effect, that all or any portion of said public gas-lamps shall be lighted, and kept burning, at any other time or times during the continuance of this contract; and the said party of the second part shall and will light the same, and continue them burning, in accordance with any and every direction of the Department of Public Works to that effect: Provided that, if in compliance with the direction of the Department of Public Works, the whole number of hours during which the said lamps, or a portion of them, are kept burning, shall exceed the number of hours specified in the time-table to be furnished by the Commissioner of Public Works, which time-table shall aggregate a total of 4,000 hours for the term, then, in that case, the said party of the second part shall be entitled to claim and receive, for such additional number of hours, during which the public gas-lamps, or such portion of them, in the district aforesaid, are kept burning in accordance with such direction of the said Department of Public Works, an additional compensation, equivalent to a pro rata increase of the compensation hereinafter allowed, proportioned to the increased number of hours beyond the said number, and the number of lamps so kept burning. And, also, provided, that if, in compliance with the direction of the said Department of Public Works, the number of hours during which the said lamps, or any portion of them, are kept burning, shall be less than the aforesaid number of 4,000 per term, then, in that case, there shall be deducted an amount equivalent to a pro rata decrease of the compensation hereinafter allowed, proportioned to the decrease of the number of hours below the said number, and to the decrease of the number of lamps so kept burning. And, also, provided, that said Department of Public Works shall have the right at any time to increase or diminish the number of lamps awarded to be lighted by the party of the second part under this contract. If the lamps are to be lighted by means of gas or naphtha, then it is expressly agreed that all the lamps shall be lighted within one hour from the time fixed in the time-table as the time for beginning; also, that they shall be lighted either by the means of a torch, or the use of a ladder, and that the lamp-lighters will not be permitted to climb the lamp-posts for such purpose. The party of the second part to keep the service-pipes and stand-pipes (if any are used) of said lamps cleared of all obstruction and in good order, at its own cost and expense, except such service-pipes as shall have been broken or removed by the construction of sewers. If, however, any of the lamps should be lighted by the electric current or electric light, then all such lamps shall be lighted within ten minutes from the time of beginning, and all such electric lamps shall be kept lighted 3,818 hours during the contract.

2. Illuminating Material, Quality of.—If the material to be furnished under this agreement shall be illuminating gas, then such gas shall have an illuminating power of not less than sixteen candles, when tested at a distance of not less than one mile from the place of manufacture, on the improved form of the Bunsen photometer, by a Sugg-Letheby 15-hole argand burner, calculated on a consumption of five cubic feet of gas per hour. The regular daily tests, however, will be made with a burner that will obtain from the gas the greatest amount of light, and practicable for use by the consumer, and consuming at the rate of five cubic feet of gas per hour; the testing candle shall be of sperm, of six to the pound, and consuming, as near as possible, one hundred and twenty grains of spermaceti per hour; and no candle shall be used for testing which consumes less than one hundred and fourteen or more than one hundred and twenty-six grains of spermaceti per hour. And, as regards purity, the gas shall be free, within limits not injurious to the public health, from ammonia, sulphuretted hydrogen, and other sulphur and noxious compounds. In case the illuminating material shall be oil or naphtha, then the quantity of light produced by the burner used for such material shall be equal to the quantity (by photometrical test) produced by the sixteen-candle coal-gas, above described, consumed by the 3-feet gas burners called for in this agreement. But in case the lamps, or any of them, should be lighted by what is known as the incandescent system of electric lighting, then the quantity of light furnished by each of such lamps shall be equal to the light furnished by a 3-feet gas burner, such as is used in the public gas-lamps of this city, when burning the sixteen-candle gas called for by this agreement. If, however, the lamps, or any of them, shall be lighted by the "voltaic arc" system of electric lighting, then the quantity of light produced by each of such lamps shall not be less than the light produced by 2,000 of the standard sperm candles by which illuminating gas is tested, and the light shall be measured on a Bunsen photometer.

3. Burners.—All the burners to be used for the illuminating material, commonly called illuminating gas, shall be of a capacity to burn three cubic feet of gas per hour, under a pressure of one inch, and each of said burners shall burn three cubic feet of gas per hour during all the time the lamps are required to be kept lighted. Should the illuminating material be oil or naphtha, then the burners to be used for such illuminating material shall give a light (by photometrical test) equal to the light given by the gas-burners in use in the public lamps in the City of New York. The burners are to be kept clear at all times so as to allow a free and unobstructed flow of the illuminating material, and to permit a full and normal flame.

It is agreed, however, that the parties of the first part shall have the right to require that burners of a greater consuming capacity than three cubic feet of gas per hour shall be furnished to the public gas-lamps, or any portion of them, at any time during the aforesaid term of one year; provided that the parties of the first part will pay to the party of the second part, for the lamps so furnished, an additional compensation, equivalent to a pro rata increase of the compensation hereinafter allowed, after deducting from such compensation the sum of (4) four dollars per lamp, for the cost of the lighting, extinguishing, cleaning, repairing, reglazing and painting, and proportioned only to the increased amount of gas consumed by each burner over and above three cubic feet per hour.

4. Cleaning.—All the lamps are to be kept in a cleanly condition, and they shall be cleaned at least three times in each week, and oftener if the Department of Public Works shall direct or require the same, and at each of these cleanings all the glass shall be thoroughly cleaned both on the inside and outside of the lantern, and all dust and dirt shall be brushed from the frames.

5. Repairing and Reglazing.—The lamps are to be repaired and reglazed within twenty-four hours after any portion of the same shall be broken, and all the work or material for either of said purposes is to be furnished by the party of the second part, without cost to the city. Stained glass of a ruby color shall be placed in the tops of the gas lantern nearest to the several fire alarm signal boxes, and in the tops of the gas lanterns on the street corner nearest said boxes. And in case any of such stained glass should be broken, after being placed in the lamps, then the party of the second part shall procure glass, of the same color, and place and keep the same in the lamps without cost to the city.

6. Repairing Lamp-posts.—Whenever the Department of Public Works shall require that any lamp-post or posts shall be straightened, or that any column or columns be releaded, or that any lamp-post or posts be repaired in any other manner in this contract specified, the same shall be done within twenty-four hours after said department shall notify said party of the second part of such requirement.

7. Painting.—The lamp-posts, lamp-irons, brackets, and lanterns used for gas or naphtha, are to have one heavy coat of best paint, ground in oil, as follows: The lamp-posts, cross-heads, and stand-pipes of bracket lamps to have one coat of dark green paint, blue shade. The square lamp-irons, brackets, and outside of lanterns to have one coat of green paint, pea green shade; the design being to make a strong contrast between lamp-posts and lanterns. The tin work on inside of lanterns to be painted in all their parts with one heavy coat of best white lead paint; the round lamp-irons and underside of the reflectors of the globe lamps to be painted with one coat of the best white lead paint, and so much of the stand-pipes as project above the lamp-posts to be painted in the same

manner as the lamp-posts. The ornamental lamp-posts to be painted at least three colors. All the material shall be of the best quality, and prepared so to present a gloss finish. All the painting to be completed by the first day of November next.

8. Removing Lamp-posts.—All lamp-posts to be taken down which the Department of Public Works may require to be removed for any purpose.

9. Cocks, Tubes, and Burners.—The cocks, tubes, and burners which may become worn out or useless, or which in the opinion of the Department of Public Works are worn out or useless, to be immediately replaced by the party of the second part, at its own cost and expense.

10. Fitting up New Lamps.—New lamps are to be fitted up on any street, avenue, pier, park, or public place, wherever the same may be required by the Department of Public Works. The butts and columns are to be placed in a strictly perpendicular position, the socket of the butt to be caulked with yarn gasket and melted lead, the lead to be tamped and then trimmed even with rim of butt. The service-pipe and stand-pipe to be of three-quarter inch wrought pipe, the service-pipe to have a direct fall to the main, the service-pipe and bend on bottom of stand-pipe to rest on solid earth, to prevent the same from settling and forming a trap; the earth is to be thoroughly tamped about the butt as the same is thrown into the excavation. Bracket lamps are to be fitted up in lieu of lamp-posts, when required, the brackets and stand-pipes to be fastened to the wall in a firm and secure manner. The service-pipes, stand-pipes and fittings are to be furnished and connected by the party of the second part; the lamp-posts, lamp-irons, lanterns and brackets will be furnished by the parties of the first part, through the Department of Public Works, to the party of the second part. New lamps, which may be required to burn any other material than illuminating gas, to be fitted up without service-pipes or stand-pipes. All new lamp-posts are to be painted immediately after the same shall have been erected.

11. Lanterns.—All lanterns used for gas or naphtha which, in the opinion of the Superintendent of Lamps and Gas, may become so worn out, broken or useless as to be unfit to be repaired, are to be removed from the posts and other lanterns substituted in lieu thereof (and globe lamps substituted for square lamps) by the party of the second part without charge to the city, when so ordered by the said Superintendent. The lanterns and globes for that purpose will be furnished by the parties of the first part, through the Department of Public Works, to the said party of the second part.

12. Cross-heads and Lamp-irons.—The cross-heads and lamp-irons used for gas or naphtha lamps which, in the opinion of the Department of Public Works, may become broken or out of order, are to be replaced on the posts by the party of the second part without charge to the city. The cross-heads and lamp-irons for that purpose are to be furnished by the parties of the first part, through the Department of Public Works, to the said party of the second part.

13. Street Signs.—The glass street-signs to be placed and retained in their proper places and positions in the gas or naphtha-lantern; and globes, containing street names, are to be placed upon the gas lamp-posts when required by the Department of Public Works. The signs and globes are to be furnished by the Department of Public Works to the party of the second part.

14. Electric Lamps.—The poles, wires, conductors, lamps, carbon electrodes, and each and every other article or apparatus which may be necessary for electric lighting, are to be furnished and maintained by the party of the second part at its own cost and expense; and the wires and conductors shall be thoroughly insulated and shall be placed in such locations and in such manner as will prevent them from being tampered with or handled by any unauthorized person or persons, and the Corporation of the City of New York shall not be held responsible for any injury or accident which may be occasioned by the wires or conductors. And in case clear or plain glass globes shall be used on "voltaic arc" lights, and such globes should be deemed objectionable, then the Commissioner of Public Works shall have the right to direct that such clear globes be removed and ground glass globes substituted therefor.

15. Carriages.—All supplies which, under this agreement, may be required to be furnished by the parties of the first part, will be so furnished, but the cartage thereof shall be done by the parties of the second part.

16. Whenever in these specifications or in this agreement of which they form part, the words "party of the second part," or pronouns in place thereof are used, such words and pronouns are to be understood as meaning and referring to the party or parties (as the case may be) of the second part to this agreement.

G. The prices fixed for the various services herein provided to be performed by the party of the second part are as follows:

For furnishing the aforesaid illuminating material for each lamp, including the lighting, extinguishing, cleaning, repairing, reglazing, painting, replacing cocks, tubes, burners, crossheads, lamp-irons, and lanterns thereto, for the aforesaid period of one year, the sum of seventeen dollars and fifty cents (\$17.50).

For each lamp-post straightened, the sum of one dollar and fifty cents (\$1.50).

For each column releaded, the sum of one dollar and fifty cents (\$1.50).

For each column refitted, the sum of three dollars and fifty cents (\$3.50).

For each lamp-post removed, the sum of three dollars and fifty cents (\$3.50).

For each lamp-post reset, the sum of ten dollars (\$10.00).

For each new lamp fitted up, the sum of ten dollars (\$10.00).

H. The United States Revenue Tax.—And it is hereby agreed, by and between the parties to these presents, that the parties of the first part shall not be called upon to pay to the said party of the second part, any amount for any tax which the Government of the United States may assess upon the illuminating material consumed by the public lamps within the district aforesaid.

I. And it is further agreed, that the said party of the second part shall have the right to lay pipes or conductors at any time between May 1, 1881, and April 30, 1882, upon giving forty-eight hours' written notice to the Department of Public Works, of its intention to break up or open any street, avenue, or public place, or part thereof, or to remove any part of the pavement thereof, for the purpose of laying or repairing the pipes or conductors, to conduct the said gas, or other illuminating material. And the party of the second part shall, whenever it shall break up or open any street, avenue, or public place, replace the earth which may be removed in so doing, before sunset of the day on which such opening shall be made (the earth to be thoroughly tamped as the same is thrown into the trench or excavation), and replace the pavement, and repave and repair the same, in such reasonable time and manner as the Department of Public Works may direct, and in as good and firm a manner as such street, avenue, or public place, or part thereof, was in before being broken up for the purpose aforesaid, and shall, from time to time, as required by the Department of Public Works, readjust and fill and finish the same as long as in the opinion of the Department of Public Works may be necessary on account of the settling of the earth or pavement caused by the opening. Also, all such repairs as shall at any time become necessary to said pavement, by reason of laying the said pipe or conductors, shall be made and done by said party of the second part, at its own cost and expense. And no such street, avenue, or public place, or part thereof, shall or will be so broken up or opened, or the pavement thereof removed, or be again filled up or repaired, except under the direction and supervision of a competent person, to be appointed by the Department of Public Works; but the said party of the second part shall not be called upon to pay any sum, to any party or parties, for the inspection of any pavement which it may have occasion to replace. And it is further agreed, that the said party of the second part shall and will so conduct the manufacture and manufacturing of gas, or stations for other illuminating material, as not to create a nuisance, and that it will in all things be governed by such reasonable rules and regulations as the said Department of Public Works may from time to time establish or direct, relative to the opening of such streets, avenues, or public places, or parts thereof, and laying down the pipes and conductors, and for lighting, cleaning, and protecting the lamps and street signs aforesaid. And it is further agreed, that, in order that the Commissioner of Public Works and his assistants may determine whether the gas or naphtha lamps are lighted and extinguished in accordance with the time table furnished by said Commissioner, the party of the second part shall furnish to the Superintendent of Lamps and Gas a map or maps showing the lamps on the district of each lamp-lighter, and designating the particular lamp at which each lighter commences to light, and also the lamp at which he completes the lighting; and in extinguishing the lamps, the lamp-lighter shall begin and finish at the same lamps as are designated for beginning and finishing the lighting; and the party of the second part shall notify the Superintendent of Lamps and Gas of any change which may be made in the beginning and finishing point, on any lamp district during the term of this contract. And it is hereby expressly provided, that nothing herein contained shall be construed or deemed as granting to the said party of the second part, any sole or exclusive right or privilege, or as preventing the said parties of the first part from granting the like privileges as are hereby given to the said party of the second part, to any other company, persons, or parties whatsoever, or as preventing any person or persons, residing in or adjacent, or near to any of the said streets, avenues, or public places, or parts thereof, from erecting, in or upon his or their own premises, any building or apparatus, to light with gas, his or their own house, store, or manufactory, or premises.

J. And it is hereby further agreed, that in case the said party hereto of the second part shall fail or neglect to keep the covenants herein contained, or any of them, or neglect to light, repair, paint, clean or fit up the public lamps as before mentioned, or any of them, it shall be lawful for the Commissioner of Public Works to cause such work to be performed by other parties, and to deduct the expense thereof from any moneys which may be due or may become due to the party of the second part, and to hold the party of the second part and its sureties liable for the amount thereof which may be in excess of the prices stipulated in this agreement.

K. And it is further agreed, that for each and every electric lamp which shall not be kept lighted during the entire lighting time of any night, the parties of the first part shall deduct from the bills of the parties of the second part double the amount to which the parties of the second part would be entitled for lighting such lamp all night; and for each and every lamp not lighted during the time between midnight and the time set for the extinguishment of such lamp, the party of the first part shall deduct the full amount to which the parties of the second part would be entitled if such lamp was lighted the whole night.

L. And it is further provided, that these presents are upon the express condition, that if the said party of the second part, or its successors, shall not well and truly observe, perform, fulfill, and keep all and singular the covenants and conditions hereinbefore mentioned and contained, on its part and

behalf to be observed, performed, fulfilled, and kept according to the true intent and meaning of these presents, then and in that case it shall and may be lawful for the Commissioner of Public Works, on the part of the said parties of the first part, to declare this contract annulled and vacated, and thereupon it shall become and be thenceforth null and void.

M. And it is further agreed, that on or after the first day of each and every month from the month of June, 1881, to the month of May, 1882, both months inclusive, the party of the second part shall furnish proof, to the satisfaction of the Commissioner of Public Works, that it has fully performed and fulfilled this contract in all the particulars and conditions aforesaid during the preceding month, and particularly that it has furnished the illuminating material of the quality hereinbefore specified, and that all the lanterns have been cleaned three times in each week of said month, and also that the gas-burners have consumed three cubic feet of gas, each, per hour, during all the time that the lamps were required to be kept lighted. Upon so doing the Commissioner shall certify the fact, and in his certificate state the amount to which the party of the second part shall be entitled for all the duties performed by it during such preceding month, and annex thereto a requisition upon the Comptroller to pay the party of the second part the sum to which it shall be so entitled; and without such proof, to the satisfaction of the Commissioner of Public Works, he shall not make any certificate nor requisition on the Comptroller; and the party of the second part shall also furnish proof to the satisfaction of the Comptroller that it has fully performed and fulfilled this contract in all the particulars and conditions aforesaid, and without such proof the said party of the second part shall not be or become entitled to any payment in respect to services which were required to be done, or should have been done, in such preceding month. On the requisitions above provided being presented to the Comptroller of the city, he shall within twenty days thereafter pay to the party of the second part the amount thereof in lawful money.

N. And it is further agreed by and between the parties hereto, that if, at any time before or within thirty days after, the whole work herein agreed to be performed has been completed and accepted by the parties of the first part, any person or persons claiming to have performed any labor or furnished any materials towards the performance or completion of this contract shall file with the said Commissioner of Public Works, Mayor and Comptroller, or with the Bureau having charge of said work, and with the head of the Finance Department of the said City of New York, any such notice as is described in the Act of the Legislature of the State of New York, passed May 22, 1878, entitled "An act to secure the payment of laborers, mechanics, merchants, traders, and persons furnishing materials towards the performing of any public work in the cities of the State of New York," then and in every such case the said parties of the first part shall retain, anything herein contained to the contrary thereof notwithstanding, from the moneys under their control and due or to grow due under this agreement, so much of such moneys as shall be sufficient to pay off, satisfy and discharge the amount in such notice alleged or claimed to be due to the person or persons filing such notice, together with the reasonable costs of any action or actions brought to enforce such claim or the lien created by the filing of such notice. The moneys so retained shall be retained by the said parties of the first part until the lien thereon created by the said act and the filing of the said notice, shall be discharged pursuant to the provisions of the said act.

O. And it is hereby expressly agreed and understood by and between the parties hereto that the said parties of the first part, their successors and assigns, shall not, nor shall any department or officer of the City of New York be precluded or estopped by any return or certificate made or given by the Engineer, Inspector or other officer, agent, or appointee of said Department of Public Works or said parties of the first part, under or in pursuance of anything in this agreement contained, from at any time showing the true and correct amount and character of the work which shall have been done and materials which shall have been furnished by the said party of the second part, or any other person or persons under this agreement.

P. And the parties hereto declare that this contract is made with reference to the proposals hereto annexed, which are to be taken as part and parcel of these presents. In witness whereof, the said Mayor, Comptroller, and Commissioner of Public Works have hereunto set their hands and seals, on behalf of the said parties of the first part, and the said party of the second part has caused its corporate seal to be hereunto affixed, and its President and Secretary hereto to set their hands, and said parties hereto have executed triplicate copies hereof, one of which is to remain with the Commissioner of Public Works, one other to be filed with the Comptroller of the City of New York, and the third to be delivered to the said party hereto of the second part, the day and date herein first above written.

W. R. GRACE,
Mayor of the City of New York.
ALLAN CAMPBELL,
Comptroller of the City of New York.
HUBERT O. THOMPSON,
Commissioner of Public Works.
THE NEW YORK GAS-LIGHT CO.,
THOS. K. LEES, President.
WM. J. CLARK, Secretary.

Witness:
JOHN S. ROUTH.

EXHIBIT "G."

Time Table for Lighting and Extinguishing the Public Lamps, for the Year 1882.

DATE.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.	DATE.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.
	H. M.	H. M.		H. M.	H. M.
January 1.....	4.30	6.35	July 1.....	7.30	3.15
" 8.....	4.40	6.35	" 9.....	7.30	3.15
" 15.....	4.50	6.30	" 16.....	7.20	3.15
" 22.....	5.00	6.30	" 23.....	7.20	3.15
" 29.....	5.05	6.20	" 30.....	7.10	3.30
February 5.....	5.10	6.15	August 6.....	7.10	3.45
" 12.....	5.20	6.00	" 13.....	6.55	4.00
" 19.....	5.30	6.00	" 20.....	6.45	4.10
" 26.....	5.30	5.50	" 27.....	6.30	4.20
March 5.....	5.40	5.40	September 3.....	6.15	4.30
" 12.....	5.50	5.25	" 10.....	6.05	4.40
" 19.....	6.00	5.15	" 17.....	5.55	4.50
" 26.....	6.10	5.00	" 24.....	5.40	5.00
April 2.....	6.15	4.50	October 1.....	5.30	5.00
" 9.....	6.25	4.40	" 8.....	5.20	5.10
" 16.....	6.30	4.30	" 15.....	5.10	5.20
" 23.....	6.40	4.20	" 22.....	5.00	5.30
" 30.....	6.45	4.00	" 29.....	4.45	5.35
May 1.....	6.45	4.00	November 5.....	4.40	5.45
" 7.....	6.55	3.40	" 12.....	4.30	6.00
" 14.....	7.00	3.30	" 19.....	4.25	6.00
" 21.....	7.10	3.15	" 26.....	4.20	6.10
" 28.....	7.15	3.15			
June 4.....	7.25	3.15	December 3.....	4.20	6.15
" 11.....	7.25	3.15	" 10.....	4.20	6.20
" 18.....	7.30	3.15	" 17.....	4.20	6.20
" 25.....	7.30	3.15	" 24.....	4.20	6.25

All the lamps to be lighted within one hour from the time of beginning. Total hours, 4,000.

INSTRUCTIONS TO LAMP-LIGHTERS.

I. The lamps must be lighted and extinguished strictly in accordance with the time specified in this time table, and all the lamps must be lighted within one hour from the time of beginning.

II. The lamps must be kept clean and in good condition; the top glass, sides and bottom glass must be thoroughly cleaned, both on the outside and inside of the lantern, three times in each week, and oftener if necessary to keep them clean, and dust and dirt must be brushed from the frames. Lighters must bear in mind that with clean glass a greater brilliancy is obtained from the flame. In the winter season the snow must be brushed from the lanterns after each snow-fall. Dirty and disordered lamps will be considered as evidence of a careless and incompetent lamp-lighter.

III. The glass street signs must be kept in their proper positions. The sign bearing the name of any avenue or a main street must face the roadway of such avenue or street. One of the signs bearing the name of a cross street must face the roadway of such street, and the other sign must be placed on the opposite side of the lantern. Be careful to observe that the name does not face the inside of the lantern.

IV. Advertising signs on the lamp-posts or lantern, or colored or ground glass in the lantern, are a violation of a Corporation ordinance, and must not be permitted, except the red glass near the fire-alarm boxes, and these must be kept in place.

V. If a lighter, on extinguishing a lamp, should find a glass broken, he must replace the same before lighting time of the same day. If he should find a glass broken while lighting, he must replace the same before lighting time of the following day, and the bottom glass must be kept in place as well as sides and tops. If he should find any portion of the tin work broken, he must take the lantern to his superintendent for repairs.

VI. The burners must be kept in good condition to burn with a full, clear, steady flame, and not with a single or forked jet. If a burner, when lighted, should not emit the proper flame, then the same must be immediately cleared from its obstruction; and if it will not burn properly, another burner must be substituted.

VII. If a lighter, when lighting, finds that a lamp will not burn, he will leave such lamp and finish his route. He must then return to the unlighted lamps, and endeavor to get them in burning order. If he cannot make the lamp burn, he must report the same on the following morning to the superintendent of the gas company.

VIII. Lamp-lighters will not be permitted to climb the lamp-posts. The lamps must be lighted either by means of a torch or use of a ladder.

IX. In case a lamp-post should be found broken or taken down, or requiring repairs, he must report the same at once to the superintendent of the gas company, stating the correct location of the post, and what repairs are required. If the post has been taken down, he must report by whom and for what purpose, and date when done. No excuse will be accepted from any lamp-lighter who fails to report lamp-posts taken down or broken.

X. Lighters must not break the lamp bottoms, nor the street sign slots. Lamps furnished with these slots should be placed on corner lamp-posts.

XI. Ladders must not be left tied to the lamp-posts.

S. McCORMICK, Superintendent of Lamps and Gas.

Document "J."

REPORT OF SUPERINTENDENT OF REPAIRS AND SUPPLIES.

CITY OF NEW YORK—DEPARTMENT OF PUBLIC WORKS,
BUREAU OF REPAIRS AND SUPPLIES,
SUPERINTENDENT'S OFFICE, 31 CHAMBERS STREET, ROOM 15,
NEW YORK, January 14, 1882.

Hon. HUBERT O. THOMPSON, Commissioner of Public Works:

SIR—In compliance with your instructions, I have the honor to submit the following report of the transactions of this bureau for the three months ending December 31, 1881.

The annexed exhibit shows the condition of the appropriations credited to this bureau and available balances.

Among the principal items of work were the following:

New Court-house.—The ladies' withdrawing room has been painted, some iron frames in Surrogate's rooms have been repaired and put in good working order, the public urinals on the first floor have been inclosed, and five cases for the safe keeping of court records have been put up in Court of Common Pleas.

No. 31 Chambers street.—Gong and bell have been put in and iron shutters repaired.

Fifth District Court-house.—Chimneys have been repaired and chimney tops put up.

Sixth Civil Court.—Location of railing changed and repairs made to woodwork.

Seventh District Court-house.—New valves supplied to boiler, regulator and feeder repaired.

Fifth District Police Court.—Boiler and damper repaired.

Sixth District Police Court.—Lead supply pipe put in cellar, water-closets repaired, and new iron leader connected with sewer.

City Arsenal.—The valleys have been lined and roof and sky-light repaired.

Free Floating Baths.—The tanks in the eight baths have been taken out, scraped, caulked, made tight, and put back in position; repairs have been made to the carpenter work on five baths.

Sixty-ninth Regiment Armory.—The large drill-room, the squad drill-room, and main hall are being floored and almost completed.

Washington Market.—The sky-lights have been repaired, glazed, and made tight.

The work under contract in Fulton Market, Tompkins Market Armory, and Essex Market Armory is in course of progress.

Very respectfully yours,

THOMAS H. MCAVOY, Supt. Repairs and Supplies.

Exhibit showing the Condition of the Appropriations credited to the Bureau of Repairs and Supplies, upon which Vouchers have been drawn or Liabilities incurred, Fourth Quarter, 1881.

December 31, 1881.

Construction and Maintenance of Additional Public Bath—

Amount of appropriation, 1881..... \$11,500 00

" transferred therefrom, December 28..... 2,000 00

Amount available..... \$9,500 00

Vouchers drawn by contract, fourth quarter..... 8,739 00

Balance December 31..... \$761 00

Free Floating Baths—

Amount of appropriation, 1881..... \$18,000 00

" transferred therefrom, December 13..... 2,000 00

Amount available..... \$16,000 00

Vouchers drawn first nine months..... \$9,094 96

" fourth quarter..... 4,077 88

13,172 84

Amount of liabilities outstanding, estimated..... \$2,827 16

2,806 16

Balance December 31..... \$21 00

Fitting up Fifth Regiment Armory, Essex Market—

Amount of appropriation, 1881..... \$18,000 00

" transferred thereto..... 300 00

Amount available..... \$18,300 00

Vouchers drawn, fourth quarter..... 7,200 00

\$11,100 00

Amount of liability under contract..... 11,100 00

Balance December 31.....

Fitting up Sixty-ninth Regiment Armory, Tompkins Market—

Amount of appropriation, 1881..... \$15,000 00

Vouchers drawn, fourth quarter..... 7,614 75

\$7,385 25

Amount of liabilities outstanding, estimated..... 7,385 25

Balance December 31.....

Fulton Market—Alterations and Repairs—

Amount of appropriation, 1881..... \$80,000 00

Vouchers drawn, first nine months..... \$8,072 70

" fourth quarter..... 33,768 84

41,841 54

Amount of outstanding liabilities, estimated..... \$38,158 46

37,893 50

Balance December 31..... \$264 96

Public Buildings—Construction and Repairs—

Amount of appropriation, 1881..... \$46,000 00

" transferred therefrom..... 1,500 00

Amount available..... \$44,500 00

Vouchers drawn, first nine months..... \$30,263 28

" fourth quarter..... 6,319 45

36,582 73

Amount of liabilities outstanding, estimated..... \$7,917 27

7,734 67

Balance December 31..... \$182 60

Supplies for and Cleaning Public Offices—

Amount of appropriation, 1881..... \$63,500 00

" transferred thereto..... 26,945 29

Amount available..... \$90,445 29

Vouchers drawn, first nine months..... \$59,522 75

" fourth quarter..... 27,028 98

86,551 73

Amount of liabilities outstanding, estimated..... \$3,893 56

3,893 56

Balance December 31.....

Free Floating Baths—Salaries—

Amount of appropriation, 1881..... \$14,000 00

Vouchers drawn, first nine months..... \$10,472 50

" fourth quarter..... 3,508 00

13,980 50

Balance December 31..... \$19 50

Public Buildings—Construction and Repairs—Salaries—

Amount of appropriation, 1881..... \$1,900 00

Vouchers drawn, first nine months..... \$1,453 50

" fourth quarter..... 435 00

1,888 50

Balance December 31..... \$11 50

Supplies for and Cleaning Public Offices—Salaries—

Amount of appropriation, 1881..... \$30,000 00

" transferred therefrom..... 5,200 00

Amount available..... \$24,800 00

Vouchers drawn, first nine months..... \$18,538 36

" fourth quarter..... 6,245 83

24,784 19

Balance December 31..... \$15 81

County Court-house Building—Completion of—

Appropriation of 1880—Balance January 1, 1881..... \$11,147 66

Vouchers drawn, first nine months..... \$1,554 41

" fourth quarter..... 7,340 26

8,894 67

Balance December 31..... \$2,252 99

NEW YORK, January 18, 1882.

Hon. H. O. THOMPSON, Commissioner of Public Works:

SIR—At the request of Mr. McAvoy, Superintendent of Repairs and Supplies, I have the honor to report as follows on the condition of contracts for buildings under my charge:

The contract for Tompkins Market Armory (Sixty-ninth Regiment) is practically completed, and satisfactorily done according to plans and specifications. A later contract and other extra work under the appropriation is under way, and will probably be finished in two weeks.

The contract for Essex Market Armory (Fifth Regiment) will be completed in the early part of February. The condition of the old roof, floors, and walls will render some additional work necessary to put the armory into safe condition for the occupancy of the incoming regiment (Eleventh).

The work on the Fulton Market has for the last month progressed slowly, the delay in getting iron and the changes in the weather being the principal causes. The plans and specifications have been faithfully carried out and the work done is of the best quality. Should the weather be favorable the contractors may get through within a month.

Plans for the interior of Fulton Market are being prepared and will be submitted in the early part of next month.

Sketches for the rebuilding of Jefferson Market have been begun and a survey of the present market is being made. The work will be submitted in the early part of February.

Plans and specifications for the new floating bath are in the hands of the contractors.

Very respectfully,

DOUGLAS SMYTH, Architect.

Document "K."

REPORT OF SUPERINTENDENT OF INCUMBRANCES.

DEPARTMENT OF PUBLIC WORKS,
BUREAU OF INCUMBRANCES, ROOM 16, 31 CHAMBERS STREET,
NEW YORK, January 10, 1882.

Hon. HUBERT O. THOMPSON, Commissioner of Public Works:

SIR—I submit herewith the following report of the operations of this Bureau for the quarter ending December 31, 1881, together with a condensed statement of the entire business during the year 1881.

Number of complaints received and notices issued therefor, against obstructions and incumbrances on streets and sidewalks, 731.

Number of removals of merchandise, wagons, stands, stones, dirt, etc., to the Corporation yard, or other suitable place, 157.

Expense of such removals (including 1,086 loads of dirt, stones, etc.) from various parts of the city, \$1,114.36.

Total expenses for the quarter, \$1,510.36.

Received from owners for redemption of seized articles, \$16.

Received from sale at Corporation yard, \$200.50.

Which amount of \$216.50 was duly paid over to the City Chamberlain.

Number of permits issued to builders..... 1,331

" " to cut down trees..... 13

" " for special purposes..... 121

Number of notices issued to repair sidewalks..... 238

" " vault covers..... 6

During the year 1881, the total number of complaints received and notices issued..... 3,094

Removals to Corporation yard..... 505

" of loads of stone, dirt, etc..... 4,043

Number of builders' permits issued..... 7,146

" special permits issued..... 591

" permits to cut down trees issued..... 38

" notices to repair sidewalks issued..... 704

" " vault covers..... 125

Total expenditure for the year..... \$5,996 81

Receipts for articles redeemed by owners..... \$253 75

" from sales at Corporation yard..... 358 25

" Brush Electric Light Company..... 352 95

" sale of some stone, etc., April 23, 1881..... 88 00

Total..... \$1,052 95

—all of which was paid over by this Bureau to City Chamberlain, but of which the \$352.95 received from Brush Electric Illuminating Company was afterwards retransferred to said company, under an opinion of the Corporation Counsel.

The year has been an unprecedented one in the number of buildings that have been erected and the consequent use and obstruction of the streets with building material, and the many inconveniences and complaints that result therefrom; still, with but few exceptions the builders are disposed to do the best they can, and the discomforts and annoyances arising from this cause are somewhat inseparable from the rapid growth of our city, and bear good fruit in the increased and ever increasing tax receipts from real estate. A great deal of work has been done by this Bureau during the past year, by the removal of stones and dirt, either accidentally dropped or purposely deposited in the streets by the wagons and carts of contractors to save the time and trouble of going to the proper dumping place. This is a great abuse and nuisance, and should be stopped by the police, as it will be vigorously prosecuted by this Bureau whenever the offender is known or arrested. I have begun, and shall actively continue to rid the streets of at least some of the many incumbrances and obstructions that are placed thereon, such as wagons, boxes, stands, etc., and I trust, that if even but slow, the improvement will be a steady one, which is a consummation devoutly wished for by the great majority of the citizens.

Respectfully,
JOSEPH BLUMENTHAL, Superintendent of Incumbrances.

Document "L."

BUREAU OF WATER REGISTER.

BUREAU OF WATER REGISTER, 31 CHAMBERS STREET,
NEW YORK, December 31, 1881.

Hon. HUBERT O. THOMPSON, Commissioner of Public Works:

SIR—I herewith transmit statement of moneys received for water rents, penalties, and taps for the quarter ending December 31, 1881.

	Principal.	Penalties.	Taps.
October	\$83,470 10	\$1,462 50	\$1,123 50
November	78,127 40	3,628 65	1,095 00
December	62,533 56	2,050 05	1,052 00
Total	\$224,131 06	\$7,141 20	\$3,270 50

Deposit to the credit of Special Meter Stock—	
October	\$1,276 63
November	2,792 03
December	4,416 50
Total	\$8,485 16

Special Fund—Repairing Streets and Sidewalks—	
October	\$1,297 00
November	1,507 00
December	1,386 00
Total	\$4,190 00

The following is a statement showing the number of permits issued for taps, the receipts for same, and for building purposes and street openings, etc., for the year ending December 31, 1881:

For 2,651 taps, amount received	\$11,329 00
For 3,912 permits for repairing streets	18,559 00

The general collections, from January 1, 1881, to and including December 31, 1881, amount to \$1,499,461.47, of which \$198,141.11 was received for water by meter measurement.

712 building permits were issued and receipts therefor were	\$26,340 70
Unpaid water rates for 1880 transmitted to the Clerk of Arrears amount to	65,719 05
Unpaid bills for meters and meter settings transmitted to Clerk of Arrears	12,013 67
For Special Meter Stock, amount received	30,631 08

1,876 permits were issued during the year for using hose to wash sidewalks, etc. Owing to the reduction made last year of fifty per cent. on rates for water by meter measurement, in the large business establishments where meters had been placed, the general receipts, as compared with the year 1880, show a falling off of \$50,888.60.

This decrease, however, cannot be regarded as a loss to the city, it being compensated for by the establishment of rates which afford to our citizens a fair and equitable mode of determining what amount they should pay for the quantity of water used, and the consumers generally being satisfied with the meter rates in lieu of the old system of regulating charges when rates for extra water were determined and fixed by estimated quantity.

As a result of the meter system adopted by the Department, there has been a decided decrease of waste of water by consumers, and this tended in a marked degree to prevent a water famine during the past quarter of the year, which would have proved financially disastrous.

If the policy of putting on meters is continued, it will prevent a vast amount of waste and secure to our citizens many advantages resulting from the economical use of water.

Respectfully submitted,
J. H. CHAMBERS, Water Register.

FIRE DEPARTMENT

HEADQUARTERS FIRE DEPARTMENT, CITY OF NEW YORK,
January 28, 1882.

Present—President John J. Gorman, Commissioners Cornelius Van Cott and Henry D. Purroy. Affidavits of the Clerk of the CITY RECORD relative to publication of advertisements were read, and approved forms of contract submitted.

Proposals

received and opened in the presence of the Comptroller:

For furnishing 4 Steam Fire-engines.

No. 1. From the Clapp & Jones Mfg. Co., at \$4,300 each (\$17,200), with security deposit of \$430. Referred to the Comptroller for action upon the sureties.

For furnishing 4 Four-wheel Hose-tenders.

No. 1. From Peter J. Nevins, for \$3,560, with security deposit of \$100. Filed.
No. 2. From the Consolidated Fire Extinguisher Co., for \$3,500, with security deposit of \$200. Referred to the Comptroller for action upon the sureties.

For furnishing Coal.

No. 1. From H. E. Bowns, 3,500 tons at \$5.42 (\$18,970), with security deposit of \$500. Referred to the Comptroller for action upon the sureties.

For furnishing Forage.

No. 1. From John Moonan, hay at \$1.10, straw at 95 cents, oats at \$1.45, feed at 75 cents (\$7,147.50), with security deposit of \$200. Referred to the Comptroller for action upon the sureties. The security deposits accompanying proposals were ordered to be transmitted to the Comptroller.

On motion, adjourned.

CARL JUSSEN, Secretary.

Reconvened at 11.30 A. M.

Present—President John J. Gorman, Commissioners Cornelius Van Cott and Henry D. Purroy. The Board met pursuant to resolution to consider report of investigation as to the fire at Riverdale on 26th instant. The persons summoned to appear to testify in the matter not being present, the investigation was adjourned to the 30th instant, at 10 A. M.

Communications.

From—

Chairman Committee on Apparatus and Telegraph—Report as to the utility and practicability of asbestos for drop curtains of theatres. Filed, and following preamble and resolution adopted: Whereas, Experience has demonstrated that the greatest danger to audiences in theatres, in case of fire upon the stage, arises from the rapid communication of the smoke and flames to the auditorium, causing confusion and panic; and

Whereas, A non-inflammable curtain, shutting off the stage from the auditorium, would greatly reduce the danger of panic and enable the quiet dispersing of the audience; therefore, be it

Resolved, That the Department recommend the use of asbestos cloth, or other non-inflammable material, for stage curtains in theatres, and that such curtains, whether used as the regular drop-curains, or specially for the purpose of shutting off the stage from the auditorium in case of fire, be regularly lowered and raised in the presence of the firemen detailed to the theatres, before the beginning of every performance, in order that the firemen may be assured that the curtains are in proper working order.

Chief of Battalion in charge of Repair Shops—Report relative to new tender received from P. J. Nevins. Laid over.

Private Samuel T. Warren of Engine Co. No. 1, applying for promotion to rank of Assistant Engineer of Steamer. Referred to the Examining Board.

Dennison Manufacturing Company, offering to furnish a steam fire-engine. Filed, with directions to reply.

Resolution.

Resolved, That the salary of Edward Ledwith, Driver, Bureau of Inspection of Buildings, be and is hereby fixed at the rate of \$2.50 per day, from first proximo. Adopted.

Transfers.

to take effect 1st proximo:

Assistant Foreman Charles J. Williams, Engine Co. No. 39 to Engine Co. No. 38.
" James Cosgrove, Engine Co. No. 34 to Engine Co. No. 23.
" Robert Olmstead, Engine Co. No. 23 to Engine Co. No. 21.
Assistant Engineer of Steamer Joseph Creagle, Engine Co. No. 2 to Engine Co. No. 27.
" Lawrence Ryan, Engine Co. No. 27 to Engine Co. No. 2.
Fireman Theodore H. Ernst, Engine Co. No. 18 to Engine Co. No. 26.
" James Brady, Engine Co. No. 26 to Hook and Ladder Co. No. 4.
" Mark Smith, Engine Co. No. 14 to Hook and Ladder Co. No. 14.
Private William H. Jones, Hook and Ladder Co. No. 14 to Engine Co. No. 14.
On motion, adjourned.

CARL JUSSEN, Secretary.

JANUARY 30, 1882.

Present—President John J. Gorman, Commissioners Cornelius Van Cott and Henry D. Purroy. Evidence was taken in the matter of the management and working of the fire at Riverdale, on 26th instant, and report of investigation by Chief Tenth Battalion was read; also communication from Mr. George H. Bend, stating his belief that the alleged misconduct of the Department had not occurred. Upon consideration of the evidence taken the Board is of opinion that there was no foundation for the report of alleged misconduct on the part of the officers or members of the Department on the occasion in question.

On motion, adjourned.

CARL JUSSEN, Secretary.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION.

MEETINGS, FEBRUARY 6 TO FEBRUARY 11, 1882.

Communications Received.

From Penitentiary—List of prisoners received during week ending February 4, 1882: Males, 19; females, 4. On file.

List of 40 prisoners to be discharged from February 12 to 18, 1882. Transmitted to Prison Association.

From Lunatic Asylum, Blackwell's Island—History of 10 patients received during week ending February 4, 1882. On file.

From New York City Asylum for Insane, Ward's Island—History of 5 patients received during week ending February 4, 1882. On file.

From City Prison—Amount of fines received during week ending February 4, 1882, \$260. On file.

Inventory of stock, etc., on hand December 31, 1881. Total value \$7,020.12. On file.

Resolutions.

Resolved, That in accordance with the recommendation of the Medical Superintendent of Insane Asylum, Ward's Island, the Printing Bureau be removed from Bellevue Hospital to the Insane Asylum, and that Mr. Stilwell be transferred to take charge. Adopted.

Resolved, That the proposals of S. T. Willets & Co., to furnish 6,000 pounds dairy butter, at 18 49-100 cents per pound; 500 sides good damaged sole leather, at 19 69-100 cents per pound;

R. H. Robbins, 25 bales bandage muslin, at 5 60-100 cents per yard; 10 gross women's thimbles, at \$1.74 per gross; 500 sides waxed kip sole leather, at 20 90-100 cents per foot; 20 bales broom corn, at 8 23-100 cents per pound;

H. K. & F. B. Thurber & Co., 20,000 pounds oolong tea, at 15 90-100 cents per pound; 50 barrels oatmeal, at 6 33-100 cents per pound; 50 1/4 boxes raisins, at 65 cents per 1/4 box; 1 cask prunes, at 5 1/2 cents per pound; 20 dozen 3-pound canned pears, at \$2.73 cents per dozen; 5 dozen Worcestershire sauce, at \$4.50 per dozen.

Robert Betty, 50 bales brown muslin, at 7 70-100 cents per yard; 500 rubber blankets, at 85 cents each; 20 dozen whitewash brushes, at \$4.85 per dozen; 20 dozen 6-inch paint brushes, at \$9.74 per dozen; 20 dozen sash tools, at 94 cents per dozen; 3 dozen kalsomining brushes, at \$11 per dozen;

—be accepted, and the contracts awarded to them, the sureties having been approved by the Comptroller. Adopted.

Resolved, That the General Storekeeper be directed to make requisition for a Platform Scale, with capacity of 3,000 lbs., for use in weighing meats, etc., on Twenty-sixth street Dock, and that a small shed be erected over the same. Adopted.

Appointments.

February 6. Isaac B. Dickinson, Keeper, Penitentiary. Salary \$617 per annum.

6. William Newman, Deputy Keeper, Penitentiary. Salary \$ per annum.

6. Reuben W. Beebe, Attendant, New York City Asylum for Insane. Salary \$216 per annum.

6. William Malone, Attendant, New York City Asylum for Insane. Salary \$216 per annum.

6. Agnes Smith, Nurse, Randall's Island Hospital. Salary \$168 per annum.

6. William F. Holahan, Orderly, Hart's Island Hospital. Salary \$240 per annum.

7. Bernard Gormley, Dockmaster. Salary \$800 per annum.

8. Peter Gillen, Guard, Penitentiary. Salary \$513 per annum.

8. Thomas I. Daly, Orderly, Workhouse Hospital.

8. John Purcell, Attendant, New York City Asylum for Insane. Salary \$216 per annum.

8. Joseph H. Bogle, Keeper, Penitentiary. Salary \$684 per annum.

9. Mary Leonard, Nurse, Randall's Island Hospital. Salary \$168 per annum.

10. Annie Crosby, Nurse, Charity Hospital. Salary \$120 per annum.

10. John Murphy, Assistant Apothecary, Charity Hospital. Salary \$180 per annum.

10. John Daly, Attendant, N. Y. City Asylum for Insane. Salary \$216 per annum.

10. Robert A. Foster, Attendant, N. Y. City Asylum for Insane. Salary \$216 per annum.

10. Thomas N. Clark, Attendant, New York City Asylum for Insane. Salary, \$216 per annum.

11. George Parker, Attendant, New York City Asylum for Insane. Salary, \$216 per annum.

Clifford Westley, Attendant, New York City Asylum for Insane. Salary, \$216 per annum.

William H. Hall, Clerk, steamboat. Salary, \$800 per annum.

Resignation.

February 11. George Doxey, Orderly, Bellevue Hospital.

G. F. BRITTON, Secretary.

APPROVED PAPERS.

Resolved, That permission be and the same is hereby given to Chamberlain Brothers to retain the sign now on the awning in front of their place of business, No. 190 West street; such permission to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, February 7, 1882.
Approved by the Mayor, February 13, 1882.

Resolved, That permission and the same is hereby given to Geo. Theiss to lay crosswalk in front of his premises, Nos. 134 and 136 East Fourteenth street, to the opposite side of said street, work to be done at his own expense and under the direction of the Commissioner of Public Works; said permission to continue during the pleasure of the Common Council.

Adopted by the Board of Aldermen, February 7, 1882.
Approved by the Mayor, February 13, 1882.

Resolved, That permission and the same is hereby given to Geo. Theiss to erect an ornamental lamp in front of his premises, No. 134 East Fourteenth street, work to be done at his own expense and under the direction of the Department of Public Works; said permission to continue during the pleasure of the Common Council.

Adopted by the Board of Aldermen, February 7, 1882.
Approved by the Mayor, February 13, 1882.

Resolved, That pursuant to the provisions of section 91, article 16, chapter 335, Laws of 1873, the Commissioners of the Department of Public Parks be and are hereby authorized and empowered to procure, in open market, and without contract, an elephant for the use of and to be added to the zoological collection of the department, at a cost not exceeding two thousand five hundred dollars (\$2,500), and to be paid for out of the appropriation made for "Zoological Department" for 1882.

Adopted by the Board of Aldermen, February 7, 1882.
Approved by the Mayor, February 14, 1882.

Resolved, That a ferry be and is hereby established to run from a point at or near the foot of Liberty street, North river, in the City of New York, to and from Communipaw, or to some street or avenue contiguous or adjacent thereto, as the purchaser of the franchise may elect, in Hudson County, State of New Jersey, and the Commissioners of the Sinking Fund are hereby authorized and directed to sell, at public auction, to the highest bidder or bidders, as provided by law, the right to operate the ferry so established, on such terms and conditions and subject to such restrictions and regulations as may be prescribed by said Commissioners.

Adopted by the Board of Aldermen, February 7, 1882.
Approved by the Mayor, February 14, 1882.

Resolved, That permission be and the same is hereby given to the London and Liverpool Clothing Company to extend the show-windows on their stores Nos. 463, 465, and 467 Broadway, northwest corner of Grand street, outwardly from the house-line, a distance of twenty (20) inches, as shown on the accompanying diagram; the work to be done at own expense, under the direction of the Commissioners of the Fire Department; such permission to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, January 24, 1882.
Received from his Honor the Mayor, January 31, 1882, with his objections thereto.

In Board of Aldermen, February 14, 1882, taken up, reconsidered, as provided in section 13, chapter 335, Laws of 1873, and adopted, notwithstanding the objections of his Honor the Mayor, three-fourths of all the members elected voting in favor thereof.

Resolved, That permission be and the same is hereby given to Philip H. Schnöter to erect a barber-pole at 169 East One Hundred and Twenty-sixth street, the work done at his own expense; such permission to continue only during the pleasure of the Common Council.

Resolved, That permission be and the same is hereby given to Frank Krauss to erect a pole, not over seven feet high, with a sign not to exceed 18 inches in length on each side, in front of his premises, No. 332 Bowery, the work done at his own expense; such permission to continue only during the pleasure of the Common Council.

Resolved, That permission be and the same is hereby given to Ottman & Co. to retain their awning and meat-racks in front of their premises, northeast corner of Allen and Delancey streets; such permission to continue only during the pleasure of the Common Council.

Resolved, That permission be and the same is hereby given to Richard L. Wood to retain the sign now in front of his premises, No. 401 Canal street; such permission to continue only during the pleasure of the Common Council.

Resolved, That permission be and the same is hereby given to M. Schneider to retain a barber's pole now opposite No. 396 Sixth avenue; such permission to continue only during the pleasure of the Common Council.

Resolved, That permission be and the same is hereby given to Oscar R. Myer to place and keep a show-case on the sidewalk, near the curb-stone, in front of No. 26 West Fourteenth street, such show-case not to be more than six feet high and two feet wide; such permission to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, January 24, 1882.
Received from his Honor the Mayor, January 31, 1882, with his objections thereto.

In Board of Aldermen, February 14, 1882, taken up, reconsidered, as provided in section 13, chapter 335, Laws of 1873, and adopted, notwithstanding the objections of his Honor the Mayor, three-fourths of all the members elected voting in favor thereof.

Resolved, That permission given to Oscar R. Meyer to place show-case in front of No. 26 West Fourteenth street be and is hereby revoked.

Adopted by the Board of Aldermen, February 14, 1882.
Approved by the Mayor, February 16, 1882.

Resignation of Rufus E. Kockwell as a Commissioner of Deeds.

Resolved, That William H. Regan be and he is hereby appointed a Commissioner of Deeds in and for the City and County of New York, in place of Rufus E. Rockwell, who has resigned.

Resignation accepted and resolution adopted by the Board of Aldermen, February 14, 1882.
Approved by the Mayor, February 16, 1882.

Resolved, That permission be and is hereby given to Charles R. Purdy to place and keep a bay-window on the basement, first and second stories of the building on the northeast corner of Fifth avenue and Fifty-second street, as shown on the accompanying diagram, the work to be done at his own expense, under the direction of the Commissioners of the Fire Department; the permission hereby given to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, January 31, 1882.
Received from his Honor the Mayor, February 16, 1882, without his approval or objections thereto; therefore, as provided in section 11, chapter 335, Laws of 1873, the same became adopted.

Resolved, That permission be and the same is hereby given to James S. Barron & Co. to erect a storm-door in front of No. 2 Hudson street, the consent of the adjoining occupants having been received and is hereto attached, the work done at their own expense, under the direction of the Commissioner of Public Works; such permission to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, February 14, 1882.
Approved by the Mayor, February 18, 1882.

METEOROLOGICAL OBSERVATORY

OF THE

DEPARTMENT OF PUBLIC PARKS
CENTRAL PARK, NEW YORK.

Latitude 40° 45' 58" N. Longitude 73° 57' 58" W. Height of Instruments above the Ground, 53 feet; above the Sea, 97 feet.

ABSTRACT OF REGISTERS FROM SELF-RECORDING INSTRUMENTS

For the Week Ending February 18, 1882.

Barometer.

DATE.	FEBRUARY.	7 A. M.	2 P. M.	9 P. M.	Mean for the Day.	MAXIMUM.		MINIMUM.	
		Reduced to Freezing.	Reduced to Freezing.	Reduced to Freezing.	Reduced to Freezing.	Reduced to Freezing.	Time.	Reduced to Freezing.	Time.
Sunday,	12	30.488	30.336	30.278	30.367	30.542	0 A. M.	30.200	12 P. M.
Monday,	1	30.082	29.878	29.816	29.925	30.200	0 A. M.	29.800	6 P. M.
Tuesday,	14	29.952	30.000	30.068	30.007	30.068	9 P. M.	29.838	0 A. M.
Wednesday,	15	30.082	30.084	30.102	30.089	30.138	12 P. M.	30.050	0 A. M.
Thursday,	16	30.116	30.010	29.846	29.981	30.148	9 A. M.	29.696	12 P. M.
Friday,	17	29.682	29.988	30.254	29.974	30.350	12 P. M.	29.600	3 A. M.
Saturday,	18	30.550	30.568	30.576	30.565	30.600	11 P. M.	30.350	0 A. M.

Mean for the week..... 30.131 inches.
Maximum " at 11 P. M., February 18..... 30.600 "
Minimum " at 3 A. M., " 17..... 29.600 "
Range " 1.000 "

Thermometers.

DATE.	FEBRUARY.	7 A. M.	2 P. M.	9 P. M.	MEAN.	MAXIMUM.		MINIMUM.		MAXIMUM.
		Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	In Sun.
Sunday,	12	37	34	46	42	42.7	38.7	46	2 P. M.	42
Monday,	13	47	44	56	51	51.3	48.3	56	2 P. M.	51
Tuesday,	14	43	40	49	41	45.7	40.3	50	4 P. M.	42
Wednesday,	15	38	36	51	43	46.0	41.0	53	5 P. M.	46
Thursday,	16	42	41	47	45	45.6	44.0	49	10 P. M.	47
Friday,	17	49	46	48	42	43.0	39.6	51	11 A. M.	47
Saturday,	18	17	17	23	20	20.3	19.3	27	0 A. M.	26

Dry Bulb. Wet Bulb.
Mean for the week..... 42.1 degrees..... 38.7 degrees.
Maximum for the week, at 2 P. M., 13th..... 56. " at 2 P. M., 13th..... 51. "
Minimum " at 7 A. M., 18th..... 17. " at 7 A. M., 18th..... 17. "
Range " 39. " 34. "

Wind.

DATE.	FEBRUARY.	DIRECTION.			VELOCITY IN MILES.				FORCE IN POUNDS PER SQUARE FOOT.				
		7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Distance for the Day.	7 A. M.	2 P. M.	9 P. M.	Max.	Time.
Sunday,	12	SW	WNW	SW	54	65	32	151	1	0	0	4½	11.30 A. M.
Monday,	13	SW	SW	W	51	62	99	212	¾	3	¾	5½	0.50 P. M.
Tuesday,	14	WNW	W	WSW	52	36	53	141	0	½	0	1½	3 P. M.
Wednesday,	15	WSW	WSW	SW	61	59	56	176	0	1	0	1¾	3.30 P. M.
Thursday,	16	SSW	NW	S	62	36	31	129	0	0	½	1½	11.30 A. M.
Friday,	17	NW	NW	NNW	61	109	100	270	5	4¾	3	8¾	11.15 A. M.
Saturday,	18	NNE	NNE	NE	135	103	50	288	¾	¾	0	7½	1.30 A. M.

Distance traveled during the week..... 1,367 miles.
Maximum force " " 8¾ pounds.

DATE.	FEBRUARY.	Hygrometer.		Clouds.			Rain and Snow.				
		FORCE OF VAPOR.	RELATIVE HUMIDITY.	CLEAR, O. OVERCAST, 10.			DEPTH OF RAIN AND SNOW IN INCHES				
		7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Time of Beginning.	Time of Ending.	Duration.	Amount of Water.
										H. M.	Depth of Snow.
Sunday,	12	.157	.215	.182	71	69	60	7 Cir. Cu.	4 Cir. Cu.	4 Cu.	.....
Monday,	13	.249	.308	.348	77	68	93	10	10	10	1 P. M.
Tuesday,	14	.208	.153	.182	75	44	60	8 Cu.	0	0	.....
Wednesday,	15	.186	.173	.223	81	46	64	0	0	0	.....
Thursday,	16	.244	.273	.284	91	84	85	3 Cir.	10	10	8.30 P. M.
Friday,	17	.271	.189	.162	78	56	89	Cir.	1 Cir.	0	12 P. M.
Saturday,	18	.094	.074	.113	100	60	100	0	0	0	5 A. M.

Total amount of water for the week..... .63 inch.

DANIEL DRAPER, PH. D., Director.

REPORTED MORTALITY* for the week ending February 11, 1882, together with the ACTUAL MORTALITY for the week ending February 4, 1882.

SIR—There were 839 deaths reported to have occurred in this city during the week ending Saturday, February 11, 1882, which is an increase of 42, as compared with the number reported the preceding week, and 130 more than were reported during the corresponding week of the year 1881. The actual mortality for the week ending February 4, 1882, was 826, which is 272.0 above the average for the corresponding week for the past five years, and represents an annual death-rate of 33.96 per 1,000 persons living, the population estimated at 1,264,644.

METEOROLOGY.		Week ending Feb. 11.	Week ending Feb. 4.	ACTUAL NUMBER OF DEATHS EACH DAY DURING THE WEEK ENDING SATURDAY, FEBRUARY 4, 1882.										AGE BY YEARS.										Sex.										
Mean temperature (Fahr.) for the week was. " reading of barometer " humidity for the week was..... Number of miles traveled by the wind was..... Total rain-fall, in inches, for the week.....		33.5 29.921 82 1,550 .99	26.8 29.780 89 2,007 1.25	DATE.							Total Actual Mortality during the week ending Feb. 4, 1882.	Actual number of Deaths for the corresponding week of 1881.	Average number of Deaths in the corresponding week of the past five years.	Annual Death-rate per 1,000, during week (population estimated at 1,564,644).											Male.	Female.	COLORS.							
CAUSES OF DEATH.		Total Deaths reported during the week ending Feb. 11, 1882.	Total Deaths reported during the week ending Feb. 4, 1882.	Jan. 29.	Jan. 30.	Jan. 31.	Feb. 1.	Feb. 2.	Feb. 3.	Feb. 4.				Under 7 year.	Total under 5 years.																			
														1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 and over.			
Total Deaths from all Causes.....	839	797	135 106 111 102 139 122 111	826	761	554.0	33.96	148	89	66	53	45	401	50	9	16	38	34	28	41	39	25	24	23	29	21	48	428	398	14				
Total Zymotic Diseases.....	276	207	50 42 41 35 52 47 40	309	206	129.0	12.71	38	54	57	40	38	227	40	4	1	11	9	8	12	11	14	16	10	10	6	5	9	158	151	3			
Total Constitutional Diseases.....	167	134	23 15 17 20 21 23 16	135	374	138.6	5.55	14	3	2	1	..	20	3	1	9	5	11	12	11	14	16	12	14	17	14	24	170	134	5				
Total Local Diseases.....	320	302	54 41 41 37 47 41 43	304	218	230.2	7.2	30	7	11	7	..	127	7	4	5	..	9	11	20	3	..	..	..	..	..	..	..	..	..	..	..
Total Developmental Diseases.....	52	45	5 3 5 8 14 6 9	50	49	35.0	2.05	22	..	..	..	..	22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Deaths by Violence.....	24	19	7 2 2 2 2 3 3	24	15	1.5	1.15	2	2	1	..	..	12	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Small-pox.....	21	20	4 5 4 1 5 4 4	27	14	1.4	1.1	3	3	1	..	..	12	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles.....	46	35	4 6 5 6 5 6 8	40	36	8.0	1.64	10	14	7	4	..	38	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlatina.....	91	101	15 10 14 12 20 18 10	99	43	31.6	4.07	2	10	24	14	18	58	24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria.....	47	57	11 11 13 6 6 8 12	67	53	24.6	2.75	6	13	10	16	11	56	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Membranous Croup.....	19	24	5 6 .. 1 4 6 4	26	22	15.6	1.07	2	9	10	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough.....	12	5	.. .. .. 3 .. 3	..	5	6.4	.12	..	1	..	..	..																			

* Refers to the number of death certificates received.

WARDS.	AREA IN ACRES.	DEATHS FROM ZYMOTIC DISEASES.															Total Deaths from all Causes.	Total Deaths, exclusive of those in Public Institutions.	Total Population (in Wards), Census of 1880.	REMARKS.	Total in Institutions.	
		NEW YORK.—DEATHS FROM SMALL-POX, MEASLES, SCARLATINA, DIPHTHERIA, CROUP, WHOOPING COUGH, TYPHOID FEVER, TYPHUS FEVER, MALARIAL FEVERS, PUERPERAL FEVER, DIARRHOEAL MALADIES, CEREBRO-SPINAL FEVER, AND OTHER ZYMOTIC DISEASES.																				
		Actual Mortality during the Week ending February 4, 1882.																				
		Small-pox.	Measles.	Scarlatina.	Diphtheria.	Croup.	Whooping Cough.	Typhus Fever.	Typhoid Fever.	Malarial Fevers.	Puerperal Fever.	All Diarrhoeal Diseases.	Cerebro-Spinal Fever.	Other Zymotic Diseases.	Total Deaths from Zymotic Diseases.							
First	154	1	1	2	12	8	17,939	Castle Garden and Emigrant Depot, 2; U. S. Marine Hospital (Bedloe's Island), 2; First Precinct Station, -	4		
Second	81	..	..	..	1	..	1	..	..	..	..	1	..	3	8	8	1,608	Twenty-seventh Precinct Station, -; House of Relief, 160 Chambers street, 3; Newsboys' Lodgings, -	3
Third	95	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	3,582	Fourth Precinct Station, -; Mission Home, -; St. James' Home, -	3
Fourth	83	..	1	1	2	..	..	..	..	..	..	..	..	2	6	22	21,015	Fifth Precinct Station, -; Trinity Infirmary, 50 Varick street, -	..
Fifth	168	..	1	2	1	..	..	..	1	..	..	..	..	5	13	13	16,134	City Prison, -; Home of Industry, -; Centre Street Dispensary, -; Park Street Mission Home, -	..
Sixth	86	..	4	2	..	1	..	..	..	..	..	2	..	17	33	34	20,193	Seventh Precinct Station, -; Deborah Day Nursery, -; Nursery and Child's Protectory, East Broadway, -	..
Seventh	198	..	1	7	1	4	..	..	..	..	..	..	..	13	23	23	50,066	Eighth Precinct Station, -	..
Eighth	163	..	..	3	2	..	..	..	..	..	..	..	1	2	6	25	35,880	St. Vincent's Hospital, 5; Home for Old Men and Aged Couples, -; Ninth Precinct Station, -	..
Ninth	322	..	3	7	1	3	..	..	..	..	..	..	..	14	37	38	54,593	Essex Street Prison, -; Tenth Precinct Station, -; Ludlow Street Jail, -	5
Tenth	110	..	..	2	1	1	..	..	..	..	..	..	..	1	4	39	47,553	St. Francis' Hospital, 3; Eleventh Precinct Station, -	3
Eleventh	196	..	2	2	5	..	1	..	..	..	..	..	..	1	11	35	68,779	Reception Hospital, 9th street, -; Infants' Hospital, 6; Sheltering Arms, -; N. Y. City Asylum for the Insane, 3; Colored Orphan Asylum, 1; Ward's Island, 5; Randall's Island, 2; Bloomingdale Lunatic Asylum, -; St. Joseph's Asylum, -; House of Refuge, -; House of Mercy, -; Idiot Asylum, Randall's Island, -; Union Home and School, -; House of Good Shepherd, -; Deaf and Dumb Asylum, -; Ladies' Deborah Nursery, -; Homeopathic Hospital, 10; Home for Aged and Infirm Hebrews, -; Leake and Watts Orphan Home, -; Twenty-third Precinct Station-house, -	27
Twelfth	5,504.13	..	10	12	5	4	..	..	3	..	..	..	3	37	83	56	81,802	Thirteenth Precinct Station, -	..
Thirteenth	107	..	..	6	1	..	..	..	..	..	..	..	..	7	18	18	37,797	R. C. Orphan Asylum, 1; Lyng-in Asylum, -; Fourteenth Precinct Station, -; House of Mercy, -	1
Fourteenth	96	..	5	1	2	1	..	..	..	..	..	1	11	17	16	30,172	Midnight Mission, -; N. Y. Infant Asylum, -; House of the Holy Comforter, -	..	
Fifteenth	198	..	..	..	..	..	..	..	1	..	..	..	..	1	7	7	31,873	St. Joseph's Home for the Aged, 1; Samaritan Home for the Aged, -; French Hospital, 1	2
Sixteenth	348.77	..	..	5	5	1	..	..	..	..	..	..	11	22	20	55,180	Association for Befriending Young Girls, -; Eye and Ear Infirmary, -; Office of Charities and Correction, -	..	
Seventeenth	331	..	2	8	10	3	..	..	1	..	..	..	1	25	60	60	104,895	Home for Respectable Aged and Indigent Females, -; New York Hospital, 6; New York Infirmary for Women and Children, -; Reception Hospital, -	6
Eighteenth	449.89	..	1	8	5	4	1	2	21	40	34	66,610	Presbyterian Home, 1; Presbyterian Hospital, -; German Hospital, 1; Mt. Sinai Hospital, 5; Foundling Hospital, 8; Women's Hospital, -; City Lunatic Asylum, 5; Almshouse, 12; Penitentiary, -; Small-pox Hospital, 22; Charity Hospital, 15; Epileptic and Paralytic Hospital, -; Colored Home Hospital, 4; Nursery and Child's Hospital, 5; St. Luke's Hospital, 6; Workhouse, 2; Fever Hospital, -; Roman Catholic Orphan Asylum, -; Hospital for Ruptured and Crippled, -; Home for the Aged (Little Sisters of the Poor), 2; Chapin Home for the Aged, -; Hahnemann's Hospital -; Orphans' Home and Asylum (Protestant Episcopal), 49th street and Lexington avenue, -; Hebrew Orphan Asylum, -; Maternity Hospital, -; St. Joseph's Infirmary, -; Baptist Home, -; Home of the Sisters of St. Dominic, 2	90		
Nineteenth	1,480.60	26	3	12	4	3	..	..	..	..	2	..	4	54	150	60	158,108	St. Elizabeth's Hospital, -; St. Mary's Hospital, -; Institution for the Blind, -; Twenty-ninth Precinct Station, -; Bellevue Hospital, 28; in Ambulances, 1; Ophthalmic Hospital, 1; Peabody Home for the Aged, -; St. Stephen's Home, -; Twenty-first Precinct Station, -; Home of the Friendless, -	30
Twentieth	444	..	6	5	6	1	..	..	..	..	1	..	1	20	53	53	86,023	Roosevelt Hospital, 4; Old Ladies' Home, -; New York Infant Asylum, -; Hahnemann's Hospital, -	..
Twenty-first	411	..	..	3	2	..	..	2	..	..	..	..	4	11	55	25	66,538	New York Orphan Asylum, -; Twenty-second Precinct Station, -; Children's Fold, -	4
Twenty-second	1,529.42	..	1	10	11	1	1	..	1	..	1	..	1	27	62	58	111,605	Thirty-third Precinct Station, -; Old Gentlemen's Unsectarian Home, -	..			
Twenty-third	4,267.023	1	..	3	2	..	..	..	..	..	..	..	..	6	12	12	23,338	House of Rest for Consumptives, 2; Home for Incurables, -; Thirty-fourth Precinct Station, -; Thirty-fifth Precinct Station, -; Peabody Home, -; St. Stephen's Home, -; St. Joseph's Institution for Deaf Mutes, -	2
Twenty-fourth	8,050.323	..	..	..	..	..	..	..	1	..	..	..	..	1	7	5	13,283		
Totals	24,893.156	27	40	99	67	26	3	..	4	7	1	7	2	26	309	826	649	1,206,577	Total mortality in Public Institutions	177		

JOHN T. NAGLE, M. D., Deputy Register of Records.

OFFICIAL DIRECTORY

STATEMENT OF THE HOURS DURING WHICH
all the Public Offices in the City are open for business,
and at which each Court regularly opens and adjourns, as
well as of the places where such offices are kept and such
Courts are held; together with the heads of Departments
and Courts.

EXECUTIVE DEPARTMENT.

Mayor's Office.

No. 6 City Hall, 10 A. M. to 3 P. M.
WILLIAM R. GRACE, Mayor; WILLIAM M. IVINS,
Secretary and Chief Clerk.

Mayor's Marshal's Office.

No. 1 City Hall, 10 A. M. to 3 P. M.
GEORGE A. McDERMOTT, First Marshal.

Permit Bureau Office.

No. 13 1/2 City Hall, 10 A. M. to 3 P. M.
HENRY WOLTMAN, Register.

Sealers and Inspectors of Weights and Measures.

No. 7 City Hall, 10 A. M. to 3 P. M.
WILLIAM EYLER, Sealer First District; CHRISTOPHER
BARRY, Sealer Second District; JOHN MURRAY, In-
spector First District; JOSEPH SHANNON, Inspector
Second District.

COMMISSIONERS OF ACCOUNTS.

No. 1 County Court-house, 9 A. M. to 4 P. M.
WM. PITT SHEARMAN, JOHN W. BARROW.

LEGISLATIVE DEPARTMENT.

Office of Clerk of Common Council.

No. 8 City Hall, 10 A. M. to 4 P. M.
WILLIAM SAUER, President Board of Aldermen.
FRANCIS J. TWOMEY, Clerk Common Council.

City Library.

No. 12 City Hall, 10 A. M. to 4 P. M.
THOS. J. O'CONNELL, Librarian.

DEPARTMENT OF PUBLIC WORKS.

Commissioner's Office.

No. 31 Chambers street, 9 A. M. to 4 P. M.
HUBERT O. THOMPSON, Commissioner; FREDERICK H.
HAMLIN, Deputy Commissioner.

Bureau of Water Register.

No. 31 Chambers street, 9 A. M. to 4 P. M.
JOHN H. CHAMBERS, Register.

Bureau of Incumbrances.

No. 31 Chambers street, 9 A. M. to 4 P. M.
JOSEPH BLUMENTHAL, Superintendent.

Bureau of Lamps and Gas.

No. 31 Chambers street, 9 A. M. to 4 P. M.
STEPHEN McCORMICK, Superintendent.

Bureau of Streets.

No. 31 Chambers street, 9 A. M. to 4 P. M.
JAMES J. MOONEY, Superintendent.

Engineer in Charge of Sewers.

No. 31 Chambers street, 9 A. M. to 4 P. M.
STEVENSON TOWLE, Engineer-in-Charge.

Bureau of Chief Engineer.

No. 31 Chambers street, 9 A. M. to 4 P. M.
ISAAC NEWTON, Chief Engineer.

Bureau of Street Improvements.

No. 31 Chambers street, 9 A. M. to 4 P. M.
GEORGE A. JEREMIAH, Superintendent.

Bureau of Repairs and Supplies.

No. 31 Chambers street, 9 A. M. to 4 P. M.
THOMAS H. McAVOY, Superintendent.

Bureau of Water Surveyor.

No. 31 Chambers street, 9 A. M. to 4 P. M.
DANIEL O'REILLY, Water Purveyor.

Keeper of Buildings in City Hall Park.

MARTIN J. KEESSE, City Hall.

FINANCE DEPARTMENT.

Comptroller's Office.

Nos. 19 and 20 New County Court-house, 9 A. M. to 4 P. M.
ALLAN CAMPBELL, Comptroller; RICHARD A. STORRS,
Deputy Comptroller.

Auditing Bureau.

No. 19 New County Court-house, 9 A. M. to 4 P. M.
DANIEL JACKSON, Auditor of Accounts.

Bureau for the Collection of Assessments and of Arrears of Taxes and Assessments and of Water Rents.

No. 5 New County Court-house, 9 A. M. to 4 P. M.
ARTEMAS CADY, Collector of Assessments and Clerk of
Arrears.

Bureau for the Collection of City Revenues and of Markets.

No. 6 New County Court-house, 9 A. M. to 4 P. M.
THOMAS F. DEVOE, Collector of City Revenue and
Superintendent of Markets.

Bureau for the Collection of Taxes.

First floor Brown-stone Building, City Hall Park.
MARTIN T. McMAHON, Receiver of Taxes; ALFRED
VREDENBURG, Deputy Receiver of Taxes.

Bureau of the City Chamberlain.

No. 13 New County Court-house, 9 A. M. to 4 P. M.
J. NELSON TAPPAN, City Chamberlain.

Office of the City Paymaster.

Room 1, New County Court-house, 9 A. M. to 4 P. M.
MOOR FALLS, City Paymaster.

LAW DEPARTMENT

Office of the Counsel to the Corporation.

Staats Zeitung Building, third floor, 9 A. M. to 5 P. M.
Saturday, 9 A. M. to 4 P. M.
WILLIAM C. WHITNEY, Counsel to the Corporation
ANDREW T. CAMPBELL, Chief Clerk.

Office of the Public Administrator.

No. 49 Beekman street, 9 A. M. to 4 P. M.
ALGERNON S. SULLIVAN, Public Administrator.

Office of the Corporation Attorney.

No. 49 Beekman street, 9 A. M. to 4 P. M.
WILLIAM A. BOYD, Corporation Attorney.

POLICE DEPARTMENT.

Central Office.

No. 300 Mulberry street, 9 A. M. to 4 P. M.
STEPHEN B. FRENCH, President; SETH C. HAWLEY,
Chief Clerk.

DEPARTMENT OF CHARITIES AND CORRECTION.

Central Office.

No. 66 Third avenue, corner Eleventh street, 8:30 A. M.
to 5:30 P. M.
THOMAS S. BRENNAN, President; GEORGE F. BRITTON,
Secretary.

FIRE DEPARTMENT.

Headquarters.

Nos. 155 and 157 Mercer street.
JOHN J. GORMAN, President; CARL JUSSEN, Secretary.
Bureau of Chief of Department.
ELI BATES, Chief of Department.

Bureau of Inspector of Combustibles.

PETER SEERY, Inspector of Combustibles.

Bureau of Fire Marshal.

GEORGE H. SHELTON, Fire Marshal.

HEALTH DEPARTMENT

No. 301 Mott street, 9 A. M. to 4 P. M.
CHARLES F. CHANDLER, President; EMMONS CLARK,
Secretary.

DEPARTMENT OF PUBLIC PARKS.

No. 36 Union square, 9 A. M. to 4 P. M.
EDWARD P. BARKER, Secretary.

Civil and Topographical Office.

Arsenal, 64th street and 5th avenue, 9 A. M. to 5 P. M.
Office of Superintendent of 23d and 24th Wards.
146th street and 3d avenue, 9 A. M. to 5 P. M.

DEPARTMENT OF DOCKS.

Nos. 11 and 119 Duane street, 9 A. M. to 4 P. M.
JOHN R. VOORHIS, President; JOHN T. CUMING,
Secretary.

DEPARTMENT OF TAXES AND ASSESSMENT'S

Brown-stone Building, City Hall Park, 9 A. M. to 4 P. M.
THOMAS B. ASTEN, President; ALBERT STORER,
Secretary.

DEPARTMENT OF STREET CLEANING.

51 Chambers Street, Rooms 10, 11 & 12, 9 A. M. to 4
P. M.
JAMES S. COLEMAN, Commissioner; M. J. MORRISON,
Chief Clerk.

DEPARTMENT OF DOCKS.

DEPARTMENT OF DOCKS.

Nos. 117 and 119 Duane Street,
New York, February 21, 1882.

TO CONTRACTORS.

(No. 152.)

PROPOSALS FOR ESTIMATES FOR REPAIRING
PIER 15, EAST RIVER, AND ITS BULKHEAD
AND RETURN.

(One-half of which is not owned by the Corporation of the
City of New York.)

ESTIMATES FOR REPAIRING PIER 15 AND
its bulkhead and return, near the foot of Wall street,
East river, will be received by the Board of Commis-
sioners at the head of the Department of Docks, at
the office of said Department, Nos. 117 and 119 Duane
street, in the City of New York, until 12 o'clock M. of
WEDNESDAY, MARCH 8, 1882,

at which time and place the estimates will be publicly
opened by the head of said Department. The award of
the contract, if awarded, will be made as soon as practi-
cable after the opening of the bids.
One-half of said pier is owned by the Corporation of the
City of New York, and the other half by A. Newbold
Morris, Trustee, James H. Jones, and Cordelia S. Stew-
ard, all of whom are represented by

JOHN F. DOYLE, OF 62 WALL STREET, as Agent,
and the contract for the work will not be awarded unless
the price named by the lowest bidder shall be satisfactory
to said owners. Such contract, if awarded, will be en-
tered into by the Department of Docks on behalf of the
Mayor, Aldermen, and Commonalty of the City of New
York, and by said owners on their own account, the City
becoming liable for one-half only of the expense, the
other one-half to be borne and paid for to the contractor
by said owners.

Any person making an estimate for the work shall fur-
nish the same in a sealed envelope to said Board, at said
office, on or before the day and hour above named, which
envelope shall be indorsed with the name or names of the
person or persons presenting the same, the date of its pre-
sentation, and a statement of the work to which it re-
lates.

The bidder to whom the award is made shall give
security for the faithful performance of the contract, in
the manner prescribed and required by ordinance, in the
sum of five thousand dollars.

The Engineer's estimate of the nature, quantities, and
extent of the work, is as follows:

	Feet B. M., measured in the work.
1. Yellow Pine Timber (sawed) 12" x 15"....	14,400
" " " " 12" x 12"....	67,044
" " " " 6" x 12"....	5,010
" " " " 6" plank....	7,890
" " " " 5" x 10"....	6,125
" " " " 4" plank....	45,288
Total.....	145,763

2. Yellow Pine Timber (hewed or
sawed) 12" x 12" x 70,140

3. North Carolina Yellow Pine or Spruce Timber, 3"
plank, 44,960 feet B. M., measured in the work.

NOTE.—The above quantities are exclusive of extra
lengths required for scarfs, laps, etc., and of waste.

4. Spruce, Yellow Pine, White Pine, or Cy-
press piles, about..... 300

5. White Pine Piles..... 5

(It is expected that the vertical piles will be from
45 to 65 feet in length, but all of them must be of
sufficient length to comply with the specifications for
the work, as set forth in the approved form of con-
tract.)

6. White Pine mooring posts..... 6

7. Half-round oak fenders..... 114

8. (r. b. ties and flooring logs, about..... 800 pieces.

It is expected that about one quarter of the above
number of pieces may be had from the old work.

9. 3/4" x 2 1/2", 3/4" x 2 1/2", 3/4" x 1 1/2", 3/4" x 1 1/2",
3/4" x 1 1/2", 3/4" x 1 1/2", 3/4" x 1 1/2", 3/4" x 1 1/2",
7-10" x 1 1/2", and 7-10" x 1 1/2" square, and
3/4" x 1 1/2", round, wrought-iron dock
spikes, bolts, and 6" cut spikes,
about..... 19,885 pounds.

10. 1" Wrought-iron screw bolts, about..... 2,000 pounds.

11. Cast-iron washers for 1" screw-bolts,
and cast-iron pie shoes, about..... 3,195 pounds.

12. Wrought-iron corner bands, about..... 648 pounds.

13. Crib-stone (in addition to that in the
old work), about..... 400 cub. yards.

14. Belgian pavement (to be laid in clean
sand), about..... 156 sq. yards.

15. Labor of framing and carpentry, including all
moving of timber, jointing, planing, bolting,
spiking, painting, oiling or tarring, and fur-
nishing the materials for painting, oiling or tarring,
and labor of every description, for an area of
about 14,416 square feet of pier and about 756
square feet of bulkhead and return.

16. Labor of removing the pier and a portion of the
bulkhead near the foot of Wall street, E. R., and
of removing all the old material from the premises.

N. B.—As the above mentioned quantities, though
stated with as much accuracy as is possible, in advance,
are approximate only, bidders are required to submit
their estimates upon the following express conditions,

which shall apply to and become part of every estimate
received:

1st. Bidders must satisfy themselves by personal examina-
tion of the location of the proposed work, and by such
other means as they may prefer, as to the accuracy of the
foregoing Engineer's estimate, and shall not, at any time
after the submission of an estimate, dispute or com-
plain of the above statement of quantities, nor assert
that there was any misunderstanding in regard to the
nature or amount of the work to be done.

2d. Bidders will be required to complete the entire work
to the satisfaction of the Department of Docks, and
in substantial accordance with the specifications of the
contract. No extra compensation, beyond the amount
payable for the work before mentioned, which shall be
actually performed at the price therefor to be specified
by the lowest bidder, shall be due or payable for the
entire work.

The work to be done under the contract is to be com-
menced within five days after the date of the contract,
and the entire work is to be fully completed on or before
the 15th day of June, 1882, and the damages to be paid
by the contractor for each day that the contract may be
unfulfilled after the time fixed for the fulfillment thereof
has expired, Sundays and holidays not to be excepted,
are, by a clause in the contract, fixed and liquidated
at fifty dollars per day.

All the old material taken from the pier and bulkhead,
to be removed, will be relinquished to the contractor, and
bidders must estimate the value of such material when
considering the price for which they will do the work
under the contract.

Bidders will state in their estimates a price for the
whole of the work to be done, in conformity with the ap-
proved form of contract and the specifications therein
set forth, by which price the bids will be tested. This price
is to cover all expenses of every kind involved in or inci-
dental to the fulfillment of the contract, including any
claim that may arise through delay, from any cause, in
the performing of the work thereunder.

Bidders will distinctly write out, both in words and in
figures, the amount of their estimates for doing this work.

The person or persons to whom the contract may be
awarded will be required to attend at this office with the
sureties offered by him or them, and execute the contract
within five days from the date of the service of a notice to
that effect; and in case of failure or neglect so to do, he
or they will be considered as having abandoned it, and as
in default to the Corporation; and the contract will be re-
advertised and relet, and so on until it be accepted and
executed.

Bidders are required to state in their estimates their
names and places of residence; the names of all persons
interested with them therein; and if no other person be so
interested, the estimate shall distinctly state the fact; also
that the estimate is made without any connection with any
other person making an estimate for the same work, and
that it is in all respects fair, and without collusion or fraud;
and also that no member of the Common Council, Head
of a Department, Chief of a Bureau, Deputy thereof, or
Clerk therein, or other officer of the Corporation, is
directly or indirectly interested therein, or in the supplies
or work to which it relates, or in any portion of the profits
thereof; which estimate must be verified by the oath, in
writing, of the party making the estimate, that the several
matters stated therein are in all respects true. Where
more than one person is interested, it is requisite that
the verification be made and subscribed by all the
parties interested.

Each estimate shall be accompanied by the consent,
in writing, of two householders or freeholders in the
City of New York, with their respective places of busi-
ness or residence, to the effect, that if the contract be
awarded to the person or persons making the estimate,
they will, upon its being so awarded, become bound as his
or their sureties for its faithful performance; and that if
said person or persons shall omit or refuse to execute the
contract, they will pay to the Corporation of the City of
New York and to A. Newbold Morris, Trustee, and
others, owners of the southerly half of said pier, one-half
to each, any difference between the sum to which said
person would be entitled on its completion, and that
which said Corporation and said owners may be obliged
to pay to the person to whom the contract may be awarded
at any subsequent letting; the amount in each case to be
calculated upon the estimated amount of the work to be
done by which the bids are tested. The consent above
mentioned shall be accompanied by the oath or affirma-
tion, in writing, of each of the persons signing the same,
that he is a householder or freeholder in the City of
New York, and is worth the amount of the security required
for the completion of the contract, over and above all his
debts of every nature, and over and above his liabilities
as bail, surety and otherwise; and that he has offered
himself as surety in good faith, and with the intention
to execute the bond required by law. The adequacy and
sufficiency of the security offered to be approved by the
Comptroller of the City of New York, and A. Newbold
Morris, Trustee, and others, owners of the southerly half
of said pier, represented by John F. Doyle, as agent,
after the award is made and prior to the signing of the
contract.

No estimate will be received or considered unless
accompanied by either a certified check upon one of the
National Banks of the City of New York, drawn to the
order of the Comptroller, or money to the amount of five
per centum of the amount of security required for the
faithful performance of the contract. Such check or
money must not be inclosed in the sealed envelope con-
taining the estimate, but must be handed to the officer or
clerk of the Department who has charge of the Estimate-
box, and no estimate can be deposited in said box until such
check or money has been examined by said officer or
clerk, and found to be correct. All such deposits,
except that of the successful bidder, will be returned
to the persons making the same within three days after
the contract is awarded. If the successful bidder
shall refuse or neglect within five days after notice
that the contract has been awarded to him to execute the
same, the amount of the deposit made by him shall be
forfeited to and retained by the City of New York as
liquidated damages for such neglect or refusal; but if he
shall execute the contract within the time aforesaid, the
amount of his deposit will be returned to him.

Bidders are informed that no deviation from the speci-
fications will be allowed, unless under the written instruc-
tions of the Engineer-in-Chief.

No estimate will be accepted from, or contract awarded
to, any person who is in arrears to the Corporation, upon
debt or contract, or who is a defaulter, as surety or other-
wise, upon any obligation to the Corporation.

The right to decline all the estimates is reserved, if
deemed for the interest of the Corporation of the City of
New York, or of A. Newbold Morris, trustee, and others,
represented by John F. Doyle, as agent, owners of the
southerly half of said pier.

Bidders are requested, in making their bids or es-
timates, to use the blank prepared for that purpose by the
Department, a copy of which, together with the form of
the agreement, including specifications, and showing the
manner of payment for the work, can be obtained upon
application therefor at the office of the Department.

JACOB VANDERPOEL,
WILLIAM LAIMBEER,
Commissioners of the Department of Docks.

FIRE DEPARTMENT.

HEADQUARTERS

FIRE DEPARTMENT, CITY OF NEW YORK,
155 AND 157 MERCER STREET,
New York, February 21, 1882.

NOTICE IS HEREBY GIVEN THAT FIFTY-
seven (57) pounds of "Indian Rifle" Gunpowder,
in one pound cans, seized under provisions of sec. 2, chap.
742, Laws of 1871, will be sold at public auction by Van
Tassell & Kearney, at No. 157 Mercer street, on Satur-
day, February 25, at 12 o'clock M., in accordance with
the provisions of the law above named. Samples may be
seen in the office of the Bureau of Combustibles, 157
Mercer street.

JOHN J. GORMAN,
CORNELIUS VAN COTT,
HENRY D. PURROY,
Commissioners.

HEADQUARTERS

FIRE DEPARTMENT, CITY OF NEW YORK,
155 AND 157 MERCER STREET,
New York, September 23, 1881.

NOTICE IS HEREBY GIVEN THAT THE
Board of Commissioners of this Department will
meet daily, at 10 o'clock A. M., for the transaction of
business.

By order of

JOHN J. GORMAN, President.
CORNELIUS VAN COTT,
HENRY D. PURROY,
Commissioners.

CARL JUSSEN,
Secretary.

HEADQUARTERS

FIRE DEPARTMENT, CITY OF NEW YORK,
155 AND 157 MERCER STREET,
New York, February 14, 1882.

NOTICE IS HEREBY GIVEN THAT THREE
HUNDRED (300) pounds of "Golden Pheasant"
gunpowder, in one pound cans, seized under provisions of
sec. 2, chap. 742, Laws of 1871, will be sold at public
auction by Van Tassell & Kearney, at No. 157 Mercer
street, on Saturday, February 25, at 12 o'clock M., in ac-
cordance with the provisions of the law above named.
Samples may be seen in the office of the Bureau of Com-
bustibles, 157 Mercer street.

JOHN J. GORMAN,
CORNELIUS VAN COTT,
HENRY D. PURROY,
Commissioners.

PUBLIC POUND.

New York, February 21, 1882.

A BAY MARE TO BE SOLD FROM THE PUB-
lic Pound, for expenses, if not called for by the
owner, on Tuesday, the 28th inst., at 2 o'clock P. M.,
from the cor. of Ninety-third street and Second avenue.

DAVID McMAHON,
Pound-keeper.

DEPARTMENT OF PUBLIC WORKS.

DEPARTMENT OF PUBLIC WORKS,
COMMISSIONER'S OFFICE, No. 31 CHAMBERS ST.,
New York, February 18, 1882.

PUBLIC NOTICE IS HEREBY GIVEN THAT A
Petition of the property-owners with a map and
plan for changing the grade of Seventy-ninth street, be-
tween Madison and Fourth avenues, is now pending be-
fore the Common Council.

All persons interested in the above change of grade
and having objections thereto, are requested to pre-
sent the same in writing to the undersigned, at his office, on or
before the 3d day of March, 1882.

The map showing the present and proposed grades can
be seen at Room 7, 31 Chambers street.

HUBERT O. THOMPSON,
Commissioner of Public Works.

DEPARTMENT OF PUBLIC WORKS,

COMMISSIONER'S OFFICE,
Room 6, No. 31 CHAMBERS STREET,
New York, February 13, 1882.

TO CONTRACTORS.

BIDS OR ESTIMATES, INCLOSED IN A SEALED
envelope, with the title of the work and the name
of the bidder indorsed thereon, also the number of the
work as in the advertisement, will be received at this
office until Monday, February 27, 1882, at 12 o'clock M.,
at which hour and place they will be publicly opened by
the head of the Department and read, for the following:

No. 1. LAYING

DEPARTMENT OF PUBLIC WORKS,
COMMISSIONER'S OFFICE,
ROOM 6, NO. 31 CHAMBERS STREET,
NEW YORK, FEBRUARY 13, 1882.

TO CONTRACTORS AND BUILDERS.

BIDS OR ESTIMATES, INCLOSED IN A SEALED envelope, with the title of the work and the name of the bidder indorsed thereon, will be received at this office until Monday, February 27, 1882, at 12 o'clock M., at which hour and place they will be publicly opened by the head of the Department and read.

FOR FURNISHING AND LAYING AN ASPHALT FLOORING IN PORTIONS OF FULTON MARKET.

Each estimate must contain the name and place of residence of the person making the same, the names of all persons interested with him therein, and if no other person be so interested, it shall distinctly state that fact. That it is made without any connection with any other person making an estimate for the same work, and in all respects fair and without collusion or fraud. That no member of the Common Council, head of a Department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation is directly or indirectly interested in the estimate or in the work to which it relates or in the profits thereof.

Each estimate must be verified by the oath, in writing, of the party making the same, that the several matters therein stated are true, and must be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, to the effect that if the contract is awarded to the person making the estimate, they will, upon its being so awarded, become bound as his sureties for its faithful performance; and that if he shall refuse or neglect to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled upon its completion, and that which the Corporation may be obliged to pay to the person to whom the contract shall be awarded at any subsequent letting; the amount to be calculated upon the estimated amount of the work by which the bids are tested.

The consent last above mentioned must be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety, or otherwise, and that he has offered himself as surety in good faith, with the intention to execute the bond required by law.

No estimate will be considered unless accompanied by either a certified check upon one of the National Banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimates, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk, and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same, within three days after the contract is awarded. If the successful bidder shall neglect or refuse, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Blank forms of bid or estimates, the proper envelope in which to inclose the same, the specifications and agreements, and any further information desired, can be obtained on application at the office of Douglas Smyth, Architect, No. 137 Broadway.

The Commissioner of Public Works reserves the right to reject any or all proposals, if in his judgment the same may be for the best interests of the city.

HUBERT O. THOMPSON,
Commissioner of Public Works.

DEPARTMENT OF PUBLIC WORKS,
COMMISSIONER'S OFFICE,
ROOM 6, NO. 31 CHAMBERS STREET,
NEW YORK, FEBRUARY 13, 1882.

TO CAST-IRON WATER-PIPE MANUFACTURERS.

BIDS OR ESTIMATES INCLOSED IN A SEALED envelope, with the title of the work and the name of the bidder indorsed thereon, also the number of the work as in the advertisement, will be received at this office until Monday, February 27, 1882, at 12 o'clock M., at which hour and place they will be publicly opened by the head of the Department and read, for

- No. 1. For furnishing and delivering 1,620 TONS OF CAST-IRON WATER-PIPE, BRANCHES, AND SPECIAL CASTINGS.
- No. 2. For furnishing and delivering 1,250 TONS OF CAST-IRON WATER-PIPE, BRANCHES, AND SPECIAL CASTINGS.

Each estimate must contain the name and place of residence of the person making the same, the names of all persons interested with him therein, and if no other person be so interested, it shall distinctly state that fact. That it is made without any connection with any other person making an estimate for the same work, and is in all respects fair and without collusion or fraud. That no member of the Common Council, head of a Department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation is directly or indirectly interested in the estimate or in the work to which it relates or in the profits thereof.

Each estimate must be verified by the oath, in writing, of the party making the same, that the several matters therein stated are true, and must be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, to the effect that if the contract is awarded to the person making the estimate, they will, upon its being so awarded, become bound as his sureties for its faithful performance; and that if he shall refuse or neglect to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled upon its completion, and that which the Corporation may be obliged to pay to the person to whom the contract shall be awarded at any subsequent letting; the amount to be calculated upon the estimated amount of the work by which the bids are tested.

The consent last above mentioned must be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety, or otherwise, and that he has offered himself as surety in good faith, with the intention to execute the bond required by law.

No estimate will be considered unless accompanied by either a certified check upon one of the national banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimates, but must be handed to the officer or clerk of the Department who has charge of the estimate box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk, and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall neglect or refuse, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such

neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Blank forms of bid or estimate, the proper envelopes in which to inclose the same, the specifications and agreements, and any further information desired, can be obtained at the office of the Chief Engineer, Room 10, No. 31 Chambers street.

The Commissioner of Public Works reserves the right to reject any or all estimates, if, in his judgment, the same may be for the best interests of the city.

HUBERT O. THOMPSON,
Commissioner of Public Works.

DEPARTMENT OF PUBLIC WORKS,
COMMISSIONER'S OFFICE,
NO. 31 CHAMBERS STREET,
NEW YORK, FEBRUARY 11, 1882.

PUBLIC NOTICE IS HEREBY GIVEN THAT A Petition of the property-owners, with a map and plan for changing the grade of Fortieth street, between First avenue and the East river, is now pending before the Common Council.

All persons interested in the above change of grade and having objections thereto, are requested to present the same in writing to the undersigned, at his office, on or before the 25th day of February, 1882.

The map showing the present and proposed grades can be seen at Room 7, 31 Chambers street.

HUBERT O. THOMPSON,
Commissioner of Public Works.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,
No. 66 THIRD AVENUE.

TO CONTRACTORS.

PROPOSALS FOR GROCERIES, DRY GOODS, ETC.

SEALED BIDS OR ESTIMATES FOR FURNISHING

- | | | |
|--------|---------|--|
| 5,000 | " | Granulated Sugar. |
| 2,500 | " | best quality Roasted Maracaibo Coffee. |
| 3,000 | " | Dried Apples. |
| 10,000 | " | Rice. |
| 100 | barrels | Crackers. |
| 100 | " | Hominy. |
| 100 | " | Oatmeal. |
| 1,000 | bushels | Oats. |
| 25,000 | | Fresh Eggs (all to be capdled). |
- DRY GOODS, ETC.
- | | | |
|-------|-------|-----------------|
| 1,500 | yards | Canton Flannel. |
| 1,000 | " | Huckabuck. |
| 6 | dozen | Dust Brushes. |
| 6 | " | Window Brushes. |

—or any part thereof, will be received at the office of the Department of Public Charities and Correction, in the City of New York, until 9:30 o'clock A. M., of Friday, the 3d day of March, 1882. The person or persons making any bid or estimate shall furnish the same in a sealed envelope, indorsed "Bid or Estimate for Groceries, Dry Goods, etc.," and with his or their name or names, and the date of presentation, to the head of said Department, at the said office, on or before the day and hour above named, at which time and place the bids or estimates received will be publicly opened by the head of said Department and read.

The Department of Public Charities and Correction reserves the right to decline any and all bids or estimates if deemed to be for the public interest, and to accept any bid or estimate as a whole, or for any one or more articles included therein. No bid or estimate will be accepted from, or a contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The award of the contract will be made as soon as practicable after the opening of the bids.

Delivery will be required to be made from time to time, at such time and in such quantities as may be directed by the said Department; but the entire quantity will be required to be delivered on or before thirty (30) days after the date of the contract.

Any bidder for this contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom the contract may be awarded will be required to give security for the performance of the contract by his or their bond, with two sufficient sureties, in the penal amount of fifty (50) per cent. of the estimated amount of the contract.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him, or them therein; and if no other person be so interested, it shall distinctly state that fact; that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, head of a Department, Chief of a Bureau, Deputy thereof or Clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect, that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as his sureties for its faithful performance; and that if he shall omit or refuse to execute the same, they shall pay to the Corporation any difference between the sum to which he would be entitled on its completion, and that which the Corporation may be obliged to pay to the person to whom the contract shall be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety, or otherwise, and that he has offered himself as surety in good faith, with the intention to execute the bond required by section 27 of chapter 8 of the Revised Ordinances of the City of New York, if the contract shall be awarded to the person or persons for whom he consents to become surety. The adequacy and sufficiency of the security offered to be approved by the Comptroller of the City of New York.

No bid or estimate will be considered unless accompanied by either a certified check upon one of the national banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk, and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall neglect or refuse, within five days after notice that the contract has been awarded to him to execute the same, the amount of the

deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to him, or to his bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it and as in default to the Corporation, and the contract will be readvertised and let as provided by law.

The quality of the articles, supplies, goods, wares, and merchandise must conform in every respect to the samples of the same respectively at the office of the said Department. Bidders are cautioned to examine the specifications for particulars of the articles, etc., required, before making their estimates.

Bidders will state the prices for each article, by which the bids will be tested.

Bidders will write out the amount of their estimate, in addition to inserting the same in figures.

Payment will be made by a requisition on the Comptroller, issued on the completion of the contract, or from time to time, as the Commissioners may determine.

Bidders are informed that no deviation from the specifications will be allowed, unless under the written instruction of the Commissioners of Public Charities and Correction.

The Department of Public Charities and Correction reserves the right to decline any and all bids or estimates if deemed to be for the public interest, and to accept any bid or estimate as a whole, or for any one or more articles included therein. No bid or estimate will be accepted from, or a contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The form of the agreement, including specifications, and showing the manner of payment, can be obtained at the office of the Department.

Dated New York, February 18, 1882.
THOMAS S. BRENNAN,
JACOB HESS,
HENRY H. PORTER,
Commissioners of the Department of Public Charities and Correction.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,
No. 66 THIRD AVENUE,
NEW YORK, FEBRUARY 11, 1882.

IN ACCORDANCE WITH AN ORDINANCE OF the Common Council. "In relation to the burial of strangers or unknown persons who may die in any of the public institutions of the City of New York," the Commissioners of Public Charities and Correction report as follows:

At Morgue, Bellevue Hospital from Fifteenth Precinct Station-house—Unknown man; aged about 30 years; 5 feet 8 inches high; brown hair; mustache; blue eyes. Had on dark striped coat, black coat and vest, dark pants, barred socks, gaiters, black felt hat (supposed to be Jas. M. Holden).

Unknown man, from foot of Laight street; aged about 40 years; 5 feet 8 inches high; dark brown hair; mustache; gray eyes. Had on dark spring overcoat, black coat, blue vest, white shirt, white knit undershirt, white socks, laced shoes; from letters found on his person supposed to be E. H. Van Woerner.

Unknown man, from Thirteenth Precinct Station-house; aged about 40 years; 5 feet 7 inches high; brown mustache; light brown hair; blue eyes. Had on black vest, dark pants, check shirt, gaiters.

Unknown man, from foot of 14th street, North river; aged about 23 years; 5 feet 8 inches high, no hair. Had on blue flannel shirt, brown cardigan jacket, blue jean jumper and overalls, brown ribbed socks, gaiters. Belt with badge No. 305, section 3, New York "Longshoreman's Union, found on his person.

At Charity Hospital, Blackwell's Island—George W. White; aged 71 years; 5 feet 4 inches high; gray hair, eyes and beard. Had on when admitted gray coat, dark pants and vest, black felt hat. Nothing known of his friends or relatives.

At Work-house, Blackwell's Island—Margaret Strong; aged 40 years; committed October 3 for six months.

Deborah Egan; aged 64 years; committed January 29 for three months.

Eden Mangin; aged 62 years; committed December 18 for three months.

Nothing known of their friends or relatives.

At Lunatic Asylum, Blackwell's Island—Mary Furlong; aged 50 years; 4 feet 11 inches high; gray hair; brown eyes. Nothing known of her friends or relatives.

At New York Asylum for Insane, Ward's Island—Thomas McGarrell; aged 35 years; 5 feet 6 inches high; gray hair.

Peter McNeal; aged 22 years; 5 feet 7 inches high; brown hair.

Salvator Orrick; aged 43 years; 5 feet 5 inches high; black hair.

Thomas M. Brunswick; aged 38 years; 5 feet 8 inches high; dark hair.

Martin Krier; aged 63 years; 5 feet 7 inches high; gray hair.

Nothing known of their friends or relatives.

Philip I. Pierce; aged 25 years; 5 feet 8 inches high. Nothing known of his friends or relatives.

At Homeopathic Hospital, Ward's Island—Joseph Davis; aged 35 years; 5 feet 3 inches high; brown eyes and hair. Had on when admitted, blue coat and vest, gray check pants, black cap, gaiters.

Michael Delaney; aged 36 years; 5 feet high; blue eyes; dark hair. Had on when admitted, black coat, gray pants, brown check vest, laced shoes.

Terence Smith; aged 49 years; 5 feet 3 inches high; blue eyes; gray hair. Had on when admitted black suit of clothes.

Nothing known of their friends or relatives.

At Hart's Island Hospital—Charles E. Bates; aged 55 years; 5 feet 7 inches high; blue eyes; brown hair.

Thomas Supple; aged 42 years; 5 feet 10 inches high; blue eyes; dark brown hair.

Nothing known of their friends or relatives.

By order.

G. F. BRITTON,
Secretary.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,
No. 66 THIRD AVENUE,
NEW YORK, FEBRUARY 11, 1882.

PROPOSALS FOR 1,000 TONS OF FRESH MINED WHITE ASH STOVE COAL FOR THE OUT-DOOR POOR.

PROPOSALS, SEALED AND INDORSED AS above, will be received by the Commissioners of Public Charities and Correction, at their office, until 9:30 o'clock A. M., of Friday, the 24th day of February, 1882, at which time they will be publicly opened and read, by the head of said Department, for 1,000 tons Fresh Mined White Ash Stove Coal, of the best quality; each ton to consist of two thousand pounds, to be well screened, and delivered in such quantities and in such parts of the city as may be required in specifications, and ordered from time to time, south of Eighth street, to be subject to such inspection as the Commissioners may direct, and to meet their approval as to the quality, quantity, time, and manner of delivery in every respect.

The award of the contract will be made as soon as practicable after the opening of the bids.

No proposal will be considered unless accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that, if the contract be awarded under that proposal, they will, on its being so awarded, become bound as sureties for its faithful performance, which consent must be verified by the justification of each of the persons signing the same for double the amount of surety required. The sufficiency of such security to be approved by the Comptroller.

No bid or estimate will be considered unless accompanied by either a certified check upon one of the national banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk, and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall neglect or refuse, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

The Department of Public Charities and Correction reserves the right to decline any and all proposals if deemed to be for the public interest, and to accept an offer for the whole bid, or for any single article included in the proposal, and no proposal will be accepted from, or a contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

Blank forms of proposals and specifications, which are to be strictly complied with, can be obtained on application at the office of the Department, and all information furnished.

Dated New York, February 11, 1882.
THOMAS S. BRENNAN,
JACOB HESS,
HENRY H. PORTER,
Commissioners of the Department of Public Charities and Correction.

SUPREME COURT.

In the matter of the application of the Commissioners of Central Park for and in behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to the opening of Seventy-fourth street, from Eighth avenue to the Hudson river, in the City of New York.

WE, THE UNDERSIGNED, COMMISSIONERS of Estimate and Assessment in the above entitled matter, hereby give notice to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term of said Court, to be held at the Chambers the-reof in the County Court-house in the City of New York, on the 28th day of March, 1882, at the opening of the Court on that day, and that then and there or as soon thereafter as Courts can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, February 18, 1882.
FREDERICK SMYTH,
JACOB F. OAKLEY,
WILLIAM M. TWEED, JR.,
Commissioners.

In the matter of the application of the Commissioners of the Department of Public Parks, for and on behalf of the Mayor, Aldermen, and Commonality of the City of New York, relative to acquiring right and title to certain land required for a certain public park or parks, square or squares, or place or places, at or near the intersections of Sedgwick avenue with Mott and Walton avenues, in the Twenty-third Ward of the City of New York (Cedar Park).

PURSUANT TO THE STATUTES IN SUCH cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a Special Term of said Court, to be held at the Chambers thereof, in the County Court-house, in the City of New York, on Tuesday, the 14th day of March, 1882, at the opening of the court on that day, or as soon thereafter as counsel can be heard thereon, for the appointment of Commissioners of Estimates and Assessment in the above entitled matter—the nature and extent of the improvement hereby intended is the acquisition of title, in the name and on behalf of the Mayor, Aldermen, and Commonality of the City of New York, to all the lands and premises, with the buildings thereon and the appurtenances thereto belonging, required for the purposes of a public park or parks, square or squares, or place or places, at or near the intersections of Sedgwick avenue with Mott and Walton avenues, in the Twenty-third Ward of the City of New York, being the following described lots, pieces or parcels of land, viz.:

Beginning at a point (the intersection of the western line of Mott avenue with the southern line of Juliet or One Hundred and Fifty-eighth street) distant 5,725 9-10 feet easterly from the eastern line of Tenth avenue, measured at right angles to the same from a point 680 72-100 feet northerly from the southeastern corner of One Hundred and Fifty-fifth street and Tenth avenue. 1. Thence southeasterly along a line whose direction is $4^{\circ} 40' 48''$ southeast of that of the eastern line of Tenth avenue for 447 34-100 feet. 2. Thence to the left on the arc of a circle, tangent to the preceding course, and whose radius is 535 feet for 257 9-10 feet. 3. Thence reversing to the right on the arc of a circle, tangent to the preceding course, and whose radius is 405 feet for 224 15-100 feet. 4. Thence southerly and tangent to the preceding course for 210 4-100 feet. 5. Thence deflecting to the left $4^{\circ} 22' 58.8''$ southeasterly for 419 87-100 feet. 6. Thence to the right on the arc of a circle, tangent to the preceding course, and whose radius is 205 feet for 140 21-100 feet. 7. Thence southwesterly and tangent to the preceding course for 51 23-100 feet. 8. Thence to the right on the arc of a circle, tangent to the preceding course, and whose radius is 177 1-100 feet for 40 62-100 feet. 9. Thence reversing to the left on the arc of a circle, tangent to the preceding course, and whose radius is 360 feet for 207 34-100 feet. 10. Thence northwesterly and tangent to the preceding course for 355 21-100 feet. 11. Thence deflecting $52^{\circ} 09' 29.7''$ to the right northeasterly for 1,122 39-100 feet. 12. Thence deflecting $1^{\circ} 47' 36.6''$ to the right northeasterly for 248 87-100 feet. 13. Thence deflecting $92^{\circ} 16' 12''$ to the right easterly for 376 91-100 feet to the point of beginning.

The above described parcel being the block included between Mott, Walton, and Sedgwick avenues, and Juliet street.

Also beginning at a point (the intersection of the southwestern line of Sedgwick avenue with the eastern line of Walton avenue) distant 5,494 58-100 feet easterly from the eastern line of Tenth avenue, measured at right angles to the same from a point 771 57-100 southerly from the southeastern corner of One Hundred and Fifty-fifth street and Tenth avenue. 1. Thence southeasterly along a line whose direction is $58^{\circ} 17' 41.3''$ southeast of that of the eastern line of Tenth avenue for 310 49-100 feet. 2. Thence to the right on the arc of a circle, tangent to the preceding course, and whose radius is 300 feet for 279 31-100 feet. 3. Thence southerly, on a tangent to the preceding course for 17 74-100 feet. 4. Thence, deflecting $126^{\circ} 39' 4.1''$ to the right, northwesterly for 435 63-100 feet. 5. Thence deflecting $65^{\circ} 57' 33''$ to the right northerly for 184 82-100 feet to the point of beginning.

The above described parcel being the block included between Sedgwick, Mott, and Walton avenues and the Spuyten Duyvil and Port Morris Railroad.

And also beginning at a point (the intersection of the southwestern line of Sedgwick avenue with the eastern line of Gr. rd avenue) distant 5,218 83-100 feet easterly from the eastern line of Tenth avenue, measured at right angles to the same from a point 625 1-100 feet southerly from the southeastern corner of One Hundred and Fifty-fifth street and Tenth avenue.

fifth street and Tenth avenue. 1. Thence southeasterly on a line whose direction is $58^{\circ} 17' 56.2''$ southeast of that of the eastern line of Tenth avenue for 242.3-100 feet. 2. Thence deflecting $46^{\circ} 58' 10''$ to the right southerly for 184.79-100 feet. 3. Thence deflecting $133^{\circ} 02' 27''$ to the right northwesterly for 267.36-100 feet. 4. Thence deflecting $53^{\circ} 20' 17.7''$ to the right northerly for 168.31-100 feet to the point of beginning.

The above described parcel being the block included between Sedgwick, Walton, and G. road avenues, and the Spuyten Duyvil and Port Morris Railroad.

Being all of those pieces or parcels of land shown on a map or maps, dated August 1, 1881, and filed by the Commissioners of the Department of Public Parks, in the office of the Department of Public Parks, the office of the Register of the City and County of New York, and in the office of the Secretary of State of the State of New York.

Dated New York, February 11, 1882.
WILLIAM C. WHITNEY,
Counsel to the Corporation,
Tryon Row, N. Y. City.

In the matter of the application of the Department of Public Works for and in behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to the opening of One Hundred and Twenty-second street, between Fourth and Madison avenues, in the City of New York.

WE, THE UNDERSIGNED, COMMISSIONERS of Estimate and Assessment in the above-entitled matter, hereby give notice to the owner or owners, occupant or occupants, of all houses and lots, improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

That we have completed our estimate and assessment, and that all persons interested in these proceedings, or in any of the lands affected thereby, and who may be opposed to the same, do present their objections in writing, duly verified, to Nevin W. Butler, Esq., our Chairman, at the office of the Commissioners, No. 291 Broadway (Room No. 27), in the said city, on or before the twentieth day of March, 1882, and that we, the said Commissioners, will hear parties so objecting within the ten week days next after the said 20th day of March, 1882, and for that purpose will be in attendance at our said office on each of said ten days, at 3 o'clock P. M.

That the abstract of the said estimate and assessment, together with our maps, and also all the affidavits, estimates, and other documents which were used by us in making our report, have been deposited in the office of the Department of Public Works in the City of New York, there to remain until the twenty-seventh day of March, 1882.

That the limits embraced by the assessment aforesaid are as follows, to wit: All those lots, pieces or parcels of land, lying and being within the following described area: Beginning at a point on the easterly line or side of Madison avenue, distant one hundred feet and eleven inches southerly from a point formed by the intersection of the southerly line or side of One Hundred and Twenty-second street with the easterly line or side of Madison avenue, running thence easterly and parallel with One Hundred and Twenty-second street four hundred and five feet to the westerly line or side of Fourth avenue; thence northerly along said westerly line or side of Fourth avenue to the centre of the block, between One Hundred and Twenty-second and One Hundred and Twenty-third streets; thence westerly and parallel with One Hundred and Twenty-second street four hundred and five feet to the easterly line or side of Madison avenue, thence southerly and parallel with Madison avenue to the point or place of beginning, excepting therefrom the land in One Hundred and Twenty-second street, between Madison and Fourth avenues.

That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at Chambers in the County Court-house, at the City Hall, in the City of New York, on the thirtieth day of March, 1882, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, February 9, 1882.

NEVIN W. BUTLER,
ISAAC T. SMITH,
AUGUSTUS J. REQUIER,
Commissioners.

ARTHUR BERRY,
Clerk.

In the matter of the application of the Commissioners of the Department of Public Parks, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title to that certain street or avenue, known as Sedgwick avenue, although not yet named by proper authority, and (said out of a street of the first class), from Boston avenue to Van Cortlandt avenue, in the Twenty-fourth Ward of the City of New York.

PURSUANT TO THE STATUTES IN SUCH cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a Special Term of said court, to be held at the chambers thereof, in the County Court-house, in the City of New York, on Wednesday, the 1st day of March, 1882, at the opening of the court on that day, or as soon thereafter as counsel can be heard thereon, for the appointment of Commissioners of Estimate and Assessment in the above entitled matter. The extent and nature of the improvement hereby intended is the acquisition of title, in the name and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, to all the lands and premises, with the buildings thereon, and the appurtenances thereto belonging, required for the opening of a certain street or avenue known as Sedgwick avenue, although not yet named by proper authority, from Boston avenue to Van Cortlandt avenue, in the Twenty-fourth Ward of the City of New York, being the following described pieces or parcels of land, viz:

Beginning at a point being the western extremity or point of tangency of the curve uniting the western line of Sedgwick avenue with the southern line of Boston avenue, distant 2,415.16-100 feet easterly from the eastern line of Tenth avenue produced, measured on a line at right angles to the same, and from a point 20,931.9-100 feet northerly from the southeastern corner of One Hundred and Fifty-fifth street and Tenth avenue. 1. Thence northerly for 80 feet on a line whose direction is $31^{\circ} 34' 04''$ west of that of the eastern line of Tenth avenue. 2. Thence northeasterly, on the arc of a circle of 350 feet radius whose centre lies on the prolongation of the north of the last previously described course, for 352.87-100 feet to a point of tangency. 3. Thence on a tangent, northeasterly, for 245.3-100 feet to a point of curve. 4. Thence to the left on the arc of a circle of 540 feet radius, for 228.3-100 feet to a point of tangency. 5. Thence northerly on a tangent for 414.34-100 feet to a point of curve. 6. Thence to the right on the arc of a circle of 450 feet radius, for 377.8-100 feet to a point of compound curve. 7. Thence to the right, on the arc of a circle of 3,380 feet radius, for 426.54-100 feet to a point of reverse curve. 8. Thence to the right, on the arc of a circle of 235 feet radius, for 284.31-100 feet to a point of reverse curve. 9. Thence to the left, on the arc of a circle of 232 feet radius, for 166.31-100 feet to a point of compound curve. 10. Thence to the left, on the arc of a circle of 20 feet radius, for 37.1-100 feet to a point of tangency. 11. Thence on a tangent (the western line of Van Cortlandt avenue) southeasterly for 159.31-100 feet to a point of curve. 12. Thence northwesterly, on the arc of a circle which is tangent to the preceding course and whose radius is 65.75-100 feet, for 84.89-100 feet to a point of reverse curve. 13. Thence to the right, on the arc of a circle of 372 feet radius, for 223.65-100 feet to a point of reverse curve. 14. Thence to the left, on the arc of a circle of 155 feet radius, for 187.52-100 feet to a point of compound curve. 15. Thence to the left, on the arc of a circle of 3,300 feet radius, for 484.78-100 feet to a point of com-

pound curve. 16. Thence to the left, on the arc of a circle of 380 feet radius, for 311.5-100 feet to a point of tangency. 17. Thence on a tangent southerly for 414.34-100 feet to a point of curve. 18. Thence to the right, on the arc of a circle of 620 feet radius, for 262.12-100 feet to a point of tangency. 19. Thence on a tangent southwesterly for 164.18-100 feet to a point of curve. 20. Thence to the left, on the arc of a circle of 44.73-100 feet radius, for 91.22-100 feet. 21. Thence southerly for 80 feet on the prolongation southerly, at the eastern extremity of the preceding course, of the radius of said course. 22. Thence southwesterly, on the arc of a circle of 300 feet radius, whose centre lies on the prolongation southerly of the preceding course, for 204.64-100 feet. 23. Thence southwesterly, on a line forming an angle of $106^{\circ} 50' 28.5''$ with the radius of the preceding course passing through the western extremity of said course, for 249.16-100 feet to the point of beginning.

Said pieces or parcels of land are shown on a map or maps made by the Commissioners of the Department of Public Parks, under authority of chapter 604 of the Laws of 1874, and chapter 436 of the Laws of 1876, filed in the Department of Public Parks, in the office of the Register of the City and County of New York, and in the office of the Secretary of State of the State of New York.

Dated New York, February 1, 1882.

WILLIAM C. WHITNEY,
Counsel to the Corporation,
Tryon Row, New York.

In the matter of the application of the Department of Public Works for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to the opening of One Hundred and Twenty-second street, between Fourth and Madison avenues in the City of New York.

PURSUANT TO THE STATUTES IN SUCH cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a special term of said court, to be held at the Chambers thereof, in the County Court-house, in the City of New York, on Tuesday, the 28th day of February, 1882, at the opening of the Court on that day or as soon thereafter as counsel can be heard thereon, for the appointment of Commissioners of Estimate and Assessment in the above entitled matter. The extent and nature of the improvement hereby intended is the acquisition of title, in the name and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, to all the lands and premises, with the buildings thereon and the appurtenances thereto belonging, required for the opening of One Hundred and Twenty-second street, between Fourth and Madison avenues in the City of New York, being the following described lots, pieces or parcels of land, viz:

Beginning at a point in the easterly line of Ninth avenue, distant four hundred and sixty-three feet and eight inches ($463^{\circ} 8'$) southerly from the southerly line of One Hundred and Twenty-second street, thence easterly and parallel with said street three hundred and fifty (350) feet to the westerly line of New Avenue; thence southerly and along said avenue sixty (60) feet; thence westerly three hundred and fifty (350) feet to the easterly line of Ninth avenue; thence northerly along said avenue sixty (60) feet to the point or place of beginning.

And also that certain lot, piece or parcel of land bounded and described as follows: beginning at a point in the easterly line of New Avenue distant four hundred and sixty-three feet, eight inches ($463^{\circ} 8'$) southerly from the southerly line of One Hundred and Twenty-second street; thence easterly and parallel with said street, three hundred and seventy (370) feet to the westerly line of Eighth avenue; thence southerly and along said avenue sixty (60) feet; thence westerly three hundred and seventy (370) feet to the easterly line of New Avenue; thence northerly along said avenue sixty (60) feet to the point or place of beginning.

Said street to be sixty (60) feet wide between the lines of Eighth and Ninth avenues.

Dated New York, February 1st, 1882.

WILLIAM C. WHITNEY,
Counsel to the Corporation,
Tryon Row.

In the matter of the application of the Department of Public Works for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to the opening of Lexington avenue, from Ninety-seventh street to Ninety-eighth street, and from what was formerly the northerly line of Ninety-ninth street as it was laid down on the Map of the Commissioners appointed under and by virtue of chapter 115 of the Laws of 1807, to the southerly line of One Hundred and Second street, in the City of New York.

PURSUANT TO THE STATUTES IN SUCH cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a special term of said court, to be held at the Chambers thereof, in the County Court-house in the City of New York, on Tuesday, the 28th day of February, 1882, at the opening of the court on that day or as soon thereafter as counsel can be heard thereon, for the appointment of Commissioners of Estimate and Assessment in the above entitled matter. The extent and nature of the improvement hereby intended is the acquisition of title, in the name and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, to all the lands and premises, with the buildings thereon and the appurtenances thereto belonging, required for the opening of Lexington avenue from Ninety-seventh street to Ninety-eighth street, and from what was formerly the northerly line or side of Ninety-ninth street to the southerly line or side of One Hundred and Second street, being the following described lots, pieces or parcels of land, viz:

Beginning at a point on the northerly line of Ninety-seventh street distant (420) four hundred and twenty feet westerly from the westerly line of Third avenue; thence northerly and parallel with said avenue two hundred and one feet ten inches ($201^{\circ} 10'$) to the southerly line of Ninety-eighth street; thence westerly and along said street seventy-five ($75^{\circ} 0'$) feet; thence southerly two hundred and one feet ten inches ($201^{\circ} 10'$) to the northerly line of Ninety-seventh street; thence easterly and along said line seventy-five ($75^{\circ} 0'$) feet to the point or place of beginning.

Also, beginning at a point on the southerly line of One Hundredth street distant four hundred and twenty ($420^{\circ} 0'$) feet westerly from the westerly line of Third avenue; thence northerly and parallel with said avenue two hundred and one feet ten inches ($201^{\circ} 10'$) to the southerly line of One Hundred and First street; thence westerly along said line seventy-five ($75^{\circ} 0'$) feet; thence southerly two hundred and one feet ten inches ($201^{\circ} 10'$) to the northerly line of One Hundredth street; thence easterly seventy-five ($75^{\circ} 0'$) feet to the place or point of beginning.

Also, beginning at a point on the northerly line of One Hundredth street distant four hundred and twenty ($420^{\circ} 0'$) feet westerly from the westerly line of Third avenue; thence northerly and parallel with said avenue two hundred and one feet ten inches ($201^{\circ} 10'$) to the southerly line of One Hundred and Second street; thence westerly along said line seventy-five ($75^{\circ} 0'$) feet; thence southerly two hundred and one feet ten inches ($201^{\circ} 10'$) to the northerly line of One Hundredth street; thence easterly seventy-five ($75^{\circ} 0'$) feet to the point or place of beginning.

Said avenue to be seventy-five feet wide between the lines of Ninety-seventh and Ninety-eighth streets, and between the northerly line of Ninety-ninth street (closed) produced and One Hundred and Second street.

Dated New York, February 1, 1882.

WILLIAM C. WHITNEY,
Counsel to the Corporation,
Tryon Row, New York.

JURORS.

NOTICE

IN RELATION TO JURORS FOR STATE COURTS.

OFFICE OF THE COMMISSIONER OF JURORS,
NEW COUNTY COURT-HOUSE,
NEW YORK, Sept. 15, 1881.

APPLICATIONS FOR EXEMPTIONS WILL BE heard here, from 10 to 3 daily, from all persons hitherto liable or recently serving who have become exempt, and all needed information will be given.

Those who have not answered as to their liability, or proved permanent exemption, will receive a "jury enrollment notice," requiring them to appear before me this year. Whether liable or not, such notices must be answered (in person, if possible, and at this office only) under severe penalties. If exempt, the party must bring proof of exemption; if liable, he must also answer in person, giving full and correct name, residence, etc., etc. No attention paid to letters.

Persons "enrolled" as liable must serve when called or pay their fines. No mere excuse will be allowed or interference permitted. The fines if unpaid will be entered as judgments upon the property of the delinquents.

All good citizens will aid the course of justice, and secure reliable and respectable juries, and equalize their duty by serving promptly when summoned, allowing their clerks or subordinates to serve, reporting to me any attempt at bribery or evasion, and suggesting names for enrollment. Persons between sixty and seventy years of age, summer absentees, persons temporarily ill, and United States and District Court jurors are not exempt.

Every man must attend to his own notice. It is a misdemeanor to give any jury paper to another to answer. It is also punishable by fine or imprisonment to give or receive any present or bribe, directly or indirectly, in relation to a jury service, or to withhold any paper or make any false statement, and every case will be fully prosecuted.

GEORGE CAULFIELD,
Commissioner of Jurors,
Room 17, New County Court-house

FINANCE DEPARTMENT.

CORPORATION SALE OF REAL ESTATE.

PUBLIC NOTICE IS HEREBY GIVEN THAT the Commissioners of the Sinking Fund of the City of New York will offer for sale at public auction, on Tuesday, March 14, 1882, at noon, at the Exchange Sales Room, No. 111 Broadway, in the said city, the following Real Estate belonging to the Corporation of the said City of New York, to wit:

Beginning at a point on the northerly side of Sixty-first street, distant two hundred feet easterly from the easterly side of Ninth avenue, thence northerly and parallel with Ninth avenue 100 feet 5 inches to the centre line of the block, thence easterly along said centre line and parallel with Sixty-first street 100 feet; thence southerly parallel with the Ninth avenue 100 feet 5 inches to the northerly side of Sixty-first street aforesaid, and thence westerly along Sixty-first street 100 feet to the place of beginning; being the same four lots described in a resolution of the Board of Education, adopted December 21, 1881, and in a resolution of the Commissioners of the Sinking Fund, adopted February 2, 1882, as "situated on the north side of West Sixty-first street, commencing at a point 95 feet 7 inches west from Broadway, said lots being of the dimensions (together) 100 feet front and rear, by 100 feet 5 inches deep," designated by Ward numbers 9, 10, 11, and 12, on the map of the Twenty-second Ward, in Block No. 108, now on file in the office of the Commissioners of Taxes and Assessments of the City of New York.

TERMS OF SALE.

The property will be sold for cash, ten per cent. of the amount bid to be paid to the Comptroller at the time of sale, and the balance within thirty days after the sale on the execution and delivery of the deed or deeds. Full warranty deed or deeds will be given to the purchasers. Lithographic maps of the above real estate may be obtained at the Comptroller's office on and after February 20, 1882.

ALLAN CAMPBELL,
Comptroller.

FINANCE DEPARTMENT—COMPTROLLER'S OFFICE,
NEW YORK, February 8, 1882.

CORPORATION SALE AT PUBLIC AUCTION.

ALL THE RIGHT, TITLE, AND INTEREST OF the Mayor, Aldermen, and Commonalty of the City of New York, in and to certain lots, pieces, or parcels of land, situate in the Twelfth Ward of said city, will be sold at public auction, on the highest bidder, at the office of the Comptroller, on Friday, March 10, 1882, at 11 o'clock A. M., as follows, to wit:

Twenty-four lots of land in block No. 302 of the map of the Twelfth Ward, now on file in the office of the Commissioners of Taxes and Assessments of the said City of New York, bounded by the Second and Third avenues and Ninety-eighth and Ninety-ninth streets, designated by the Ward numbers respectively, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, and 42, the said land being situated in what was formerly known or called marsh or lowland, through some portion of which the tide had once ebbed and flowed.

TERMS OF SALE.

The amount bid, and the auctioneer's fees, to be paid at the time of the sale, and the expense attending the preparation of the deeds, etc., to be paid also by the purchaser.

ALLAN CAMPBELL,
Comptroller.

FINANCE DEPARTMENT—COMPTROLLER'S OFFICE,
NEW YORK, February 7, 1882.

CITY OF NEW YORK,
FINANCE DEPARTMENT,
COMPTROLLER'S OFFICE,
January 18, 1882.

NOTICE TO PROPERTY-OWNERS.

IN PURSUANCE OF SECTION 4 OF CHAPTER 33 of the Laws of 1881, the Comptroller of the City of New York hereby gives public notice to property-owners that the following lists of assessments for local improvements in said city were confirmed by the "Board of Revision and Correction of Assessments" on the 7th day of January, 1882, and, on the same date, were entered in the Record of Titles of Assessments kept in the "Bureau for the Collection of Assessments and of Arrears of Taxes and Assessments and of Water Rents," viz:

122d street, regulating, grading, etc., from 10th avenue to Riverside Drive.

23d avenue, regulating, grading, etc., from 11th to 16th street.

153d street, regulating, grading, etc., between 10th avenue and St. Nicholas.

4th avenue, regulating, grading, etc., between 94th and 96th streets.

31st street, regulating, grading, etc., sidewalks, between 1st avenue and East river.

Water street, curb, gutter, and flagging, between Corlears and East streets.

81st street, flagging both sides, between 8th and 9th avenues.

9th avenue, flagging, between 71st and 72d streets.

9th street, fencing vacant lots, north side, between 9th and 10th avenues.

47th street, fencing vacant lots, southeast corner 9th avenue.

58th street, fencing vacant lots, north side, between 6th and 7th avenues.

59th street, fencing vacant lots, south side, between 6th and 7th avenues.

78th street, fencing vacant lots, north side, between 4th and Madison avenues, and 4th avenue, between 78th and 79th streets.

81st and 82d streets and Madison and 5th avenues, fencing block.

85th and 86th streets and Madison and 5th avenues, fencing block.

5th street, paving, between 10th and 11th avenues.

63d street, paving, between 8th and 10th avenues.

69th street, paving, between 1st and 3d avenues.

80th street, paving, between 2d avenue and Avenue A.

81st street, paving, between 1st and 2d avenues.

11th street, paving, between 2d and 3d avenues.

126th street, paving, between 7th and St. Nicholas avenues.

127th street, paving, between 2d and 3d avenues.

Lexington avenue, paving, between 94th and 95th streets.

Houston street, sewer extension, etc.

43d street, sewer, between 2d and 3d avenues.

134th street, sewer, from 410 feet east of Will's avenue, etc.

Lexington avenue, sewer, from 69th to 70th street.

Water street, sewer, between Dover and Roosevelt streets.

Front street, sewer, between Beekman and Fulton streets.

80th street, sewer, between 10th avenue and Boulevard.

81st street, sewer, between 10th avenue and summit east of 10th avenue.

82d street, sewer, between 1st avenue and Avenue B, etc.

82d street, sewer, between branch curve Avenue A.

102d street, sewer, between 3d and Lexington avenues.

113th street, sewer, between 7th and 8th avenues.

118th street, sewer, between 6th and 7th avenues.

119th street, sewer, between 6th and 7th avenues.

123d street, sewer, between 4th and Madison avenues.

Lexington avenue, sewer, between 38th and 39th streets.

Lexington avenue, sewer, between 77th and 78th streets.

Lexington avenue, sewer, between 106th and 108th streets.

Lexington avenue, sewer, between 110th and 115th streets.

Lexington avenue, sewer, between 126th and 127th streets.

Avenue B sewer, between 16th and 17th streets.

2d avenue, east side, sewer, between 61st and 62d streets, and west side, between 61st and 62d streets.

Section 5 of the said act provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said record of titles of assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment, to charge, collect, and receive legal interest thereon, at the rate of seven per centum per annum, to be calculated from the date of such entry to the date of payment."

The above assessments are payable to the Collector of Assessments and Clerk of Arrears, at the "Bureau for the Collection of Assessments, and of Arrears of Taxes and Assessments and of Water Rents," from 9 A. M. until 2 P. M., and all payments made thereon, on or before March 20, 1882, will be exempt from interest as above provided, and after that date will be subject to a charge of interest at the rate of seven per centum per annum from the date of entry in the record of titles of assessments in said Bureau.

ALLAN CAMPBELL,
Comptroller.

REAL ESTATE RECORDS.

THE ATTENTION OF LAWYERS, REAL Estate Owners, Monetary Institutions engaged in making loans upon real estate, and all who are interested in providing themselves with facilities for reducing the cost of examinations and searches, is invited to these Official Indices of Records, containing all recorded transfers of real estate in the City of New York from 1653 to 1857, prepared under the direction of the Commissioners of Records.

Grants, grantees, suits in equity, insolvents' and Sheriff's sales, in 61 volumes, full bound, price \$100 00
The same, in 25 volumes, half bound, price 50 00
Complete sets, folded, ready for binding, price 15 00
Records of Judgments, 25 volumes, bound, price 10 00
Orders should be addressed to "Mr. Stephen Angell, Comptroller's Office, New County Court-house."

ALLAN CAMPBELL,
Comptroller.

DEPARTMENT OF TAXES AND ASSESSMENTS.

DEPARTMENT OF TAXES AND ASSESSMENTS,
NO. 32 CHAMBERS STREET,
NEW YORK, January 9, 1882.

NOTICE IS HEREBY GIVEN THAT THE books of Annual Record of the assessed valuation of Real and Personal Estate of the City and County of New York for the year 1882, will be opened for inspection and revision, on and after Monday, January 9, 1882, and will remain open until the 30th day of April, 1882, inclusive, for the correction of errors and the equalization of the assessments of the aforesaid real and personal estate.

All persons believing themselves aggrieved must make application to the Commissioners during the period above mentioned, in order to obtain the relief provided by law.

By order of the Board.

ALBERT STORER,
Secretary.

POLICE DEPARTMENT.

POLICE DEPARTMENT OF THE CITY OF NEW YORK,
PROPERTY CLERK'S OFFICE (Room No. 39),
NO. 300 MULBERRY STREET,
NEW YORK, February 14, 1882.

OWNERS WANTED BY THE PROPERTY Clerk of the Police Department of the City of New York, 300 Mulberry street, Room No. 39, for the following property now in his custody without claimants: Boats, rope, lead, blankets, iron, oil, male and female clothing, revolvers, coffee, trunks and contents, gold and silver watches, seal skin caps, diamond stud, dolman, etc.; also, several amounts of cash found and taken from prisoners by Patrolmen of this Department.

C. A. ST. JOHN,
Property Clerk.

ASSESSMENT COMMISSION.