

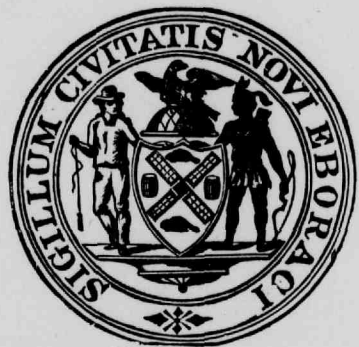
# THE CITY RECORD.

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### DEPARTMENT OF PUBLIC WORKS.

#### Report for the Quarter ending December 31, 1880.

DEPARTMENT OF PUBLIC WORKS,  
COMMISSIONER'S OFFICE, No. 31 CHAMBERS STREET,  
NEW YORK, March 11, 1881.

Hon. WILLIAM R. GRACE, Mayor :

SIR—In accordance with section 27 of the Charter I have the honor to submit herewith a report of the transactions of this Department for the three months ending December 31, 1880.

Until the 11th of December the Department was under the direction of my predecessor, Mr. Allan Campbell; this report, therefore, refers almost exclusively to business transacted under his administration.

I am peculiarly fortunate in having for my predecessor an officer of Mr. Campbell's experience, ability, and character, who brought the Department to a thorough state of efficiency, and in having, through my former connection with the Department, intimate knowledge of Mr. Campbell's methods of administration and his plans and intentions in reference to the public works of the city.

In addition to the report of the business of the Department for the quarter I shall include herein a brief review of its work 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.....	\$493,304 23
On account of assessment funds for street improvements.....	197,098 64
On account of revenue bonds in anticipation of collection of charges for water-meters..	5,148 93
On account of special fund for restoring pavements over street openings.....	4,054 65
On account of funded debt for improvement and extension of water supply.....	202,319 06
Total.....	\$901,925 51

#### Expenditures for the Corresponding Quarter for the past Seven Years.

Fourth quarter of 1874.....	\$2,028,553 46
" 1875.....	1,651,926 28
" 1876.....	997,663 37
" 1877.....	901,960 90
" 1878.....	870,986 47
" 1879.....	798,403 49
" 1880 (as above).....	901,925 51

#### BUREAU OF CHIEF ENGINEER OF CROTON AQUEDUCT.

During sixty-eight days of last quarter, the natural flow of Croton river was not sufficient to supply the Croton Aqueduct, and the deficiency had to be supplied by drawing upon the stored water in the reservoirs and lakes. In October it became necessary to purchase the right for the remainder of the year to draw water from Lakes Waccabuc and Tonetta, and from White, China, Peach, and Cross ponds, and all the available water has been drawn from them.

The drafts on stored water for the quarter were :

From Boyd's Corners Reservoir.....	775,000,000 gallons.
" Middle Branch Reservoir.....	925,000,000 "
" lakes and ponds.....	936,000,000 "

The work of improving the channel of the Muscote river, the effluent of lakes Mahopac and Kirk and one of the principal tributaries of the Croton, was continued until cold weather set in. At the outlet of Barret's pond the wooden flume, built in 1870, was replaced by a masonry dam, with a twenty-inch-iron pipe, through which the water is drawn off; a thirty-six-inch iron pipe, with stop-cock, has also been procured for the outlet of Lake Kirk.

The repairs and strengthening of the Aqueduct were continued until early in November, when the appropriation had been nearly consumed, leaving only sufficient for the ordinary care of the structure and its appurtenances.

The following are the principal items of work done during the quarter:

- 1,909 lineal feet of additional arch built.
- 1,034 cubic yards protection and retaining walls built.
- 1,512 cubic yards earth removed from top to sides.
- 444 lineal feet fence built.

Considerable repairs were also made on the wooden apron of the Croton dam, and on the bridge across the river, below the dam.

During the quarter the distribution of water was extended by laying —

- 3,900 lineal feet of 20-inch pipe.
- 10,285 " 12 "
- 11,731 " 6 "

—being a total of 25,916 lineal feet, or 4 9-10 miles, with 159 new fire-hydrants.

The two pumping engines at the new high-service works at Ninth avenue and Ninety-eighth street, have performed the tests required by the contract and have been finally accepted from the contractor.

The contract required a maximum performance for each engine of raising in forty-eight hours 15,000,000 gallons of water one hundred feet high; and that during a ninety days' run to furnish the quantity of water actually consumed the variation of the water-level in the stand-pipe should not exceed ten feet, and the quantity of coal used to raise 1,000,000 gallons of water one hundred feet high should not exceed 1,784 pounds.

In the forty-eight hours' test one of the engines raised 15,386,867 gallons of water one hundred feet high, and the other 15,432,918 gallons 101.64 feet high.

In the ninety days' test the greatest variation of the water-level in the stand-pipe was four feet, and during September, October, and November the average quantity of coal required to raise 1,000,000 gallons of water one hundred feet high was 1,656 pounds.

The engines, pumps, boilers, etc., are in good order, and show no extra wear and tear.

Since the advent of cold weather the quantity of water pumped for the high-service had to be increased from 9,000,000 gallons per day to 10,500,000 gallons per day, the new works furnishing 8,000,000 gallons and the old works at High Bridge 2,500,000 gallons. The small engine at High Bridge, which supplies the tank in the tower, became disabled, and has been replaced by a new Worthington engine. The two boilers at these works, placed in 1870, have become unsafe and will be replaced by a new large boiler.

The necessity of extending the application of water meters, in order to check the waste of water, becomes more urgent from day to day, and this work will be continued as rapidly as practicable. During the quarter 688 meters were placed, making the total number in use at the close of the year 4,002. The inspection of water-pipes and fixtures in buildings, to detect leaks and waste, have also been steadily carried on. In 18,347 house inspections made since October 1, 3,357 leaks in defective fixtures and 744 cases of willful waste were discovered.

In October, the work of constructing the reservoir at Kensico for the Bronx river supply was begun, but, in consequence of unfavorable weather, its progress has necessarily been slow. The contract for the pipe conduit from Woodlawn to Bronxville, 16,500 feet in length, for which proposals were received in August, had to be relet, the Comptroller having rejected the sureties of the successful bidder. A contract with the lowest bidder on the second letting has been made, and as soon as the weather permits work will be commenced upon it. The locations of all the structures required for the Bronx river supply have been definitely determined, and maps of all the land required have been filed. Surveys are in progress for definitely locating the necessary dams, reservoirs, and channel to conduct the water of the Byram river into the Bronx.

#### BUREAU OF WATER PURVEYOR.

Although paving work had to be suspended earlier than usual on account of frost and snow all but three of the contracts for repaving streets were completed.

The repavements completed during the quarter are :

- Cliff street, between Fulton and Ferry streets.
- Jefferson street, between Division and South streets.
- Hanover street, between Exchange place and Pearl street.
- De Peyster street, between Pearl and South streets.
- Fletcher street, between Pearl and South streets.
- Platt street, between Pearl and William streets.
- Centre and Marion streets, between Canal and Prince streets.
- First avenue, between Thirtieth and Thirty-sixth streets.
- Second avenue, between Nineteenth and Twenty-third streets.
- Tenth avenue, between Thirty-first and Forty-second streets.
- Twenty-second street, between Sixth avenue and Hudson river.
- Twenty-fourth street, between Lexington avenue and East river.
- Fifty-sixth street, between Fifth and Sixth, and between Seventh and Ninth avenues.
- Fifty-seventh street, between Fifth and Sixth avenues.
- Fifty-eighth street, between Sixth and Ninth avenues.

The unfinished works are :

- First avenue, between Houston and Eighth streets.
- Seventh street, between Avenue A and East river.
- Madison street, between Clinton and Grand streets.

They will be completed as soon as the weather and the condition of the ground permit.

Under a permit issued by my predecessor, the International Pavement Company laid their asphalt blocks on Fifth avenue, between Forty-sixth and Forty-seventh streets, at their own expense, in order to test the qualities of this pavement, of which favorable reports are received from other cities where it has been laid. It is claimed that this pavement is less slippery than the asphalt laid in one continuous layer, while presenting the same advantages as to smoothness, noiselessness, and durability. Since this piece of pavement was put down, the ground has most of the time been covered with snow and ice, affording little opportunity to test its qualities.

New pavements to be paid for by assessment on adjoining property were laid in—

- Fifty-sixth street, between Tenth and Eleventh avenues.
- Sixty-second street, between Avenue A and East river.
- Sixty-fourth street, between Boulevard and Tenth avenue.
- Seventy-sixth street, between Second avenue and Avenue A.
- Seventy-sixth street, between Fourth and Madison avenues.
- Ninety-fourth street, between Fourth and Lexington avenues.
- One Hundred and Fourth street, between Fourth and Fifth avenues.
- Lexington avenue, between Ninety-fourth and Ninety-fifth streets.

The area of new pavements laid during the quarter is :

Repavements.....	43,122 square yards.
Assessment work.....	24,361 "
Total.....	67,483 "

The general repairs of pavements had to be suspended early in November on account of frost. At the close of the season the pavements throughout the city were generally in fair condition.

#### BUREAU OF SEWERS.

Twelve contracts for the construction of new sewers were completed during the quarter, and twelve new sewer contracts were entered into.

The aggregate length of new sewers built during the three months is 7,917 lineal feet, with 255 feet of culverts and 9 receiving-basins, making the total length of sewerage south of Harlem river on December 31, 376 7-10 miles, with 4,573 receiving-basins.

The sewers, basins, and culverts have been kept in efficient condition by the force employed in repairing and cleaning them.

The following are the principal items of work done under this head during the three months :

- 820 receiving-basins and culverts cleaned.
- 3,850 lineal feet of sewers cleaned.
- 151 " sewers rebuilt.
- 99 " culverts rebuilt.
- 99 " spur-pipe laid.
- 27 receiving-basins repaired.
- 108 manholes repaired.
- 1 granite basin head, 4 basin covers, 4 manhole heads, and 29 manhole covers furnished and set.
- 1,650 cart-loads of sewer deposits removed.

## BUREAU OF STREET IMPROVEMENTS.

In consequence of the severity of the weather in November and December the amount of work done in regulating, grading, curbing, guttering, and flagging streets during the quarter is comparatively small. Eleven new contracts were entered into, four contracts were completed, and at the close of the quarter twenty-two contracts remained unfinished.

The works completed are :

Regulating, grading, etc., One Hundred and Second street, from Fifth avenue to Harlem river.  
Regulating, grading, etc., One Hundred and Third street, from Fifth to First avenue.  
Regulating, grading, etc., Tenth avenue, from Manhattan to One Hundred and Fifty-fifth street.  
Regulating, grading, etc., Seventy-sixth street, from Third to Fourth avenue.

The following are the aggregate quantities of work done :

5,030 cubic yards earth excavated.  
17,647 " rock excavated.  
39,466 " filling put in embankments.  
9,544 lineal feet curb-stones set.  
7,089 " gutter-stones laid.  
54,149 square feet flagging laid.  
2,591 lineal feet picket-fence built.

## BUREAU OF STREETS.

The uptown roadways and unpaved streets, which are under the care of the Superintendent of Streets, have been kept in proper repair, especially the roads which are so largely used for pleasure driving, including Kingsbridge road, McComb's Dam road, Eighth avenue, north of One Hundred and Twenty-fifth street, and several of the cross streets connecting the uptown drives and avenues. In these repairs the Bureau used during the quarter—

2,525 cubic yards of lime stone chips.  
500 " broken stone.  
10,500 " earth-filling.  
\$3,900 feet of planking and bridge timbers.

## BUREAU OF LAMPS AND GAS.

On the 1st of October 23,475 public lamps were in use in the streets and parks of this city, and during the quarter 87 new lamps were erected and lighted, 15 old lamps were relighted, and 66 lamps were discontinued, making the total number in use at the close of the quarter 23,511.

In December proposals were received from the several gas companies, and contracts made thereon, for furnishing illuminating gas for public buildings and offices for the year 1881.

All the companies except one bid higher prices than they received for 1880, thus increasing the cost of this item by \$5,000. The contracts for lighting the public lamps, except those in the Twenty-third and Twenty-fourth Wards, expire April 30th next. The several companies appeared before the Board of Estimate and Apportionment when the final estimate for 1881 was under consideration, and stated that at the expiration of the present contracts they would be obliged to advance their respective bids three dollars per lamp, involving an increase in the expense for lighting the public lamps for the year 1881 of \$45,000.

The old contracts made by the former towns of Morrisania and West Farms for lighting the public lamps in the Twenty-third and Twenty-fourth Wards of the city expired on the 31st day of December, and new contracts were made with the two companies in that district for the four months ending April 30, 1881, at the rates of \$10.75 and \$13, respectively, for the four months, or \$29.79 and \$36.02 per annum.

## BUREAU OF REPAIRS AND SUPPLIES.

The repairs to public buildings during the quarter include the following principal items :

Improving the heating apparatus in the offices of the Surrogate and of the Sheriff.  
Building an iron stairway in the offices of the Finance Department.  
Repairing the slate roof and painting tin roofing of the Third District Court-house.  
Repairing flooring and strengthening the supports of the roof in Washington Market.  
Repairing the gravel roof, sky-lights, windows, posts, and roof supports in Clinton Market.

Towards the close of December the alterations in the building No. 31 Chambers street, and the fitting-up of the rooms for offices for this Department were so far completed that the removal from the City Hall was effected in the last week of December. Work was begun at once to fit up the rooms in the City Hall, assigned to the Marine Court, for the use of the court.

The necessary supplies of fuel, office furniture, law books, etc., for the various Departments, courts, and offices have been promptly furnished.

## BUREAU OF INCUMBRANCES.

This Bureau received during the three months 428 complaints of obstructions on streets and sidewalks, and made 81 seizures or removals where the notices to remove the obstructions were not complied with. It also removed 411 cart-loads of stone and other refuse material from various streets.

There were issued—

1,138 permits to place building material on streets.  
14 permits to cut down shade trees.  
130 miscellaneous permits.  
113 notices to repair defective sidewalks.  
5 notices to repair dangerous vault covers.

The Bureau collected—

For redemption of articles seized, \$48.50.  
For articles sold at auction, \$379.10.

Two auction sales of buildings and structures standing within the lines of new streets, recently opened according to law, were held under the direction of the Superintendent of Incumbrances, realizing the sum of \$1,571.00.

## BUREAU OF WATER REGISTER.

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

Croton water rents.....	\$224,996 07
Penalties on Croton water rents.....	5,724 43
Permits to tap Croton pipes.....	2,121 00
Total.....	\$232,861 52

## OTHER REVENUE.

There were also collected by the Department and paid into the City Treasury :

For vault permits.....	\$14,129 43
For sewer permits.....	5,393 20
For restoration of pavements and sidewalks over excavations.....	5,540 00
For expenses of furnishing and setting water meters.....	5,041 85
For materials, etc., sold at auction.....	1,950 10
For redemption of articles seized as obstructions.....	48 50
Total.....	\$32,103 08

## REVIEW OF THE WORK OF THE DEPARTMENT FOR THE YEAR 1880.

## Expenditures.

Requisitions drawn upon the Comptroller—

On Appropriation Account of 1880.....	\$1,884,381 68
On Assessment Fund.....	461,568 83
On Funded Debt Account.....	515,670 10
Liabilities, including all outstanding accounts against appropriations of 1880.....	171,827 03
Total.....	\$3,033,447 64

## Expenditures for the past ten 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
Total for five years.....	\$35,772,059 23

For the year 1876.....	\$4,374,860 73
" 1877.....	3,113,789 43
" 1878.....	2,826,718 47
" 1879.....	2,340,763 57
" 1880.....	3,033,447 64
Total for five years.....	\$15,689,579 84

## THE WATER SUPPLY.

Sources of Supply.—The rain-fall in the Croton basin for the past year was 38 52-100 inches, which is fully two inches less than in any year since the introduction of Croton water. In 1876 and 1877, which were years of extreme drought, causing considerable anxiety that the people might suffer for want of pure water, the rain-fall was 40 68-100 inches and 46 03-100 inches, respectively. From the 19th of May to the 31st of December there were only 19 days on which water ran over the Croton dam, and the drafts upon the storage reservoirs and lakes, to supply the deficiency in the natural flow of the Croton river, amounted to 8,221,000,000 gallons, as follows :

From Boyd's Corners Reservoir.....	2,675,000,000 gallons.
" Middle Branch Reservoir.....	3,430,000,000 "
" twelve lakes and ponds.....	2,116,000,000 "

With these drafts upon the stored water the aqueduct was kept running to its full capacity of 95,000,000 gallons per day, but the reservoirs and lakes were drawn down very low. The springs and streams by which the reservoirs are usually replenished after the drafts made upon them during summer and autumn were closed up by severe frost as early as the middle of November, and remained closed to the end of the year. The continued cold weather again reduced the volume of the Croton river to less than the amount needed to fill the aqueduct, and at the same time the consumption in the city was kept at an excessively high rate in consequence of the enormous waste to prevent freezing in the service pipes. Taken altogether, the circumstances affecting the water supply for the past year must be regarded as very extreme. There was little ice or snow during the winter of 1879-'80, and consequently but little moisture in the earth to feed the springs and streams during the following summer. The summer and autumn were hot and dry, almost beyond precedent, and after the drought was over, there was but a short period of relief when a rigorous winter reduced the supply from the streams to less than it had been in summer.

Every available lake and pond in the Croton Valley was made tributary to the supply for the city.

The auspices for this year are much more favorable. The immense quantities of snow and ice which cover the ground will, when melted gradually by warmer weather, not only swell the streams immediately so as to replenish the artificial and natural reservoirs to their full capacity, but will moisten the ground to a great depth, and furnish a reserve supply which will come to the surface during the summer. Thus, even with a rain-fall as low as last year, we are assured of a much better supply of water, and we may rely confidently on our ability to keep the aqueduct running at all times to its full capacity.

## The Bronx River Supply.

The progress made in the works for securing an additional supply of water from the Bronx and Byram rivers is stated in the preceding part of this report. The long and severe winter has caused unexpected delay. More than two years must yet elapse before the water can be delivered in the city.

## The Aqueduct.

At various places the aqueduct is built on embankments over low grounds. Attention was first called to the fact by my predecessor, Mr. Campbell, five years ago, that at these places, aggregating about nine miles in length, the structure had become weakened by settlement, and could not be considered secure under the strain of carrying the large volume of water required for the city's use, about fifty per cent. more than its constructors had contemplated or intended. Mr. Campbell determined upon a plan of improving and strengthening these portions of the aqueduct by raising the spandrel walls and protection walls nearly to the height of the arch, increasing the thickness of the arch by two courses of brick, removing surplus earth-covering from the top to the sides of the arch, and strengthening the retaining and protection walls. The usual maintenance appropriation did not afford the means of carrying out this improvement with the necessary expedition, but until 1880 no additional provision was made for it, although repeatedly asked for by the Department. During 1877, 1878, and 1879 the Department managed to apply the improvement to about 7,800 lineal feet of the structure. The appropriation for 1880 was increased so as to enable the extension of the work by about 10,300 lineal feet, including some of the most dangerous places. In its prosecution many leaks were found and stopped which could not be discovered by the annual examinations of the interior. Provision has been made for about an equal amount of work for 1881, and this important measure will be carried through with all possible vigor.

## Distribution of Water.

During the past year twenty-three and three-eighths miles of pipes were laid, and 550 fire-hydrants set, to extend and improve the distribution of Croton water.

The following shows the extension of the distributing system for the past five years :

Length of pipes in use, January 1, 1876.....	408.79 miles.
" laid in 1876.....	16.38 "
" " 1877.....	15.19 "
" " 1878.....	23.33 "
" " 1879.....	16.00 "
" " 1880.....	23.37 "

Length of pipes in use, December 31, 1880..... 503.06 miles.

Number of fire-hydrants, December 31, 1880..... 6,047

With the renewed activity in the construction of houses in the upper part of the city, the demand for additional pipes to extend the Croton water service is rapidly increasing. Larger pipes are also required in many streets down town, to afford a better supply for extinguishing fires and for general consumption, especially where large stores, warehouses, and factories are gradually taking the place of the old dwellings.

Until 1875 the Department had the power to expend \$1,000,000 annually from bonds for this purpose ; but by an act of 1875 the expenditure was limited to \$500,000, to be included in the annual estimates and appropriations, and the work to be first authorized by the Common Council, and by an act of 1879 it was further limited to \$250,000 per annum.

The new high-service works at Ninth avenue and Ninety-eighth street have been in constant operation since May 3, 1880. During that time the quantity of water pumped for high service at these works and at High Bridge had to be increased from 7,500,000 gallons per day to 10,500,000 gallons per day. Half of this increase of consumption in the high-service district (1,500,000 gallons) has taken place since cold weather set in, and while very few additions were made to the number of consumers, showing conclusively that such increase is almost entirely due to waste in cold weather.

For the water supply for the Twenty-fourth Ward from the City of Yonkers, there were laid during the year 18,027 lineal feet of pipes, with twenty-four fire-hydrants.

A six-inch meter registers the quantity of water furnished for this purpose.

*Waste of Water.*

At no time in the history of the Croton water system have the effects of waste of water been so general and so injurious as during the present long and severe winter. The measures for its suppression, the house inspections and the application of water meters, are being prosecuted with all possible vigor, but since cold weather has set in the average daily consumption is 8,000,000 gallons more than the carrying capacity of the aqueduct, reducing at that rate the supply in the city reservoirs, and causing a corresponding reduction in the pressure or head of water in the service pipes. During the year 2,604 water meters were placed, and on the first of January 4,002 meters were in use. The amount of water daily furnished through 3,246 meters, which have been long enough in use to get two readings, is 9,810,795 gallons, or more than one-tenth of the water brought into the city. These meters and the consumption are distributed as follows:

Hotels.....	307	meters,	1,239,389	gallons.
Breweries, malt-houses, etc.....	235	"	1,057,675	"
Railroads.....	157	"	1,295,284	"
Docks.....	96	"	1,245,000	"
Manufacturing establishments.....	212	"	970,751	"
Stables.....	1,070	"	843,332	"
Gas companies.....	31	"	579,547	"
Offices.....	421	"	515,089	"
Charitable institutions.....	78	"	315,565	"
Apartment houses.....	41	"	147,852	"
Miscellaneous.....	598	"	1,601,311	"

The Inspectors employed by the Department made, during the year, 18,347 house inspections, resulting in the detection of 6,294 leaks in fixtures and 744 cases of willful waste.

*Future Supply.*

The present condition of the water supply may be summarized as follows:

1—The appliances now in use for collecting and furnishing water in the Croton basin are sufficient to supply the aqueduct to its full capacity, except under circumstances as extreme or more extreme than those of last year, which will not occur this year and probably not for many years.

2—The aqueduct is now the only means of bringing water to the city, and its utmost capacity, at which it is constantly kept running, is 95,000,000 gallons per day.

3—By the use of meters, as far as it has progressed, and by house inspections to detect leaks and waste, the consumption has been kept, under ordinary circumstances, within such limits as not to exceed the daily supply from the aqueduct, but in freezing weather the waste by letting water run to prevent freezing in the pipes cannot, with the means now available, be suppressed, and the daily consumption is increased several millions gallons beyond the capacity of the aqueduct, reducing the supply in the city reservoirs and the pressure in the pipes.

4—The pressures in the greater part of the city are not sufficient to deliver the water in the upper stories of buildings.

5—The population, commerce, and manufactures of the city are increasing rapidly, creating a corresponding increase in the legitimate demands for pure water, which must be supplied.

There are but two ways in which the increased demand for water caused by the growth of the city can be met, viz.: by further preventing unnecessary waste, thereby increasing the amount for necessary use, and by the construction of additional conduits to bring more water into the city.

It is to a certain extent a matter of conjecture and experiment how far the consumption can or should be limited by the suppression of waste. It must be regarded as an established fact, however, that the measures to suppress waste inaugurated by my predecessor, and now pursued, have produced a large and beneficial effect without which it would now be impossible to supply all parts of the city with even a moderate degree of efficiency.

The estimates of engineers and other experts as to the quantity of water required in urban populations for all purposes of life, health, and comfort are variously placed at from 25 to 40 gallons daily per capita. I do not think, however, that any of these estimates is applicable to the City of New York. Numerous appliances requiring a free use of water, which were unknown at a comparatively recent period, have been introduced into our buildings, and these appliances have been adopted in consequence of an abundance of supply and pressure of water which few cities have the means of furnishing, and in anticipation of a continuance of such abundant supply.

Water-closets, wash-basins and sinks in all parts of buildings, to the top floors, are connected directly with the sewers, and require frequent flushing with water as a sanitary measure as well as a matter of convenience and comfort.

We should also remember that our city has become the greatest manufacturing centre on this continent, the value of its manufactured products being far in excess of that of any other county in the United States.

The designers and constructors of the aqueduct and Croton water system did not contemplate the necessity or demand that water be delivered by its own pressure in the upper stories of tall buildings. As late as 1867 the Commissioners of the Croton Aqueduct, in their annual report to the Common Council, say on this subject: "We are satisfied that the great object in the construction of the Croton works was obtained when abundant water was brought to every door, and its convenient delivery assured. Its moderate consumption and comparatively limited distribution during the early years of the operation of the works drew lightly upon the capacity of the pipes, and, of course, the temporary convenience of higher head was naturally felt; this has, unfortunately, led to unreasonable expectations on the part of the first consumers, and now that the city has greatly increased in area and population, with consequent increased demands upon the water service, they are inclined to consider that an unjust deprivation, which, after all, but moderates an excessive privilege."

There is, undoubtedly, still a very great margin of waste between the supply now furnished by the aqueduct and daily consumed in the city and a liberal allowance for all necessary purposes, and this waste should be checked as far as practicable, though the supply of water were twice as large as it now is, because the indulgence of waste creates a habit which it is difficult to break up when the necessity arises, and because excessive waste at the lower levels will take away the pressure on the higher levels, no matter how great the supply may be.

At the present time, and until another conduit for bringing water into the city can be completed, the further curtailment of waste is the only means of meeting the additional demand for water which the growth of the city must create, and is an imperative necessity. The house inspections and the application of water meters will therefore be vigorously continued, and in addition to these I deem it necessary that authority be given whereby the Department may be enabled to detect and check the waste in private dwellings by other means than by meters. Over two years will yet be required to complete the works for securing the additional supply from the Bronx and Byram rivers, and in from five to seven years this additional supply will be absorbed by the increased demand for water created by the growth of the city. Another conduit will then become an immediate necessity.

A new aqueduct should be of sufficient capacity to anticipate the needs of the city for a long period, and taking into account the time that will necessarily be consumed in the surveys, preparation of plans, acquisition of lands and water rights, and in the construction of such a conduit and its accessories, it becomes a subject for immediate consideration and action.

It has been shown in the reports of my predecessors that, with sufficient storage capacity, the Croton basin can furnish a daily supply of at least two hundred and fifty million gallons; it being estimated that a storage capacity of forty thousand million gallons is required to insure such supply. Of fifteen available sites for storage reservoirs in the Croton basin, which were established by surveys made under the Croton Aqueduct Board in 1857 and 1858, and with an aggregate capacity of sixty-two thousand million gallons, only two sites have so far been brought into use—the reservoir at Boyd's Corners, on the west branch of the Croton river, capacity 2,700,000,000 gallons, and the reservoir near Brewster's, on the middle branch of the Croton, capacity 4,000,000,000 gallons.

Preparatory surveys for an additional aqueduct from the Croton basin, of a capacity of 150,000,000 gallons per day, were made in 1875, under the direction of General Fitz John Porter, then Commissioner of Public Works. Two routes were surveyed, one thirty-six and a half miles and the other

thirty-six and eight-tenths miles long, each commencing at a point about a quarter of a mile above the head of Croton lake, where it was proposed to take the water, and terminating in a receiving reservoir near Jerome Park. These surveys will be of great assistance in the further pursuit of the plans for obtaining an abundant supply of water.

The present condition of the water supply and the consideration of the best means for its improvement have engaged my constant attention and study since I have assumed the duties of this office, and I have become convinced of the urgent necessity for a vigorous prosecution of all practicable measures for the suppression of waste, and of speedy preparations for the construction of another aqueduct. To assure myself of the assistance of the best professional talent and experience in the consideration of these matters, I have retained the services, as Consulting Engineer, of Mr. E. S. Cheshbrough, a hydraulic and civil engineer of the highest eminence and largest experience.

With his aid and that of the regularly employed engineers of the Department I hope to be able to bring the difficult problem to a satisfactory solution, and to submit to you at an early day further and more definite information as to the measures to be adopted for that purpose.

## PAVEMENTS.

During the past year 244,807 square yards of new pavements were laid, covering twelve miles of streets. Of these pavements, 198,277 square yards are paid for out of the annual appropriations and 46,530 square yards by assessment on adjacent property.

The present extent of paved streets in the city, south of Harlem river, is:

Stone-block pavements.....	229½	miles.
Cobble stone ".....	80	"
Macadam ".....	24½	"
Concrete ".....	½	"
Total.....	333½	"

The area of pavements laid during the past ten years is as follows:

In 1871.....	328,052	square yards.
In 1872.....	119,522	"
In 1873.....	128,377	"
In 1874.....	255,986	"
In 1875.....	116,180	"
In 1876.....	146,200	"
In 1877.....	214,652	"
In 1878.....	224,660	"
In 1879.....	130,189	"
In 1880.....	237,548	"

Up to the year 1875 all pavements were paid for from assessment bonds. In that year an act was passed by the Legislature prohibiting the assessment of property for repavement, and authorizing an expenditure not exceeding \$500,000 annually from appropriations for repaving. Under this act there was appropriated for repavements—

For 1877.....	\$200,000
For 1878.....	300,000
For 1879.....	300,000
For 1880.....	300,000
Total.....	\$1,100,000

—and with this amount, 641,957 square yards of old and worn out pavements, including all the rotten and disgraceful abominations composed of wood and tar, were replaced by substantial and improved stone-block pavements.

The improvement thus effected in the streets, especially in the lower and central parts of the city, where business traffic is very large, and had for years suffered from bad pavements, is very great.

The work should be continued without abatement, until all the cobble pavements and some of the old defective square block pavements are replaced with the improved granite or trap-blocks. There can be but one opinion as to the utility of this work. It is impossible, even with frequent and expensive repairs, to keep cobble pavements and inferior square block pavements in tolerable condition. The resistance which they present to the wear and pressure of vehicles and horses is inadequate and unequal, resulting in the continual formation of ruts and ridges, depressions and hillocks, which are destructive to vehicles and animals, and injurious to the public health by favoring the accumulation of street dirt.

By the appropriation of \$400,000, for repaving for 1881, the Department is enabled to make good progress this year in this beneficial and important work, and every preparation will be made to commence it as soon as the season permits.

## SEWERAGE.

Considerable progress has been made during the past year in the extension and improvement of the sewerage system. The aggregate length of sewers and culverts built in 1880 is 26,921 lineal feet, or 5 1-10 miles, with 62 receiving-basins, and the present extent of sewerage, south of Harlem river, is 376 7-10 miles, with 4,573 receiving-basins.

In considering the amount of labor, care, and skill required for a proper management and maintenance of the sewerage on Manhattan Island, it should be remembered that prior to the Sewerage Act of 1865 there was no legal authority for a comprehensive and uniform system in the laying out and construction of sewers, and the control of the sewerage was divided between legislative and executive branches of the city government.

In consequence of this want of system and executive control under experienced engineers, a great part of the work done prior to 1865 is defective in plan and execution.

The construction of the present sewerage may be divided into the following periods:

	Miles of Sewerage.	No. of Receiving-basins.
1. Constructed prior to 1849 (organization of Croton Aqueduct Department), when the authority over the sewerage was divided between the Common Council, the City Inspector, and the Street Department.....	73	969
2. From 1849 to 1865, when the Common Council had authority to order the construction of sewers, and the Croton Aqueduct Department executed the work.....	132¼	1,871
3. From 1865 to 1870, when the entire control of sewerage was under the Croton Aqueduct Department.....	60¼	532
4. From 1870 to the passage of the Charter of 1873, under the control of the Department of Public Works.....	42¾	482
5. Since May, 1873, under the control of the Department of Public Works.....	68½	719

Many miles of the older structures, intended for house and street drainage, are sewers in name only, especially those built prior to the introduction of Croton water, and a great part of those built at a later period are defective in shape, size, grade, and construction, having been constructed without regard to hydraulic principles or the service which they might ultimately be required to perform. Effective sewerage is so essential a necessity in a densely populated city, that it seems inexplicable how it was so much neglected in this city until a comparatively recent period.

Since the adoption of the Sewerage Act of 1865, the evil has been remedied at least with regard to the construction of new sewers, but much remains yet to be done to improve the sewerage in the older part of the city. The means available for this work have been inadequate. Until 1876 the Department had authority to expend \$100,000 annually, raised by the issue of bonds, for the reconstruction of the old sewers, but since that time it has been confined to the annual appropriations for repairing and cleaning sewers, and these appropriations have been barely sufficient to cover the cost of removing deposits and obstructions from sewers and basins, and to make minor repairs. The appropriation for 1881 has been increased so as to afford a moderate allowance for the more extensive repairs and reconstruction of sewers. The surveys and systematic examinations made within the past few years enable the Department to accomplish the best possible results in this very important work.

at small expense, as compared with the cost of such work in other cities of less extent and population. Brooklyn, Boston, and other eastern cities are expending much larger sums for the improvement and correction of their sewerage.

#### OTHER STREET IMPROVEMENTS.

The aggregate quantities of work done in regulating, grading, curbing, guttering, and flagging streets during the year 1880 are:

15,921	cubic yards earth excavated.
59,799	" rock "
122,146	" filling placed in embankments.
28,816	lineal feet curb-stone set.
23,300	" gutter-stones laid.
82,460	square feet flagging laid.
12,116	lineal feet picket-fence built.

Several very important works were completed last year, including the arch, retaining walls, steps, and roadways on Forty-second street, east of Second avenue; the grading of Madison avenue, from Ninety-ninth street to One Hundred and Fifth street, which consists of a very heavy embankment, and completes the grading of this avenue to the Harlem river; also One Hundred and Second and One Hundred and Third streets, from Fifth avenue to the Harlem river, already mentioned in this report, by which a large area of hitherto inaccessible ground becomes available for occupation and building.

The return of prosperity in all branches of business, the establishment of rapid transit to the Harlem river, and the economical and efficient management of public improvements, by which fair work is done at reasonable cost, and excessive assessments are no longer imposed for inferior and defective work, have created a steady and constantly increasing demand for street improvements in the upper part of the city on the part of property-owners who desire to make their lots available for building and occupation.

So far as this Department has authority in such matters, I shall endeavor to exercise it to the best interests of the property-owners and the public at large, by aiding the prompt and efficient execution of all works that may be actually needed, and preventing expenditure for premature improvements.

Until 1876 a separate Bureau was maintained in the Department (transferred to it from the Park Department in June, 1872), having charge of the construction and maintenance of boulevards, roads, and avenues.

This Bureau was abolished by my predecessor, and the construction and maintenance of roadways was placed under the direction of the Bureau of Water Purveyor, and the grading work under the Bureau of Street Improvements.

In view of the fact that the maintenance of the Macadam roadways is similar in character to the work now under the charge of the Bureau of Streets and Roads, the care and repairs of roadways and unpaved streets, and both are located in the upper part of the city, I have placed this maintenance work under the direction of the Superintendent of Streets. The Department will give particular attention to these pleasure drives, to keep them in the best possible condition for the use and convenience of the driving public.

#### LIGHTING THE CITY.

The number of public lamps in use in the streets, avenues, parks, and places of the city was increased during the year from 23,136 to 23,511, and the expense for lighting and maintaining the lamps and furnishing gas for public buildings, offices, markets, and armories was \$494,658.51. In 1864, with 16,109 lamps, the city expended \$512,051.00; in 1871, with 18,900 lamps, \$1,176,468.00, and in 1874, with 20,047 lamps, \$757,009.00. As already stated in this report, the gas companies have expressed their intention of asking higher prices for lighting the public lamps on the expiration of the present contracts, April 30th next.

Under a resolution of the Common Council and of the Gas Commission, the Department issued a permit to the Brush Electric Light Company, in December last, to erect the necessary poles and lamps for lighting Broadway, from Fourteenth to Thirty-fourth street, with their electric light. The experiment has proved satisfactory as far as the quantity and brilliancy of the light is concerned, but there have been several instances when the lights were extinguished in consequence of severe storms or derangements in the machinery. It is claimed that these can readily be obviated by improvements in the arrangements for producing and transmitting the electricity, but further tests are required to establish the constancy of the light—an essential quality for lighting public streets.

#### CARE OF PUBLIC BUILDINGS.

With the exception of some of the markets, the public buildings belonging to the city under the care of this Department are all in good condition, and are maintained so at comparatively light expense. Mere repairs, such as the annual appropriation for the care of public buildings is intended to cover, cannot render such structures as Fulton, Washington, Clinton and Jefferson Markets suitable and convenient for the transaction of the market business or tolerable in appearance.

In the course of the last year the Fulton Market building was condemned as unsafe by the Building Department, and proceedings were taken in the Supreme Court to determine the question whether it should be taken down or repaired. In December, after the departmental and provisional estimates had been made, the court decided and ordered that the building be repaired, and I submitted to the Board of Estimate and Apportionment an estimate of the moneys, amounting to \$100,000, required to render it entirely and permanently safe as ordered by the court, to have as little interference as possible with the market business during the progress of the work, and to provide the most suitable and convenient accommodations for such business when the work is completed. The Board of Estimate and Apportionment appropriated only \$80,000, necessitating a modification of the proposed plan of reconstruction. The main features of the plan will, however, be carried out, and will result in a great improvement, not only in the safety of the structure, but also in its appearance, sanitary condition, and the facilities for transacting the large market business. Everything will be in readiness to commence the work as soon as the season permits.

#### FREE FLOATING BATHS.

The public baths were open last year from June 1 to October 15. At the opening of the season there were seven baths, and another one was completed and opened to the public early in July.

The continued large attendance shows the popularity and value of these institutions. The attendance for the season was as follows:

	MALES.	FEMALES.	TOTALS.
Bath at Fifth street, East river.....	436,693	177,759	614,452
Bath at Gouverneur street, East river.....	374,387	158,153	532,540
Bath at Nineteenth street, East river.....	237,432	110,593	348,025
Bath at Thirty-seventh street, East river.....	301,870	204,004	505,874
Bath at One Hundred and Twelfth street, East river.....	209,492	101,106	310,598
Bath at Battery.....	370,527	244,638	615,165
Bath at Bethune street, North river.....	220,226	125,728	345,954
Bath at Fifty-first street, North river.....	176,088	132,137	308,225
Totals.....	2,326,915	1,255,023	3,581,938

#### INCUMBRANCES ON STREETS AND SIDEWALKS.

During the year 1880 the Bureau of Incumbrances received 3,496 notices and complaints of obstructions on streets and sidewalks, and in 909 cases the notices issued by the Bureau requiring the removal of articles were not complied with, and the same were seized and taken to the Corporation Yard. This number of seizures and removals is nearly four times as large as for 1879, which is due to an increase in the appropriation for this purpose from \$1,500 for 1879 to \$3,000 for 1880, and shows the beneficial effect of such increase. There was also removed from various streets 2,760 cart-loads of refuse material for which no ownership was claimed or ascertained.

#### REVENUE.

The amount collected during the past year for Croton water rents, penalties, and permits to tap Croton pipes is \$1,560,598.57. This is considerably less than the collection for 1879, but for several reasons a comparison of the collections for the two years does not actually show the relative conditions of the Croton water revenue.

In the first place, the fiscal year is from May to May, and an accurate comparison can only be made between fiscal not calendar years. Secondly, a very large number of water meters has been placed, and, in all these cases, the water rent, instead of becoming due on the 1st of May, with penalties added on the 1st of August and 1st of November, can only be charged and collected from time to time, as the meter registers are taken and after the water is used.

The Department also collected and paid into the City Treasury—

For Sewer Permits.....	\$24,522 03
For Vault Permits.....	39,549 00
For sales of old materials, buildings, etc.....	3,904 13
For rent of derrick.....	1,583 29
For redemption of articles seized as obstructions.....	179 75
For sewer pipe sold to contractors.....	199 80
For expenses of furnishing and setting water meters.....	13,467 50
For restoration of pavements over excavations.....	7,527 00

Making the total revenue collected by the Department for the year 1880, and

paid into the City Treasury..... \$1,651,531 07

For further details in reference to the expenditures, the condition of the appropriations, and the work of the several Bureaux in the Department, I beg to refer you to the documents hereto appended, consisting of financial statements and the reports of the heads of Bureaux.

Respectfully submitted,

HUBERT O. THOMPSON, Commissioner of Public Works.

#### Document "A."

Showing Titles of Appropriations; Appropriations, including Transfers of 1880; Requisitions, First Nine Months, 1880; Requisitions, Fourth Quarter, 1880; Total Requisitions for 1880; Balances of Appropriations of 1880 on December 31; Memoranda of Balances of 1879 on December 31, 1880; and the Titles and Conditions of the "Trust Accounts."

TITLES OF APPROPRIATIONS.	APPROPRIATIONS AND TRANSFERS, 1880.	REQUISITIONS, FIRST NINE MONTHS, 1880.	REQUISITIONS, FOURTH QUARTER, 1880.	TOTAL REQUISITIONS FOR 1880.	BALANCES ON DECEMBER 31, 1880.	BALANCES OF 1879 ON DECEMBER 31, 1880.
Aqueduct—Repairs, Maintenance, and Strengthening.....	\$214,153 20	\$144,033 10	\$64,207 20	\$208,240 30	\$5,912 90	\$3 00
Aqueduct—Repairs, Maintenance, and Strengthening—Salaries.....	17,000 00	12,421 97	4,552 98	16,974 95	25 05	.....
Boulevard, Roads, and Avenues, Maintenance of.....	46,000 00	35,311 68	10,418 64	45,730 32	269 68	68 74
Boulevard, Roads, and Avenues, Maintenance of—Salaries.....	4,500 00	3,057 18	1,441 78	4,498 96	1 04	.....
Contingencies—Department of Public Works.....	3,751 65	1,142 86	2,178 00	3,320 86	470 79	.....
Contract of Peter J. Masterson.....	225 69	225 00	.....	225 00	69	.....
County Court-house Building, Completion of.....	12,800 00	.....	1,652 34	1,652 34	11,147 66	.....
Expense of Altering Map of City.....	800 00	650 00	.....	650 00	150 00	.....
Expenses of Surveys and Maps.....	474 89	.....	473 75	473 75	1 14	.....
Expense of Laying Four-foot Croton Mains.....	78,337 70	64,176 35	6,353 55	70,529 90	7,807 80	.....
Flagging Sidewalks and Fencing Vacant Lots in Front of City Property.....	1,600 00	1,273 91	241 52	1,515 43	84 57	.....
Free Floating Baths.....	8,000 00	6,024 00	1,888 05	7,912 05	687 35	.....
Free Floating Baths—Salaries.....	15,931 75	13,750 00	2,151 75	15,931 75	.....	.....
Janitors Civil and Police Courts—Salaries.....	8,161 26	6,361 25	1,800 00	8,161 25	.....	.....
Lamps and Gas.....	496,000 00	326,448 71	128,090 92	454,539 63	41,460 37	.....
Lamps and Gas—Salaries.....	6,000 00	4,020 00	1,979 64	5,999 64	5 36	.....
Laying Croton Pipes.....	250,000 00	142,648 91	58,551 16	201,200 07	48,799 93	.....
Public Buildings—Construction and Repairs.....	35,400 00	22,088 99	5,819 97	27,908 96	7,491 04	.....
Public Drinking Hydrants.....	5,000 00	4,186 46	756 24	4,942 70	57 30	.....
Removing Obstructions in Streets and Avenues.....	3,300 00	2,569 15	467 40	3,036 55	263 45	.....
Removing Obstructions in Streets and Avenues—Salaries.....	2,000 00	1,452 64	463 99	1,916 63	83 37	.....
Repairing and Renewal of Pipes, Stop-cocks, etc.....	87,044 92	67,084 75	17,413 46	84,498 21	2,546 71	.....
Repairing and Renewal of Pipes, Stop-cocks, etc.—Salaries.....	34,000 00	24,794 78	9,121 39	33,916 17	83 83	.....
Repairs and Renewal of Pavements.....	149,164 75	128,159 46	25,493 81	147,653 27	1,511 48	.....
Repaving Streets and Avenues.....	298,000 00	164,442 28	71,024 88	235,467 16	62,532 84	2,274 10
Repaving Streets and Avenues—Salaries.....	7,000 00	4,786 73	2,193 34	6,980 37	19 63	.....
Roads and Avenues—Maintenance and Sprinkling.....	22,000 00	16,422 14	5,300 78	21,722 92	277 08	.....
Salaries—Department of Public Works.....	92,000 00	67,320 14	24,599 37	91,919 51	80 49	.....
Sewers—Repairing and Cleaning.....	53,700 00	40,685 05	9,955 19	50,640 24	3,059 76	36 24
Sewers—Repairing and Cleaning—Salaries.....	11,550 00	8,657 45	2,890 73	11,548 18	1 82	.....
Sewerage System—Salaries.....	12,750 00	8,279 66	4,469 83	12,749 49	51	.....
Street Improvements—For Surveying, Monumenting, etc.....	1,100 00	.....	1,001 24	1,001 24	98 76	.....
Supplies for and Cleaning Public Offices.....	67,368 25	46,065 71	16,839 19	62,904 90	4,463 35	.....
Supplies for and Cleaning Public Offices—Salaries.....	15,200 00	11,271 67	3,806 95	15,078 62	121 38	.....
Supplying Water to Shipping and for Building Purposes, Salaries.....	8,000 00	5,800 50	2,190 00	7,990 50	50	.....
Water Supply for the Twenty-fourth Ward.....	11,846 80	8,964 61	2,098 91	11,063 52	783 28	.....
Wells and Pumps—Repairing and Cleaning.....	230 08	192 48	37 60	230 08	.....	.....
Croton Water Main Fund—From Taxation.....	.....	.....	.....	.....	.....	74,264 06
SPECIAL.						
Free Floating Baths—Additional.....	.....	.....	.....	.....	.....	13 38
Restoring and Repaving—Special Fund, D. P. W.....	7,527 00	192 00	4,054 65	4,246 65	3,280 35	.....
Totals.....	\$2,087,957 94	\$1,389,000 58	\$495,381 20	\$1,884,381 68	\$203,576 26	\$76,659 52

MEMORANDA.—Amount drawn Fourth Quarter, 1880, on Liabilities of 1879—Repaving Streets and Avenues, \$1,963.78; Sewers, Repairing and Cleaning, \$14.00.

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, 1880.	AMOUNTS EXPENDED, FIRST NINE MONTHS, 1880.	AMOUNTS OF REQUISITIONS, FOURTH QUARTER, 1880.	TOTAL EXPENDITURES FOR 1880.	TOTAL EXPENDITURES TO JANUARY 1, 1881.	AMOUNTS TO CREDIT, JANUARY 1, 1881.
Croton Water Fund.....	\$1,710,000 00	\$1,710,000 00	\$1,331,453 87	\$162,593 79	\$165,741 68	\$328,335 47	\$1,659,789 34	\$50,210 66
Croton Water Main Fund.....	3,750,000 00	3,750,000 00	3,713,489 83	35,487 90	490 71	35,978 61	3,749,468 44	531 56
Croton Water Main Fund, No. 2.....	1,500,000 00	1,500,000 00	1,370,387 04	84,272 07	36,086 67	120,358 74	1,490,745 78	9,254 22
Street Improvements above Fifty-ninth street.....	.....	.....	.....	18,585 94	6,126 57	24,712 51	.....	.....
Street Improvement Fund.....	.....	.....	.....	245,884 25	190,972 07	436,856 32	.....	.....
Meter Stock.....	50,000 00	75,000 00	14,806 02	25,848 35	5,148 93	30,997 28	45,803 30	29,196 70

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

Statement showing all Revenues of the City received through the Department of Public Works during the First Nine Months of 1880; during the Fourth Quarter of 1880; and the Total for the Year.

SOURCE OF REVENUE.	FIRST NINE MONTHS, 1880.	FOURTH QUARTER, 1880.	TOTAL FOR 1880.	SOURCE OF REVENUE.	FIRST NINE MONTHS, 1880.	FOURTH QUARTER, 1880.	TOTAL FOR 1880.
*Water Rents.....	\$1,313,474 45	\$224,996 07	\$1,538,470 52	Rent of Derrick, etc.....	\$1,583 29	.....	\$1,583 29
Water Penalties.....	6,155 10	5,724 45	11,879 55	Vitrified Stoneware Pipe sold.....	199 80	.....	199 80
Pipe Tapping.....	8,127 50	2,121 00	10,248 50	Total.....	\$1,376,421 67	\$254,362 75	\$1,630,784 42
Sewer Permits.....	19,128 83	5,393 20	24,522 03	Meter Stock Deposit—Special Fund.....	\$8,425 65	\$5,041 85	\$13,467 50
Vault Permits.....	25,419 57	14,129 43	39,549 00				
Work done for and Material furnished to Citizens..	247 85	.....	247 85				
Redemption of Street Obstructions.....	131 25	48 50	179 75				
Sales of Buildings, etc., on Corporation property.....	.....	1,571 00	1,571 00				
Sales at Corporation Yards, etc.....	1,954 03	379 10	2,333 13				

\*Amount returned in arrears for 1879, \$76,043 09.

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

## Document "B."

A Statement in detail of Expenditures, for which Requisitions were drawn by the Department of Public Works, during the Quarter ending December 31, 1880.

APPROPRIATIONS.			Free Floating Baths (Salaries)—		
Aqueduct—Repairs, Maintenance, and Strengthening—			Pay-rolls.....		
Brick and cement.....			\$2,151 75		
Building stone.....			Lamps and Gas—		
Coal.....			Crossheads.....		
Cotton.....			Decorating lamp.....		
Lumber.....			Foundation.....		
Oil.....			Glass.....		
Pay-rolls.....			Glass street signs.....		
Pump.....			Granite base stone.....		
Repairing pump.....			Lamps.....		
" tools.....			Lamp-bottoms.....		
Sand.....			Lamp-globes.....		
Stop-cock covers, etc.....			Lamp-irons.....		
Supplies.....			Lamp-posts.....		
Taxes.....			Lamp-tops.....		
Traveling expenses.....			Lettering lamps.....		
Wharfage, etc.....			Lighting Armory, Battery B.....		
Wood.....			" " 3d Regiment.....		
Total.....			" " 5th.....		
\$64,207 20			" " 7th.....		
Aqueduct—Repairs, Maintenance, and Strengthening (Salaries)—			" " 8th.....		
Pay-rolls.....			" " 9th.....		
\$4,552 98			" " 11th.....		
Boulevard, Roads, and Avenues, Maintenance of—			" " 12th.....		
Bridge stone.....			" " 22d.....		
Broken stone.....			" " 69th.....		
Caring for trees.....			" " 71st.....		
Coal.....			" " Separate Troop A.....		
Gravel.....			" " " B.....		
Horsekeeping.....			" Bath, Battery.....		
Lumber.....			" " Bethune street.....		
Pay-rolls.....			" " Gouverneur street.....		
Rent of office.....			" " 5th street.....		
Repairing harness.....			" " 10th street.....		
" instruments.....			" " 37th street.....		
" sprinklers.....			" " 51st street.....		
" tools.....			" " 112th street.....		
" wagon.....			" Brown-stone Building.....		
Steel.....			" City Hall.....		
Supplies.....			" County Jail.....		
Tools.....			" Court, Civil, 2d District.....		
Total.....			" " 4th.....		
\$10,418 64			" " 5th.....		
Boulevard, Roads, and Avenues, Maintenance of (Salaries)—			" " 6th.....		
Pay-rolls.....			" " 8th.....		
\$1,441 78			" " 9th.....		
Contingencies—Department of Public Works—			" " Police, 1st.....		
Atlases.....			" " 2d.....		
Auctioneer's fees.....			" " 3d.....		
Incidentals.....			" " 4th.....		
Service of expert.....			" " 5th.....		
" stenographer.....			" " Special Sessions.....		
Storage of stone.....			" Court-house, 3d District, clock.....		
Traveling expenses.....			" " New.....		
Total.....			" Engine-house, High Bridge.....		
\$2,178 00			" " Ninety-eighth street.....		
County Court-house Building, Completion of—			" Market, Catharine.....		
Changing steam coil.....			" " Centre.....		
Connecting hot-air pipe.....			" " Clinton.....		
Enclosing steam coil.....			" " Essex.....		
Pointing masonry.....			" " Fulton.....		
Steam-fitting.....			" " Jefferson.....		
Total.....			" " Tompkins.....		
\$1,652 34			" " Union.....		
Flagging Sidewalks and Fencing Vacant Lots in front of City Property—			" " Washington.....		
Jefferson Market.....			" Office, Corporation Attorney.....		
\$241 52			" " Department of Public Works.....		
Expense of Laying Four-foot Croton-mains—			" " Photometrical.....		
Tenth avenue, between Eighty-fifth street and Central Park.....			" " Receiver of Taxes.....		
\$6,353 55			" " Rivington Street Yard.....		
Expenses of Surveys and Maps—			" " South Gate-house.....		
Pay-rolls.....			" Streets, Central Gas-light Co.....		
\$473 75			" " Harlem.....		
Free Floating Baths—			" " Manhattan.....		
Coal and wood.....			" " Metropolitan.....		
Dockage.....			" " New York.....		
Ice.....			" " N. Y. Mutual.....		
Repairing baths.....			" " Northern.....		
Stove.....			" " Yonkers.....		
Supplies.....			Painting lamp-posts.....		
Towing baths.....			Pay-rolls—Lighters.....		
Traveling expenses.....			Rent of office.....		
Unmooring baths.....			Repairing lamp tops.....		
Total.....			Supplies.....		
\$1,288 65			Traveling expenses.....		
			Wood knobs.....		
			Total.....		
			\$128,090 92		

<b>Lamps and Gas (Salaries)—</b>			<b>Salaries—Department of Public Works—</b>	
Pay-rolls	\$1,979 64		Pay-rolls	\$24,599 37
<b>Laying Croton-pipes—</b>			<b>Salaries—Janitors, Civil and Police Courts—</b>	
Blasting rock	\$28 87		Pay-rolls	\$1,800 00
Cast-iron pipe	17,259 35		<b>Sewers—Repairing and Cleaning—</b>	
Cement	26 00		Atlas	\$50 00
Coal	87 50		Brick and cement	211 75
Excavating trench	700 00		Cleaning basins and culverts	2,100 00
Galvanized pipe	481 27		Correcting maps	100 00
Gaskets	18 65		Harness	37 35
Hydrant cups and chains	116 00		Horsekeeping	84 00
Hydrants	8,746 00		Law books	31 50
Laying mains, Blackwell's Island	3,845 28		Moulds	24 25
“ Elm and Washington streets, etc.	2,238 59		Pay-rolls	7,072 84
“ Washington and Beekman streets, etc.	3,702 36		Spur-pipe	49 50
“ Ninth avenue, Eighty-first street, etc.	4,884 66		Tools	31 40
Oil	37 50		Traveling expenses	162 60
Pay-rolls	10,104 09		Total	\$9,955 19
Pig lead	547 32		<b>Sewers—Repairing and Cleaning (Salaries)—</b>	
Repairing gas-mains	249 12		Pay-rolls	\$2,890 73
Rope, yarn, etc.	204 70		<b>Sewers—Repairing and Cleaning, for 1879—</b>	
Stop-cock boxes and covers	1,746 25		Repairing level	\$14 00
Stop-cocks, etc.	3,399 47		<b>Sewerage System (Salaries)—</b>	
Traveling expenses	68 18		Pay-rolls	\$4,469 83
Total	\$58,551 16		<b>Street Improvements—For Surveying, Monumenting, and Numbering Streets—</b>	
<b>Public Buildings—Construction and Repairs—</b>			Correcting maps	\$52 00
Brown Stone Building	\$491 76		Pay-rolls	949 24
Bureau Repairs and Supplies	196 07		Total	\$1,001 24
City Arsenal	90 84		<b>Supplies for and Cleaning Public Offices—</b>	
City Hall	173 54		Armory, Gatling Battery	\$84 75
City Prison	13 53		“ Separate Troop A	39 50
County Jail	23 70		“ 5th Regiment	44 50
Court, 2d District Civil	95 73		“ 7th “	408 75
“ 3d “ Police	8 40		“ 9th “	19 50
Court-house, New	887 44		“ 11th “	141 34
“ 3d District	181 17		“ 12th “	67 50
“ 5th “	29 73		“ 22d “	10 00
“ 7th “	74 81		“ 69th “	2 40
Market, Centre	254 55		“ 71st “	118 33
“ Clinton	93 91		Brown Stone Building	106 00
“ Essex	127 54		Bureau Repairs and Supplies	368 10
“ Fulton	15 00		City Hall	608 26
“ Jefferson	187 22		Court, Civil, 1st District	33 25
“ Tompkins	105 63		“ 2d “	90 85
“ Washington	515 07		“ 3d “	23 50
No. 31 Chambers street	1,441 72		“ 4th “	27 29
Nos. 7 and 11 West Thirteenth street	133 88		“ 5th “	78 24
Pay-rolls	466 50		“ 6th “	53 04
Register's Office	45 10		“ 7th “	32 50
Rivington Street Yard	78 83		“ 8th “	83 37
Twenty-fourth Street Pipe Yard	28 30		“ 9th “	54 79
Total	\$5,819 97		“ 10th “	69 25
<b>Public Drinking-hydrants—</b>			“ Police, 1st “	153 90
Putting in troughs	\$210 94		“ 2d “	4 00
Repairing hydrants	545 30		“ 3d “	96 29
Total	\$756 24		“ 4th “	4 00
<b>Removing Obstructions in Streets and Avenues—</b>			“ 5th “	117 04
Carting and labor	\$404 90		“ 6th “	62 47
Traveling expenses	62 50		“ Common Pleas	24 50
Total	\$467 40		“ Special Sessions	52 29
<b>Removing Obstructions in Streets and Avenues (Salaries)—</b>			“ Supreme	142 10
Pay-rolls	\$463 99		“ Supreme	346 51
<b>Repairing and Renewal of Pipes, Stop-cocks, etc.—</b>			Court-house, 3d District	333 06
Ice	\$21 59		“ 7th “	89 75
Meter packing	32 00		“ New	1,909 16
Pay-rolls	15,638 51		Department of Buildings	15 00
Repairing hydrants	696 87		“ Finance	472 01
Supplies	28 24		“ Public Works	21 25
Tapping cocks	975 00		“ Taxes and Assessments	7 50
Traveling expenses	21 25		Dog Pound	16 50
Total	\$17,413 46		No. 27 Chambers street	33 00
<b>Repairing and Renewal of Pipes, Stop-cocks, etc. (Salaries)—</b>			No. 31 “	132 80
Pay-rolls	\$9,121 39		Office, Corporation Attorney	68 42
<b>Repairs and Renewal of Pavements—</b>			“ Counsel	46 50
Curbing	\$199 58		“ District Attorney	17 10
Gutter-covers	51 25		“ Engineer's, One Hundred and Twenty-fifth street and Eighth avenue	7 92
Horse	275 00		“ Mayor	29 05
Paving gutters	1,056 38		“ Public Administrator	31 88
Pay-rolls	18,788 22		“ Surrogate	102 68
Repairing crosswalk	355 50		Pay-rolls	9,817 00
“ pavement	2,136 56		Yard at foot of Gansevoort street	5 50
“ tools	302 80		“ Rivington street	25 00
Sand	1,900 00		Total	\$16,839 19
Trucking stone	428 52		<b>Supplies for and Cleaning Public Offices (Salaries)—</b>	
Total	\$25,493 81		Pay-rolls	\$3,806 95
<b>Repaving Streets and Avenues (Salaries)—</b>			<b>Supplying Water to Shipping and for Building Purposes (Salaries)—</b>	
Pay-rolls	\$2,193 64		Pay-rolls	\$2,190 00
<b>Repaving Streets and Avenues—</b>			<b>Wells and Pumps—Repairing and Cleaning—</b>	
Flag stone	\$178 75		Repairing pump	\$37 60
Repaving Cliff street, T. Gearty	437 64		<b>Water Supply for the Twenty-fourth Ward—</b>	
“ Fulton street, J. Everard	15,143 49		Cast-iron pipe	\$939 60
“ Madison street, etc., W. A. Cumming	9,017 40		Drawing water	218 40
“ Seventh street and Second avenue, J. Loomis	4,571 70		Laying mains	531 91
“ Eleventh and Thirteenth streets	21,130 63		Pay-rolls	273 00
“ Fifty-seventh street, T. Murray	1,353 85		Repairing meter	88 00
“ Seventh and Greenwich avenues, L. W. Johnson	17,743 77		Taps	48 00
Sand	838 25		Total	\$2,098 91
Trucking stone	609 40		<b>RECAPITULATION OF APPROPRIATIONS.</b>	
Total	\$71,024 88		Aqueduct—Repairs, Maintenance, and Strengthening	\$64,207 20
<b>Repaving Streets and Avenues, for 1879—</b>			“ “ “ Salaries	4,552 98
Repaving Twenty-fourth street and First avenue, O. Fitzpatrick	\$1,763 93		Boulevards, Roads, and Avenues, Maintenance of	10,418 64
Trucking stone	199 85		“ “ “ Salaries	1,441 78
Total	\$1,963 78		Contingencies—Department of Public Works	2,178 00
<b>Roads and Avenues—Maintenance and Sprinkling—</b>			County Court-house Building, Completion of	1,652 34
Pay-rolls	\$3,690 47		Expense of Laying Four-foot Croton-mains	6,353 55
Repairing tools	197 81		“ Surveys and Maps	473 75
Stone chips	1,350 00		Flagging and Fencing in Front of City Property	241 52
Traveling expenses	62 50		Free Floating Baths	1,288 65
Total	\$5,300 78		“ Salaries	2,151 75
<b>Lamps and Gas (Salaries)—</b>			Lamps and Gas	128,090 92
Pay-rolls	\$1,979 64		“ Salaries	1,979 64
<b>Laying Croton-pipes—</b>			Laying Croton-pipes	58,551 16

Public Buildings—Construction and Repairs.....	\$5,819 97
"    Drinking-hydrants.....	756 24
Removing Obstructions in Streets and Avenues.....	467 40
"    "    Salaries.....	463 99
Repairing and Renewal of Pipes, Stop-cocks, etc.....	17,413 46
"    "    Salaries.....	9,121 39
Repairs and Renewal of Pavements.....	25,493 81
Repaving Streets and Avenues.....	71,024 88
"    "    1879.....	1,963 78
"    "    Salaries.....	2,193 64
Roads and Avenues—Maintenance and Sprinkling.....	5,300 78
Salaries—Department of Public Works.....	24,599 37
"    Janitors, Civil and Police Courts.....	1,800 00
Sewers—Repairing and Cleaning.....	9,955 19
"    "    1879.....	14 00
"    "    Salaries.....	2,890 73
Sewerage System—Salaries.....	4,469 83
Street Improvements—For Surveying, etc.....	1,001 24
Supplies for and Cleaning Public Offices.....	16,839 19
"    "    Salaries.....	3,806 95
Supplying Water to Shipping, etc.—Salaries.....	2,190 00
Water Supply for the Twenty-fourth Ward.....	2,098 91
Wells and Pumps—Repairing and Cleaning.....	37 60
Total.....	\$493,304 23

## FUNDS AND TRUST ACCOUNTS.

## CROTON WATER FUND.

Building fence.....	\$50 00
"    reservoir.....	3,836 88
Cast-iron pipe.....	6,167 79
Coal.....	44 00
Hardware.....	23 74
Horsekeeping.....	77 00
Instruments.....	211 00
Land.....	117,777 22
Legal services.....	12,164 62
Lumber.....	63 95
Pay-rolls.....	14,344 52
Printing.....	421 30
Rent of offices.....	105 00
Repairing tools.....	71 98
Right to draw water.....	7,650 00
Stenographer's fees.....	247 97
Stop-cocks and gearing.....	1,933 30
Taxes.....	12 60
Tools.....	93 10
Traveling expenses, etc.....	445 71
Total.....	\$165,741 68

## CROTON WATER-MAIN FUND.

Pay-rolls.....	\$490 71
CROTON WATER-MAIN FUND NO. 2.	
Building engine and boiler-house.....	\$3,150 00
Engine pumps and boilers.....	29,100 00
Horsekeeping.....	157 25
Packing.....	8 89
Pay-rolls.....	3,160 93
Radiator.....	490 00
Traveling expenses.....	19 60
Total.....	\$36,086 67

## METER STOCK.

Water meters.....	\$972 00
"    (setting).....	4,176 93
Total.....	\$5,148 93

## RESTORING AND REPAVING (SPECIAL).

Pay-rolls.....	\$535 75
Restoring pavement.....	3,455 00
Traveling expenses.....	63 90
Total.....	\$4,054 65

## STREET IMPROVEMENT FUND.

Fencing—	
Boulevard, between Eighty-third and Eighty-sixth streets, M. Mahoney.....	\$200 07
Lexington avenue, between Seventy-fifth and Seventy-sixth streets, M. Mahoney.....	65 19
Second avenue, between Eighty-fourth and Eighty-sixth streets, M. Mahoney.....	127 30
Seventy-third street, between Ninth and Tenth avenues, M. Mahoney.....	129 15
Seventy-sixth street, between Third and Lexington avenues, M. Mahoney.....	53 00
Seventy-seventh street, between Eighth and Ninth avenues, M. Mahoney.....	212 53
Total.....	\$787 24

Flagging—	
Sixty-third street, between Ninth and Tenth avenues, M. Mahoney.....	152 66

Paving—	
Lexington avenue, between Ninety-fourth and Ninety-fifth streets, D. McGrath.....	\$1,252 24
Fourth avenue, between Sixty-seventh and Seventy-second streets, D. McGrath.....	4,907 64
Forty-third street, between First avenue and East river, J. W. Barry, Jr.....	1,922 14
Fifty-sixth street, between Tenth and Eleventh avenues, J. W. Barry, Jr.....	3,555 04
Sixty-third street, between Eighth and Tenth avenues, J. W. Barry, Jr.....	2,495 50
Sixty-fourth street, between Boulevard and Tenth avenue, J. W. Barry, Jr.....	5,220 98
Sixty-fifth street, between Eighth and Ninth avenues, W. A. Cumming.....	4,180 21
Sixty-ninth street, between First and Third avenues, Charles Devlin.....	2,381 58
Seventy-sixth street, between Second avenue and Avenue A, J. Berkery.....	6,005 70
Seventy-sixth street, between Fourth and Madison avenues, Thomas F. Kane.....	2,350 68
Eightieth street, between Second avenue and Avenue A, F. McCullough.....	2,185 68
Ninety-fourth street, between Fourth and Lexington avenues, F. McCullough.....	2,229 67
One Hundred and Fourth street, between Fourth and Fifth avenues, D. McGrath.....	4,208 39
One Hundred and Twenty-eighth street, between Second and Sixth avenues, J. M. Shannon.....	15,047 40
Total.....	\$7,942 85

Receiving-basins—	
Front street, southeast corner Montgomery street, M. H. Moore.....	\$38 40
One Hundred and Forty-fifth street, southeast corner Eighth avenue, W. E. Dean.....	260 80
Fifth avenue, between Sixtieth and Sixty-first streets, M. H. Moore.....	10 95
Total.....	\$310 15

## Regulating, Grading, etc.—

Fourth avenue, between Ninety-sixth and One Hundred and Second streets, Thomas F. Kane.....	\$1,706 25
Sixty-sixth street, between Eighth avenue and Boulevard, J. Mulholland.....	1,259 65
Seventieth street, between Eighth and Tenth avenues, John Brady.....	1,400 00
Seventy-third street, between Third avenue and Harlem river, P. Farley.....	3,654 00
Seventy-sixth street, between Third and Fourth avenues, F. McCullough.....	822 34
Ninety-fifth street, between Lexington and Fifth avenues, J. Williams.....	1,134 00
Ninety-seventh street, between Eighth avenue and Boulevard, A. J. Riss.....	3,750 67
One Hundred and Second street, between Fifth avenue and Harlem river, J. Walsh.....	20,723 59
One Hundred and Third street, between First and Fifth avenues, J. C. Dowling.....	8,949 35
One Hundred and Twenty-fifth street, between Manhattan street and Boulevard, J. Phelan.....	1,512 00
One Hundred and Twenty-ninth street, between Seventh and Eighth avenues, J. F. Gallagher.....	193 75
Total.....	45,105 60

## Retaining Wall—

Forty-second street, between First and Second avenues, Edward Freel.....	9,457 88
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## Sewers—

Lexington avenue, from Seventy-second to Seventy-third street, J. H. McCabe.....	\$59 10
Lexington avenue, from One Hundred and Fourth to One Hundred and Fifth street, C. Devlin.....	82 20
Lexington avenue, from One Hundred and Twenty-fifth to One Hundred and Twenty-sixth street, P. T. Masterson.....	80 40
Lexington avenue, from One Hundred and Twenty-sixth to One Hundred and Twenty-seventh street, W. E. Dean.....	461 49
Fifth avenue, between Fifty-fifth and Fifty-ninth streets, J. Baird.....	4,384 14
Ninth avenue, between One Hundred and Fifteenth and Manhattan streets, W. E. Dean.....	3,284 78
Tenth avenue, between Eighty-third and Ninety-second streets, P. T. Masterson.....	5,886 82
Eleventh avenue, between Fifty-ninth and Sixtieth streets, M. H. Moore.....	49 20
Twelfth avenue, between One Hundred and Thirty-first and One Hundred and Thirty-fifth streets, P. T. Masterson.....	186 90
Sylvan place, between One Hundred and Twentieth and One Hundred and Twenty-first streets, J. B. Healy.....	58 50
Houston street, at East river, J. Baird.....	146 70
Water street, between Roosevelt street and James slip, J. P. Smith.....	1,427 13
West street, between Spring and Eleventh streets, J. Baird.....	8,540 70
Forty-third street, between First avenue and East river, E. J. McKim.....	134 70
Forty-third street, between Second and Third avenues, J. Everard.....	3,277 07
Fifty-eighth street, between First and Second avenues, J. J. Jones.....	116 40
Sixty-fourth street, between Eighth avenue and Boulevard, P. T. Masterson.....	163 80
Sixty-seventh street, between Eighth and Ninth avenues, P. Mulholland.....	3,170 39
Sixty-eighth, Sixty-ninth, and Seventieth streets, between First avenue and Avenue A, J. T. McDonald.....	5,268 28
Sixty-ninth street, between Ninth avenue and Boulevard, Butler & Reilly.....	123 30
Sixty-ninth and Seventieth streets, between Second and Third avenues, J. H. McCabe.....	316 80
Eighty-sixth street, between First avenue and Avenue B, M. P. H. Casey.....	1,949 68
Ninety-sixth street, between Fifth and Madison avenues, J. F. Gallagher.....	4,652 22
One Hundred and Fifth street, between Fourth and Fifth avenues, W. E. Dean.....	3,563 27
One Hundred and Seventh street, between Fourth and Lexington avenues, S. Smith.....	1,028 31
One Hundred and Tenth street, between New and Ninth avenues, M. Noonan.....	1,305 50
One Hundred and Twenty-eighth street, between Second and Third avenues, P. Mulholland.....	2,430 98
One Hundred and Thirtieth street, between Seventh avenue and summit east, W. E. Dean.....	614 02
One Hundred and Thirty-second street, between Seventh avenue and three hundred feet west, W. E. Dean.....	91 50
One Hundred and Thirty-fifth street, between Fifth avenue and Harlem river, E. Bradburn.....	3,083 88
Pay-rolls, Inspectors, Paving.....	55,938 16
"    "    Regulating, Grading, etc.....	1,634 50
"    "    Sewers.....	4,589 00
"    Engineers.....	6,085 00
Surveyors' fees.....	5,010 74
Total.....	3,958 29
Total.....	\$190,972 07

## STREET IMPROVEMENTS ABOVE FIFTY-NINTH STREET.

Eleventh avenue, between One Hundred and Fifty-fifth Street and Kingsbridge Road—	
Pay-rolls.....	\$965 30
Regulating, etc.....	5,161 27
Total.....	\$6,126 57

## RECAPITULATION OF FUNDS.

Croton Water Fund.....	\$165,741 68
Croton Water-main Fund.....	490 71
"    "    No. 2.....	36,086 67
Meter Stock.....	5,148 93
Restoring and Repaving.....	4,054 65
Street Improvement Fund.....	190,972 07
Street Improvements above Fifty-ninth Street.....	6,126 57
Total.....	\$408,621 28

## GENERAL SUMMARY.

Appropriations.....	\$493,304 23
Trust Accounts.....	408,621 28
Grand total.....	\$901,925 51

## Document "C."

Contracts made during the Three Months ending December 31, 1880.

DATE.	NATURE AND LOCATION OF WORK.	CONTRACTOR.	SURETIES.	ESTIMATED COST.
Oct. 9	Sewer in Eightieth street, between Tenth avenue and Boulevard.....	R. H. Treacy,	Patrick Tracy, 263 W. 42d street... P. J. Tracy, 70 E. 111th street...	\$3,630 00
" 11	Sewer in One Hundred and Fifth street, between Tenth avenue and Boulevard.....	Peter J. Masterson, 127th street and Seventh avenue.....	E. C. Sheehy, 1453 Third avenue... Thomas Pearson, 2 E. 84th street.....	1,457 50
" 11	Sewer in Lexington avenue, between One Hundred and Sixth and One Hundred and Eighth streets.....	John Slattery, 788 Fourth avenue...	James Slattery, 209 W. 57th street... William Hallihan, 349 W. 53d street...	2,460 00
" 15	Outlet sewer in One Hundred and Fifty-eighth street, from Hudson river to and through road or public drive, One Hundred and Fifty-seventh street and Tenth avenue, with branches.....	M. H. Moore, 220 E. 105th street...	Thomas McManus, 709 Lexington avenue... Timothy Donovan, 412 E. 114th street...	46,954 00
Nov. 1	Sewer in Seventy-sixth street, between Eighth and Tenth avenues.....	Thomas Hayden and Thomas Curry.....	D. A. Lindley, 17 South street..... E. M. Todd, 17 South street.....	10,443 00
" 6	Sewer in One Hundred and Seventh street, between Lexington and Fourth avenues.....	Samuel Smyth, 126 E. 70th street...	E. C. Sheehy, 1453 Third avenue... James McKeown, 48 Perry street.....	1,244 35
" 11	Sewer in Sixty-ninth street, between Eighth and Ninth avenues.....	John Mulholland, 309 E. 73d street.....	O. T. Marshall, 145 E. 78th street... M. McGrath, 231 E. 79th street...	8,247 50
Dec. 6	Sewer in One Hundred and Second street, between Third and Lexington avenues.....	Patrick Reilly, 1062 First avenue.....	E. C. Sheehy, 1453 Third avenue... Patrick Sheehy, 251 E. 83d street...	4,288 90
" 7	Sewer in Suffolk street, between Delancey and Rivington streets.....	William E. Dean, 531 E. 117th street...	James Rogers, 132d street, N. R.... Robert Pajor, 2389 Third avenue...	1,672 33
" 13	Sewer in Eighty-first street, between Tenth avenue and summit east of Tenth avenue.....	James J. Jones, 243 E. 84th street...	John McQuade, Lex. ave. and 89th st. Chas. Jones, 163d st. and Prospect ave	6,227 55
" 15	Sewer in One Hundred and Twenty-eighth street, between Seventh and Eighth avenues.....	J. F. Gallagher.....	Thomas McManus, 709 Lexington ave... Timothy Donovan, 412 E. 114th street...	2,245 00
" 15	Sewer in Lexington avenue, between One Hundred and Tenth and One Hundred and Fifteenth streets.....	J. F. Gallagher.....	Thomas McManus, 709 Lexington ave... Timothy Donovan, 412 E. 114th street...	3,506 50
Regulating and Grading, etc.				\$92,376 63
Oct. 1	Regulating, grading, etc., Fourth avenue, from Ninety-fourth to Ninety-sixth street.....	Thomas F. Kane, 126 E. 70th street...	Michael Kane, 126 E. 70th street... Thomas Kane, 126 E. 70th street...	\$3,666 37
" 1	Regulating, grading, etc., Fourth avenue, from Ninety-sixth to One Hundred and Second street.....	Thomas F. Kane, 126 E. 70th street...	Michael Kane, 126 E. 70th street... Thomas Kane, 126 E. 70th street...	17,100 00
" 1	Regulating, grading, etc., One Hundred and Seventeenth street, between Fifth and Sixth avenues.....	Thomas F. Kane, 126 E. 70th street...	Michael Kane, 126 E. 70th street... Thomas Kane, 126 E. 70th street...	5,741 00
" 8	Regulating, grading, etc., Sixty-first street, from Tenth to Eleventh avenue.....	William E. Dean, 531 E. 117th street...	Robert Pajor, 2389 Third avenue... James Rogers, 132d street, N. R....	1,695 10
" 11	Regulating, grading, etc., Fourth avenue, from One Hundred and Fifteenth to One Hundred and Sixteenth street.....	James J. Jones, 243 E. 84th street...	Thomas McQuade, Lex. ave. & 89th st. S. D. Bringham, 322 E. 80th street...	1,596 90
" 13	Regulating, grading, etc., Seventy-sixth street, from Fourth avenue to Third avenue.....	Francis McCullagh, 697 Third avenue.....	Patrick Sheehy, 251 E. 83d street... P. H. McCullagh, 240 E. 32d street...	1,176 40
" 20	Regulating, grading, etc., Ninety-fourth street, from Eighth avenue to the Boulevard.....	James Slattery, 207 W. 57th street...	Henry Tone, 114th st. & 10th ave. William Hallihan, 349 W. 53d street...	12,661 10
Nov. 4	Regulating, grading, etc., Eighty-fifth street, between Ninth and Tenth avenues.....	Thomas F. Kane, 126 E. 70th street...	Michael Kane, 126 E. 70th street... Thomas Kane, 126 E. 70th street...	4,487 80
" 11	Regulating, grading, etc., One Hundred and Fifty-third street, from St. Nicholas to Tenth avenue.....	James Reilly, 129th street & B'way	Theodore F. Tone, 130th street, N. R.... James Pettit, Tenth ave. & B'way	910 00
Dec. 7	Regulating, grading, etc., One Hundred and Seventy-fifth street, between Tenth avenue and Kingsbridge road.....	Patrick F. Curran and Nicholas Rogers....	William Cowan, Tenth ave. & B'way... James Pettit, Tenth ave. & B'way	21,963 00
" 9	Regulating, grading, etc., Seventy-first street, from Fifth avenue to the East river.....	Thomas Gearty, 415 E. 83d street...	Patrick Sheehy, 251 E. 83d street... Thomas Regan, 345 E. 37th street...	6,536 00
Paving.				\$77,533 67
Oct. 4	Paving Eightieth street, from Second avenue to Avenue A, with trap-block pavement.....	Francis McCullagh, 697 Third avenue...	Patrick Sheehy, 251 E. 83d street... Thomas Regan, 345 E. 37th street...	\$6,807 90
" 16	Paving Lexington avenue, from Ninety-fourth to Ninety-fifth street with trap-block pavement.....	Denis McGrath, Weehawken, N. J....	James Slattery, 207 W. 57th street... Joseph Keiser, 556 W. 41st street...	1,521 62
" 16	Paving Eighty-first street, from Second avenue to First avenue.....	Denis McGrath, Weehawken, N. J....	James Slattery, 207 W. 57th street... Joseph Keiser, 556 W. 41st street...	3,507 30
" 28	Paving One Hundred and Twenty-sixth street, from Seventh avenue to Avenue St. Nicholas (under chap. 476, Laws of 1875).....	James W. Barry, 40th street, N. R....	Bernard Maloney, 123 E. 116th street... James Fitzpatrick, 529 W. 42d street...	8,272 04
Croton Water-mains.				\$20,108 86
" 4	Paving Fifty-seventh street, between Fifth and Sixth avenues.....	Thomas Murray.....	Theo. F. Tone, 130th street, N. R.... John Berker, 10th ave. & Manh'n st.	\$1,554 00
" 2	Laying Croton-mains in Washington, Beekman, Mail, 154th, 162d, 167th, 170th, 175th, 180th streets, and Fourth and Morris avenues.....	Borstman & Cornwell, Jr., 304 E. 116th street...	James Kay, 158 Washington Mkt. P. M. Wilson, 86 Bank street.....	\$8,136 50
Miscellaneous.				\$15,400 00
Nov. 9	Furnishing 180 tons of 12-inch pipe, 220 tons of 6-inch pipe, and 30 tons of branches and special castings...	Warren Foundry & Machine Co., Phillipsburg	Robert Campbell, 5 Madison avenue... W. B. Scott, 37 E. 23d street...	\$15,400 00
" 10	Furnishing 155 tons of wrought pipe and 30 tons of branches and special castings.....	B. G. Clarke, 83 Grand street, Jersey City.....	P. R. Pyne, 25 E. 22d street... Samuel Stone, 21 W. 17th street...	8,522 50
Dec. 10	Furnishing, delivering, and laying a 48-inch cast-iron conduit pipe from Woodlawn to between West Mount Vernon and Bronxville, Westchester County, N. Y. ....	Francis Stollmeyer, 11 E. 77th street...	Henry Stollmeyer, 11 E. 77th street... David Babcock, 16 Broadway.....	280,657 50
Furnishing and lighting with illuminating gas the public buildings, offices, etc., mentioned in contract.				\$304,580 00
" 16	Furnishing and lighting with illuminating gas the public buildings, offices, etc., mentioned in contract.	N. Y. Gas-light Co., 157 Hester street...	John J. Cisco, 136 Fifth avenue... Percy R. Pyne, 25 E. 22d street.....	\$12,000 00

DATE.	NATURE AND LOCATION OF WORK.	CONTRACTOR.	SURETIES.	ESTIMATED COST.
Dec. 16	Furnishing and lighting with illuminating gas the public buildings, offices, etc., mentioned in contract.	Manhattan Gas-light Co.	John J. Cisco, 136 Fifth avenue... Percy R. Pyne, 25 E. 22d street.....	\$13,000 00
" 16	Furnishing and lighting with illuminating gas the public buildings, offices, etc., mentioned in contract.	Harlem Gas-light Co.	R. W. Rodman, 222 E. 124th street... Thomas Rutter, 849 Fifth avenue....	1,100 00
" 16	Furnishing and lighting with illuminating gas the public buildings, offices, etc., mentioned in contract.	Metropolitan Gas-light Co.	John P. Briggs, B'way & Chambers st. O. Zollikoffer, 210 W. 46th street...	4,000 00
" 30	Furnishing and lighting with gas the public lamps in all that part of the City of New York comprising the Twenty-third Ward.....	Central Gas-light Co.	John J. Crane, 15 W. 16th street... W. R. Beal, Alex. av., cor. 142d st.	20,000 00
" 30	Furnishing and lighting with gas the public lamps, etc., in that part of the Twenty-fourth Ward of the City of New York formerly constituting the town of West Farms..	Northern Gas-light Co.	R. A. Bruck, 25 E. 38th street... C. W. Bushgate, Fordham, N. Y. ....	14,500 00
				\$64,600 00
" 30	Rock excavation in sewer in One Hundred and Fifth street, between Tenth avenue and Boulevard.....	Peter J. Masterson, 127th street and Seventh avenue.....		\$365 50
" 8	Regulating, grading, etc., Ninth avenue, from the centre line of One Hundred and Fiftieth street to the westerly line of Avenue St. Nicholas.....	James Reilly, 129th street and Broadway.....		633 50
Oct. 14	Regulating and paving Sixty-second street, from west curb of Avenue A to line 123 feet east.....	Thomas Gearty, 415 E. 83d street.....		806 15
" 15	Fencing vacant lots on west side Boulevard, between Eighty-third and Eighty-fourth streets.....	M. Mahony, 65th street and First avenue.....		195 60
" 15	Fencing vacant lots on west side First avenue, between Seventy-third and Seventy-fourth streets, and in Seventy-third street 100 feet east of First avenue.....	M. Mahony, 65th street and First avenue.....		37 50
" 15	Fencing vacant lots on Second avenue, between Eighty-fourth and Eighty-fifth streets, and extending 150 feet from the corner of Second avenue on Eighty-fourth and Eighty-fifth streets westerly.....	M. Mahony, 65th street and First avenue.....		123 00
" 15	Fencing vacant lots on south side Seventy-sixth street, between Third and Lexington avenues.....	M. Mahony, 65th street and First avenue.....		52 20
Nov. 13	Fencing vacant lots south side Fifty-ninth street, between Sixth and Seventh avenues.....	M. Mahony, 65th street and First avenue.....		156 55
" 13	Fencing vacant lots north side Fifty-eighth street, between Sixth and Seventh avenues.....	M. Mahony, 65th street and First avenue.....		178 25
" 13	Fencing vacant lots south side Fifty-eighth street, between Sixth and Seventh avenues.....	M. Mahony, 65th street and First avenue.....		87 35
" 13	Fencing vacant lots on block bounded by Madison and Fifth avenues, Eighty-fifth and Eighty-sixth sts..	M. Mahony, 65th street and First avenue.....		176 08
" 13	Fencing vacant lots south side Eighty-third street, between Eighth and Ninth avenues, and east side Ninth avenue, between Eighty-second and Eighty-third streets..	M. Mahony, 65th street and First avenue.....		307 52
" 13	Fencing vacant lots both sides Fifth avenue, between Seventy-fifth and Seventy-sixth streets.....	M. Mahony, 65th street and First avenue.....		35 65
" 13	Fencing vacant lots north side Forty-fifth street, from Ninth to Tenth avenue.....	M. Mahony, 65th street and First avenue.....		48 05
" 13	Fencing vacant lots north and south sides Fifty-eighth street, from Sixth to Seventh avenue.....	M. A. Kellogg, 5½ Pine.....		672 32
RECAPITULATION.				\$3,875 22
12 Sewer contracts.....				\$92,376 63
11 Regulating and grading contracts.....				77,533 67
4 Paving contracts.....				20,108 86
1 " under chap. 476, Laws of 1875.....				1,554 00
1 Croton-main contract.....				8,136 50
3 Miscellaneous ".....				304,580 00
6 Gas contracts.....				64,600 00
15 Flagging and fencing contracts.....				3,875 22
53 Contracts.....				\$572,764 88

## Contracts Completed during the Three Months ending December 31, 1880.

DATE.	NATURE AND LOCATION OF WORK.	COST.
Oct. 5	Flagging sidewalks on both sides of Sixty-third street, between Ninth and Tenth avenues.....	\$166 14
" 5	Fencing vacant lots on south side Seventy-third street, between Ninth and Tenth avenues.....	154 35
" 8	Paving Fifty-sixth street, between Tenth and Eleventh avenues, with trap-block pavement.....	3,983 94
" 8	Regulating, grading, curb, gutter, and flagging Tenth avenue, from Manhattan to One Hundred and Fifty-fifth street.....	351,299 29
" 9	Fencing vacant lots on south side Seventy-seventh street, between Eighth and Ninth avenues.....	250 55
" 15	Fencing vacant lots on both sides Lexington avenue, between Seventy-fifth and Seventy-sixth streets.....	78 88
" 16	Regulating, grading, etc., four feet wide through the centre thereof in One Hundred and Third street, from First to Fifth avenue, excepting between Fourth and Lexington avenues.....	32,398 23
" 16	Regulating, setting curb, flagging, and paving Fourth avenue, from Sixty-seventh to Seventy-second street.....	13,206 70
" 16	Sewer in Ninety-sixth street, between Fifth and Madison avenues.....	5,533 05
" 21	Sewers in Ninth avenue and the New avenue east of Morningside Park, between One Hundred and Fifteenth street and Manhattan street, and in One Hundred and Sixteenth street, between New avenue next east of Morningside Park.....	15,222 69
" 22	Paving Seventy-sixth street, from Fourth to Madison avenue, with granite-block pavement.....	2,633 97
" 28	Paving Ninety-eighth street, from Lexington to Fourth avenue, with trap-block pavement.....	2,537 27
" 28	Sewer in Water street, between Roosevelt street and James Slip.....	1,722 63
Nov. 1	Paving Sixty-fourth street, from Boulevard to Tenth avenue, with granite-block pavement.....	5,750 72
" 11	Paving One Hundred and Fourth street, from Fourth to Fifth avenue, with trap-block pavement.....	4,760 29
" 17	Fencing vacant lots on south side Seventy-sixth street, between Third and Lexington avenues.....	67 21
" 17	Fencing vacant lots on Second avenue, between Eighty-fourth and Eighty-fifth streets, etc., etc.	152 21
" 22	Sewer in Forty-third street, between Second and Third avenues.....	8,281 59
" 22	Sewer in One Hundred and Thirtieth street, between Seventh avenue and summit east of Seventh avenue.....	827 17
" 22	Paving Lexington avenue, from a line 10 feet north of and parallel to the north curb of Ninety-fourth street, to the south curb of Ninety-fifth street.....	1,437 21
" 22	Fencing vacant lots on west side of Boulevard, from Eighty-third to Eighty-sixth street.....	252 13
Dec. 2	Regulating, grading, etc., Seventy-sixth street, from Fourth to Third avenue.....	1,306 88
" 10	Paving One Hundred and Twenty-eighth street, from Second to Sixth avenue.....	17,112 37
" 14	Sewers in One Hundred and Fifth street, between Fourth and Fifth avenues, and One Hundred and Sixth street, between Madison and Fifth avenues.....	4,303 66
" 16	Regulating, grading, etc., One Hundred and Second street, from Fifth avenue to Harlem river.	52,679 62
" 17	Receiving-basin on southeast corner One Hundred and Forty-fifth street and Eighth avenue.	358 75
" 17	Sewer in Lexington avenue, between One Hundred and Twenty-sixth and One Hundred and Twenty-seventh streets.....	614 58
" 17	Sewers in Sixty-eighth, Sixty-ninth, and Seventieth streets, between Avenue A and First avenue.	14,502 80
" 17	Sewer in One Hundred and Seventh street, between Lexington and Fourth avenues.....	1,308 16
" 20	Sewer in Lexington avenue, between One Hundred and Sixth and One Hundred and Eighth streets.....	2,587 13
" 27	Sewer in Lexington avenue, between Seventy-sixth and Seventy-eighth streets.....	446 64
" 27	Sewer in Sixty-seventh street, between Eighth and Ninth avenues.....	4,087 91
Oct. 15	Laying Croton-mains in Riverdale avenue and Dodge's lane, Riverdale district.....	1,782 48
" 15	Paving, with trap-block pavements, Eleventh street, between Third and Fourth avenues; Thirteenth street, between Eighth avenue and Gansevoort street; Gansevoort street, from Thirteenth street to Twelfth avenue; Twenty-first street, from First to Third avenue, and Jay street, between Hudson and West streets.....	22,394 56
" 25	Paving Seventh avenue, between Eleventh and Fourteenth streets, and Greenwich avenue, between Sixth and Eighth avenues, with granite-block pavement.....	25,261 16
Nov. 6	Paving Fulton street, between Broadway and South street, with granite-blocks, and relaying with trap-blocks taken therefrom, in Pearl street, Moore street, South street, William street, and Old Slip.....	38,611 21
" 15	Furnishing stop-cocks, stop-cock boxes, hydrants, etc.....	8,728 82
" 18	Paving Fifty-seventh street, between Fifth and Sixth avenues.....	1,565 39
Dec. 15	Laying Croton-mains in Randall's Island, Prospect place, etc.....	11,664 58
" 23	Building two pumping engines.....	64,300 00
		\$724,338 72



The engines have raised 1,000,000 gallons of water 100 feet high during September, 1880, with 1,708 pounds of coal; during October, 1880, with 1,620 pounds of coal, and during November, 1880, with 1,640 pounds of coal.

All the parts of the engines, pumps, etc., have been examined and found in good order, and show no extra wear or tear from their ninety days running.

The engines have been accepted.

The amount of water pumped each day at Ninety-eighth street..... 8,000,000 gallons.  
 " " " " High Bridge..... 2,500,000 "

—an increase since the cold weather commenced of 1,500,000 gallons per day.

The masonry of the tower has been completed, and as soon as the weather will permit will be cleaned and oiled, stairs inside finished, and the contract completed.

At the High Bridge the pumping engines have been used continuously during the last quarter and year. The small engine used for filling the tank in the tower failed, and, during the last quarter, was taken out and replaced by another small Worthington engine.

The large engines are in fair order and need few repairs. The brick work around the boiler set in 1875 requires resetting, and a new large boiler is necessary to replace the two old boilers placed in 1870 that are in such condition that no dependence can be placed on them.

One gang of men has been placing hydrants where called for by the Fire Department, and one making the necessary changes and extensions to extend the high service-supply.

Exhibit "B" gives location and size of pipe laid and hydrants placed.

#### LAYING 4-FOOT CROTON-MAIN TO CONNECT WITH THE OLD RESERVOIR IN THE CENTRAL PARK.

This work has been carried on during the past quarter, but has been delayed by the construction of a sewer in Tenth avenue.

3,618 lineal feet of 4-foot Croton-main laid in 1880.

#### SUPPLYING WATER TO THE TWENTY-FOURTH WARD.

There has been laid in this ward during the year 18,027 lineal feet of pipe, 24 hydrants placed, and 23 houses supplied with water through a six-inch meter, under a contract with Yonkers Water Commissioners, and pipes to the several houses are also metered.

#### SUPPLY OF WATER TO SHIPPING AND FOR BUILDING PURPOSES.

During the quarter permits have been issued—

156 for building purposes, amounting to..... \$4,076 50  
 20 for engines on wharves, amounting to..... 527 00  
 140 for shipping, amounting to..... 7,547 52  
 For water measured by meter, amounting to..... 11,043 63

\$23,194 65

#### AND DURING THE YEAR 1880.

719 for building purposes, amounting to..... \$19,175 16  
 56 for engines on wharves, amounting to..... 2,186 25  
 670 for shipping, amounting to..... 31,838 94  
 Water measured by meter, amounting to..... 59,938 17

\$113,138 52

#### METERS.

The placing of meters has been steadily carried on as fast as the force employed would allow, and the Inspectors on Waste of Water in Buildings have been employed in making the preliminary examinations of buildings before notices were sent to place meters.

Meters placed during the quarter ending December 31, 1880..... 688  
 " " " " year 1880..... 2,604  
 Number of meters now in use..... 4,002

#### Water Meters in use December 31, 1880.

	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	TOTAL
Hotels.....	6	47	125	58	43	25	6	..	310
Breweries, bottlers, and malt-houses.....	1	50	71	37	59	11	..	..	235
Charitable institutions.....	..	2	19	26	20	3	2	..	78
Offices.....	..	400	370	141	40	10	..	..	961
Manufacturing establishments.....	2	54	101	47	38	7	1	..	250
Gas-works.....	..	..	10	2	3	10	6	..	31
Railroads.....	3	66	52	5	7	17	18	..	168
Stables.....	..	725	347	39	..	12	5	..	1,130
Apartment-houses.....	..	1	11	23	11	1	..	..	47
Docks.....	..	5	10	..	18	34	29	..	96
Miscellaneous.....	12	146	305	97	81	23	4	..	668
Riverdale.....	1	23	2	..	..	1	..	1	28
Total.....	27	1,525	1,423	475	338	147	66	1	4,002

#### Average Number of Gallons of Water used per day through Meters.

NUMBER OF METERS.	WHERE USED.	GALLONS.
307	Hotels.....	1,239,389
235	Breweries, bottlers, and malt-houses.....	1,057,675
78	Charitable institutions.....	315,505
421	Offices.....	515,089
212	Manufacturing establishments.....	970,751
31	Gas companies.....	579,547
157	Railroads.....	1,295,284
1,070	Stables.....	843,332
41	Apartment-houses.....	147,852
572	Miscellaneous.....	1,592,811
96	Docks.....	1,245,000
26	Riverdale.....	8,500
3,246	Total.....	9,810,795

The balance of the meters have not been in long enough to get two readings, and an average of the water used per day through them.

The average daily use of water passing through 3,246 meters was 9,810,795 gallons, being more than one-tenth of the water brought into the city.

In 1879 the average number of gallons used per day through 1,398 meters was 7,712,334. These amounts show that the large consumers were first reached in placing them, and that those using water passing through meters are becoming more careful in its use.

#### Report of Examinations made by Inspectors relative to Leaky Fixtures and Waste of Water for the year ending December 31, 1880.

DISTRICT.	Whole Number of Buildings Inspected.	Number in which Plumbing was Defective or Water Wasted.	FAUCETS.		WATER CLOSETS OR URINALS.		HYDRANTS IN YARDS.		PIPES BURSTED OR LEAKING.	BALL COCKS WANTED.
			Leak.	Waste.	Leak.	Waste.	Leak.	Waste.		
Thirteenth.....	1,687	67	89	..	..	..	1	..	4	..
Fourteenth.....	1,210	11	12	..	3	7	3	..	..	..
Fifteenth.....	1,705	319	805	..	..	..	9	..	1	..
Sixteenth.....	1,333	414	438	62	48	21	69	..	..	..
Seventeenth.....	1,733	290	257	1	27	..	3	..	3	..
Eighteenth.....	1,686	304	129	180	29	34	2	12	1	1
Nineteenth.....	1,640	152	154	..	13	..	..	..	..	..
Twentieth.....	1,400	127	69	87	14	3	..	..	..	..
Twenty-first.....	1,532	399	351	10	104	95	2	9	5	1
Twenty-second.....	1,347	284	252	3	..	14	15	2	..	..
Twenty-third.....	1,609	121	125	..	23	1	..	..	..	..
Twenty-fourth.....	1,443	447	293	12	..	83	37	..	21	..
Total.....	18,347	2,935	2,974	355	251	290	95	99	37	2

The waste during the late cold weather has been excessive, very many people allowing the water to flow continuously to prevent their service pipes from freezing.

During the last three days of December, the daily use or waste was 8,000,000 gallons in excess of the average daily use in November.

This allowing of the water to run continuously to prevent the freezing in their pipes will necessitate authority to place meters on all water-takers or to compel the protection of the water pipes in private dwellings.

#### AQUEDUCT—REPAIRS, MAINTENANCE, AND STRENGTHENING.

The work of strengthening the aqueduct was carried on to the close of the first week in November, when the appropriation being nearly expended, the number of men employed was reduced to the usual winter force. During the quarter, on the 1st division the wooden apron of the Croton dam was repaired by thirty new six-inch plank, and on the bridge across the Croton river below the dam two hundred and fifty new plank laid, the fence around the high-service reservoir was rebuilt, the brick footway of the High Bridge was pointed, and the railing of the bridge and stairway painted, also the doors and windows of the engine-house and gate-houses.

On the aqueduct the usual routine work has been done in keeping clean the culverts and ditches of leaves, ice, and snow, and on the 8th division in cleaning stop-cocks, chambers, sewers, gate-house, chambers, etc.

The following table gives the amount of work accomplished in strengthening the aqueduct during the quarter ending December 31, also the amount for the year 1880:

DIVISION.	Lineal Feet of Arch Work Masonry.	Cubic Yards of Protection Wall.	Cubic Yards of Retaining Wall.	Cubic Yards of Stone Masonry.	Cubic Yards of Stone Quarried.	Cubic Yards of Earth Work.	Feet of Board Fence.
First.....	165	423	30	..	..	333	..
Second.....	534	25	..	..	..	..	444
Third.....	433	..	..	..	..	..	..
Fourth.....	208	..	..	..	..	..	..
Fifth.....	224	556	..	..	..	1,179	..
Sixth.....	345	..	..	..	..	..	..
Total for Quarter.....	1,909	1,004	30	..	..	1,512	444
Total Amount during 1880..	10,288	6,600	1,253	1,491	1,817	34,069	11,035

During the last four years 18,000 lineal feet of the aqueduct has been strengthened by turning another arch over the present one, raising the spandrels and protection walls, and removing a portion of the earth-covering from over the arch to the sides. This work has been most efficiently done, and the result most favorable. Many leaks have been stopped, and the aqueduct thus far made more secure.

Respectfully yours,

JOHN C. CAMPBELL,  
 Chief Engineer Croton Aqueduct.

#### EXHIBIT "A."

##### PIPE LAID IN 1880.

##### Forty-eight-inch.

Tenth avenue, between Ninety-second and Eighty-sixth streets.  
 Eighty-fifth street, between Eighth and Ninth avenues.

##### Twenty-inch.

Ninth avenue, between Ninety-seventh and Eighty-first streets.  
 Eighty-first street, between Eighth and Ninth avenues.  
 Seventy-eighth street, between Fourth and Fifth avenues.  
 Fifth avenue, between Seventy-eighth and Seventy-ninth streets.

##### Twelve-inch.

Boston avenue, between One Hundred and Sixty-ninth and One Hundred and Seventy-first streets.

Eleventh avenue, between Sixty-third and Sixty-fourth streets.  
 Eleventh avenue, between Sixty-seventh and Seventieth streets.

Sixth avenue, between One Hundred and Thirtieth and One Hundred and Thirty-third streets.  
 Courtland avenue, between One Hundred and Fifty-eighth and One Hundred and Sixty-third streets.

Eighth avenue, between Eighty-first and Eighty-third streets.  
 Riverside avenue, between Eighty-seventh and Ninety-sixth streets.

Ninety-sixth street, between Boulevard and Riverside avenue.  
 One Hundred and Thirty-eighth street, between Third avenue and Southern Boulevard.

Southern Boulevard, between One Hundred and Thirty-eighth and One Hundred and Forty-first streets.

Elm street, between Reade and Spring streets.  
 Washington street, between Battery place and Cedar street.

Washington street, between Canal and Little West Twelfth streets.  
 Beekman and Mail streets, between Nassau and Broadway.

First avenue, between Ninety-seventh and Ninety-ninth streets.

##### Six-inch.

In One Hundred and Fifty-first street, between Courtland and Railroad avenues.  
 In Madison avenue, between One Hundred and Seventy-seventh and Talmadge streets.

In Washington avenue, between One Hundred and Seventy-seventh and Talmadge streets.  
 In Concord avenue, between Wall and Westchester avenues.

In Cliff street, between Concord and Grove.  
 In Railroad avenue, between Morris and Fitch streets.

In One Hundred and Forty-third street, between College avenue and One Hundred and Forty-fourth street.

In One Hundred and Forty-fourth street, between Third and Willis avenues.  
 In College avenue, between One Hundred and Forty-fourth and One Hundred and Forty-fifth streets.

In One Hundred and Forty-fifth street, between Third and Brook avenues.  
 In Brook avenue, between One Hundred and Forty-fifth and One Hundred and Forty-sixth streets.

In Seventy-second street, between Ninth and Tenth avenues.  
 In Sixty-fourth street, between Tenth and Eleventh avenues.

In Forty-second street, between First avenue and East river.  
 In One Hundred and Thirty-second street, between Sixth and Seventh avenues.

In One Hundred and Forty-first street, between Third and College avenues.  
 In One Hundred and Fifty-fourth street, between Third and Courtland avenues.

In Seventy-sixth street, between Third and Lexington avenues.  
 In Seventy-fifth street, between Third and Lexington avenues.

In Seventy-second street, between First and Second avenues.  
 In Twenty-fourth Ward, from Yonkers south in Riverdale avenue.

In Bettner's, Randolph's, and Dodge's lane, etc.  
 In Walton avenue, between One Hundred and Fiftieth and One Hundred and Fifty-first streets.

In One Hundred and Third street, between Second and Third avenues.  
 In Sixty-seventh street, between Fifth and Madison avenues.

In Thomas street, between Kingsbridge road and School.  
 In Ogden avenue, between Aqueduct avenue and Jerome avenue.

In One Hundred and Fifty-seventh street, between Courtland and Railroad avenues.  
 In One Hundred and Sixty-fifth street, between Washington and Railroad avenues.

In Tenth avenue, between Eighty-first and Eighty-third streets.  
 In One Hundred and Tenth street, between Boulevard and Tenth avenue.

In Tenth avenue, between One Hundred and Ninth and One Hundred and Tenth streets.  
 In Morris avenue, between One Hundred and Fifty-fifth and One Hundred and Sixty-fourth streets.

In One Hundred and Sixty-first street, between Morris and Railroad avenues.  
 In Talmadge street, between Washington and Madison avenues.

In Ninth avenue, between Fifty-first and Fifty-fourth streets.  
 In Sixty-sixth street, between Second and Third avenues.

In Ninety-ninth street, between First and Second avenues.  
 In Prospect place, between One Hundred and Sixty-fifth street and Westchester avenue.

In Westchester avenue, between Prospect place and Concord avenue.  
 In One Hundred and Fifty-second street, between Courtland and Railroad avenues.

In Sedgwick avenue, between Wolf street and High Bridge.  
 In Wolf street, between Ogden and Sedgwick avenues.  
 In Seventieth street, between First and Second avenues.  
 In Avenue A, between Sixty-eighth and Seventieth streets.  
 In One Hundred and Fifty-fourth street, between Courtland and Morris avenues.  
 In Morris avenue, between One Hundred and Fifty-first and One Hundred and Fifty-fifth streets.  
 In One Hundred and Sixty-second street, between Washington and Courtland avenues.  
 In One Hundred and Sixty-seventh street, between Washington and Railroad avenues.  
 In One Hundred and Sixty-third street, between Washington and Third avenues.  
 In One Hundred and Fifty-ninth street, between Third and Elton avenues.  
 In One Hundred and Fiftieth street, between Third and Courtland avenues.  
 In One Hundred and First street, between Boulevard and Riverside avenue.  
 In Fourth avenue, between Sixteenth and Seventeenth streets.  
 In One Hundred and Forty-first street, between Willis and Brook avenues.  
 In One Hundred and Fourth street, between First and Second avenues.  
 In Sixty-ninth street, between Fifth and Madison avenues.  
 In One Hundred and Seventh street, between Second and Third avenues.  
 In One Hundred and Second street, between Third and Lexington avenues.  
 In One Hundred and Twenty-fourth street, between Eighth and St. Nicholas avenues.

## HYDRANTS SET IN 1880.

1 northwest corner Ninety-second street and Tenth avenue.  
 1 northwest corner Ninety-third street and Ninth avenue.  
 1 southwest corner Eighty-fourth street and Eighth avenue.  
 1 northwest corner Reade and Elm streets.  
 1 southeast corner Duane and Elm streets.  
 1 northwest corner Duane and Elm streets.  
 1 southeast corner Pearl and Elm streets.  
 1 northeast corner Pearl and Elm streets.  
 1 southeast corner Worth and Elm streets.  
 1 northeast corner Worth and Elm streets.  
 1 southwest corner Leonard and Elm streets.  
 1 northeast corner Leonard and Elm streets.  
 1 southeast corner Franklin and Elm streets.  
 1 northwest corner Franklin and Elm streets.  
 1 southwest corner White and Elm streets.  
 1 northeast corner White and Elm streets.  
 1 southwest corner Walker and Elm streets.  
 1 northeast corner Walker and Elm streets.  
 1 southeast corner Canal and Elm streets.  
 1 northeast corner Canal and Elm streets.  
 1 east side of Elm street, between Canal and Howard streets.  
 1 east side of Elm street, between Howard and Grand streets.  
 1 southwest corner Elm and Grand streets.  
 1 northeast corner Elm and Grand streets.  
 1 west side of Elm street, between Grand and Broome streets.  
 1 southwest corner Elm and Broome streets.  
 2 east side Elm street, between Broome and Spring streets.  
 1 junction Marion and Elm streets.  
 1 northeast corner Marion and Spring streets.  
 1 east side of Washington street, between Battery place and Morris street.  
 1 west side of Washington street, between Battery place and Morris street.  
 1 southeast corner Washington and Morris streets.  
 1 northwest corner Washington and Morris streets.  
 2 east side of Washington street, between Morris and Rector streets.  
 2 west side of Washington street, between Morris and Rector streets.  
 1 southwest corner Washington and Rector streets.  
 1 northeast corner Washington and Rector streets.  
 1 west side of Washington street, between Rector and Carlisle streets.  
 1 southwest corner Washington and Carlisle streets.  
 1 northeast corner Washington and Carlisle streets.  
 1 southwest corner Washington and Albany streets.  
 1 northeast corner Washington and Albany streets.  
 1 southwest corner Washington and Cedar streets.  
 1 northeast corner Washington and Cedar streets.  
 1 southwest corner Washington and Liberty streets.  
 1 northeast corner Washington and Liberty streets.  
 4 north side Mail street, between Broadway and Park row.  
 1 northeast corner Washington and Canal streets.  
 1 west side of Washington street, between Canal and Spring streets.  
 1 southeast corner Washington and Spring streets.  
 1 northwest corner Washington and Spring streets.  
 1 east side of Washington street, between Spring and Charlton streets.  
 1 southwest corner Washington and Charlton streets.  
 1 northeast corner Washington and Charlton streets.  
 1 southeast corner Washington and King streets.  
 1 northwest corner Washington and King streets.  
 1 southwest corner Washington and Houston streets.  
 1 northeast corner Washington and Houston streets.  
 1 southwest corner Washington and Clarkson streets.  
 1 northeast corner Washington and Clarkson streets.  
 1 southwest corner Washington and Leroy streets.  
 1 northeast corner Washington and Leroy streets.  
 1 southwest corner Washington and Morton streets.  
 1 northeast corner Washington and Morton streets.  
 1 southwest corner Washington and Barrow streets.  
 1 northeast corner Washington and Barrow streets.  
 1 southwest corner Washington and Christopher streets.  
 1 northeast corner Washington and Christopher streets.  
 1 southwest corner Washington and West Tenth streets.  
 1 northeast corner Washington and West Tenth streets.  
 1 southwest corner Washington and Charles streets.  
 1 northeast corner Washington and Charles streets.  
 1 southwest corner Washington and Perry streets.  
 1 northeast corner Washington and Perry streets.  
 1 southwest corner Washington and West Eleventh streets.  
 1 northeast corner Washington and West Eleventh streets.  
 1 southwest corner Washington and Bank streets.  
 1 northeast corner Washington and Bank streets.  
 1 southwest corner Washington and Bethune streets.  
 1 northeast corner Washington and Bethune streets.  
 1 southwest corner Washington and West Twelfth streets.  
 1 northeast corner Washington and West Twelfth streets.  
 1 southwest corner Washington and Jane streets.  
 1 northeast corner Washington and Jane streets.  
 1 southeast corner Washington and Horatio streets.

## Double Nozzle, Case Hydrants set 1880.

February—  
 1 on north side of Thirteenth street, between Broadway and Fourth avenue.  
 1 on east side of Fourth avenue, between Thirteenth and Fourteenth streets.  
 1 on north side of Waverley place, between Fifth avenue and Macdougall street.  
 1 on south side of Waverley place, between Sixth avenue and Macdougall street.  
 1 on south side of Eighth street, between Fifth avenue and Macdougall street.  
 1 on north side of Eighth street, between Sixth avenue and Macdougall street.  
 March—  
 1 on south side of Twenty-first street, 250 feet east of Sixth avenue.  
 1 on south side of Twenty-first street, 250 feet west of Fifth avenue.  
 1 on south side of Thirteenth street, 200 feet east of Seventh avenue.  
 April—  
 1 on south side of Thirteenth street, 200 feet west of Sixth avenue.  
 1 on south side of Twenty-first street, 200 feet west of Sixth avenue.  
 1 on south side of Twenty-first street, 250 feet east of Seventh avenue.  
 1 on south side of Twenty-first street, 250 feet west of Seventh avenue.  
 1 on south side of Twenty-first street, 200 feet east of Eighth avenue.  
 June—  
 1 on south side of Twenty-eighth street, 60 feet west of Broadway.  
 1 on northeast corner of Sixth avenue and Twenty-seventh street.  
 July—  
 1 on south side of Twenty-eighth street, 150 feet east of Broadway.  
 1 on north side of Twenty-eighth street, 200 feet east of Sixth avenue.

1 on southwest corner of Twenty-eighth street and Sixth avenue.  
 1 on southeast corner of Twenty-eighth street and Sixth avenue.  
 1 on south side of Twenty-eighth street, 200 feet west of Sixth avenue.  
 1 on south side of Twenty-eighth street, 250 feet east of Seventh avenue.  
 1 on south side of Twenty-eighth street, 250 feet west of Seventh avenue.  
 1 on south side of Twenty-eighth street, 200 feet east of Eighth avenue.  
 1 on south side of Twenty-ninth street, 125 feet west of Broadway.  
 1 on north side of Twenty-ninth street, 100 feet east of Sixth avenue.  
 1 on northeast corner Hudson and Watts streets.  
 1 on northeast corner Greene and Canal streets.  
 1 on southeast corner Greene and Spring streets.  
 1 on northwest corner Greene and Spring streets.  
 1 on southeast corner Greene and Prince streets.  
 1 on southwest corner Greene and Prince streets.  
 1 in front of 78 Greene street.  
 1 in front of 93 Greene street.  
 1 in front of 110 Greene street.  
 1 in front of 123 Greene street.  
 1 in front of 141 Greene street.  
 1 on west side of Greene street, 100 feet south of Bleecker street.  
 1 on southeast corner of Greene and Bleecker streets.  
 1 in front of 157 Greene street.  
 1 in front of 187 Greene street.  
 1 in front of 209 Greene street.  
 1 on southeast corner of Greene and West Third streets.  
 1 on northeast corner of Second street and Second avenue.  
 1 on southeast corner of Second street and Second avenue.  
 1 on south side of Second street, 175 feet west of Second avenue.  
 1 on northwest corner Washington and Horatio streets.  
 1 on east side of Washington street, between Horatio and Gansevoort streets.  
 1 on northeast corner Washington and Gansevoort streets.  
 1 on west side of Washington street, between Little West Twelfth and Gansevoort streets.  
 1 on southeast corner Washington and Little West Twelfth streets.  
 1 on south side of Twenty-ninth street, 150 feet east of Broadway.  
 1 on southeast corner of Twenty-ninth street and Sixth avenue.  
 1 on south side of Twenty-ninth street, 200 feet west of Sixth avenue.  
 1 on south side of Twenty-ninth street, 250 feet east of Seventh avenue.  
 1 on south side of Twenty-ninth street, 200 feet west of Seventh avenue.  
 1 on north side of Twenty-ninth street, 250 feet west of Seventh avenue.  
 1 on south side of Twenty-ninth street, 250 feet east of Eighth avenue.  
 1 on northeast corner of Sixth avenue and Thirty-first street.  
 1 on east side of Sixth avenue, between Thirtieth and Thirty-first streets.  
 1 on southwest corner of Sixth avenue and Thirty-second street.  
 1 on northwest corner of Sixth avenue and Thirty-second street.  
 1 on northwest corner of Sixth avenue and Thirty-third street.  
 1 on east side of Eighth avenue, between Thirty-second and Thirty-third streets.

## August—

1 on east side of Eighth avenue, between Thirty-third and Thirty-fourth streets.  
 1 on east side of Eighth avenue, between Thirty-third and Thirty-fourth streets.  
 1 on east side of Eighth avenue, between Thirty-fourth and Thirty-fifth streets.  
 1 on east side of Eighth avenue, between Thirty-fourth and Thirty-fifth streets.

## September—

1 in front of 422, east side, Sixth avenue, between Twenty-fifth and Twenty-sixth streets.  
 1 on southwest corner Sixth avenue and Twenty-fifth street.  
 1 on southeast corner Sixth avenue and Twenty-fourth street.  
 1 on west side of Sixth avenue, between Twenty-third and Twenty-fourth streets.  
 1 on west side of Sixth avenue, between Twenty-second and Twenty-third streets.  
 1 on southwest corner Sixth avenue and Twenty-second street.  
 1 on southeast corner Sixth avenue and Twenty-second street.  
 1 on southeast corner Sixth avenue and Twentieth street.  
 1 on southeast corner Sixth avenue and Nineteenth street.  
 1 on northeast corner Sixth avenue and Eighteenth street.

## October—

1 on Sixth avenue, opposite Minetta street, west side.  
 1 on Sixth avenue, opposite West Third street, west side.  
 1 on southeast corner Sixth avenue and Fourth street.  
 1 on southeast corner Sixth avenue and West Washington place.  
 1 on northwest corner Sixth avenue and Waverley place.  
 1 on west side of Sixth avenue, opposite Eighth street.  
 1 on southeast corner Sixth avenue and Eleventh street.  
 1 on southeast corner Sixth avenue and Twelfth street.  
 1 on southeast corner Sixth avenue and Thirteenth street.  
 1 on northeast corner Sixth avenue and Seventeenth street.  
 1 on southeast corner Eighth avenue and Bleecker street.  
 1 on northwest corner Hudson and West Eleventh street.  
 1 on northeast corner Hudson and West Eleventh street.  
 1 on northeast corner Bleecker and West Eleventh streets.  
 1 on southeast corner of Hudson and Perry streets.  
 1 on northwest corner Hudson and Charles streets.  
 1 on northeast corner Hudson and Barrow streets.  
 1 on northwest corner Hudson and Morton streets.  
 1 on northeast corner Hudson and Leroy streets.  
 1 on northwest corner Hudson and Clarkson streets.  
 1 on northwest corner Hudson and King streets.  
 1 on west side of Hudson street, opposite Grove street.  
 1 on northeast corner Hudson and Charlton streets.

## November—

1 on northwest corner Hudson and Spring streets.  
 1 on southwest corner Hudson and Desbrosses streets.  
 1 on southeast corner Hudson and Vestry streets.  
 1 on northeast corner Hudson and Laight streets.  
 1 on northwest corner Hudson and North Moore streets.  
 1 on northeast corner Hudson and North Moore streets.

## "A"—HYDRANTS SET IN 1880.

2 east side Railroad avenue, between Morris and Mott streets.  
 2 east side Railroad avenue, between Fitch and Mott streets.  
 2 west side Morris avenue, between One Hundred and Fifty-sixth and One Hundred and Fifty-eighth streets.  
 1 west side Morris avenue, between One Hundred and Fifty-eighth and One Hundred and Sixtieth streets.  
 1 west side Morris avenue, between One Hundred and Sixtieth and One Hundred and Sixty-first streets.  
 1 northeast corner Morris avenue and One Hundred and Sixty-second street.  
 1 northwest corner Morris avenue and One Hundred and Sixty-third street.  
 1 northwest corner Morris avenue and One Hundred and Sixty-fourth street.  
 1 northwest corner One Hundred and Fifty-seventh street and Courtland avenue.  
 1 northeast corner One Hundred and Fifty-seventh street and College avenue.  
 1 northeast corner One Hundred and Fifty-seventh street and Railroad avenue.  
 1 east side Railroad avenue, between One Hundred and Fifty-sixth and One Hundred and Fifty-seventh streets.  
 1 northeast corner Railroad avenue and One Hundred and Fifty-sixth street.  
 1 northwest corner One Hundred and Sixty-first street and Morris avenue.  
 1 northeast corner One Hundred and Sixty-first street and Morris avenue.  
 1 northwest corner One Hundred and Sixty-first street and Findlay avenue.  
 1 northwest corner One Hundred and Sixty-fifth street and Washington avenue.  
 1 northeast corner One Hundred and Sixty-fifth street and Railroad avenue.  
 1 Ogden avenue, north of Orchard street.  
 2 west side Ogden avenue, between Orchard and Birch streets.  
 1 west side Ogden avenue, between Union and Birch streets.  
 1 west side Ogden avenue, between Union and Devoe streets.  
 2 west side Ogden avenue, between Kemp and Devoe streets.  
 1 northwest corner Ogden avenue and High street.  
 1 northwest corner Ogden avenue and Jerome avenue.  
 3 west side Thomas street, between Kingsbridge road and Sanford street.  
 1 northwest corner One Hundred and Sixty-first street and Railroad avenue.  
 1 north side One Hundred and Sixty-second street, between Railroad and Courtland avenues.  
 1 northeast corner One Hundred and Fifty-fourth street and College avenue.  
 1 northeast corner One Hundred and Fifty-fourth street and Morris avenue.  
 2 north side One Hundred and Sixty-second street, between Elton and Melrose avenues.  
 1 southeast corner One Hundred and Sixty-second street and Courtland avenue.  
 1 northeast corner One Hundred and Sixty-seventh street and Railroad avenue.

1 north side One Hundred and Sixty-third street, between Third and Washington avenues.  
 1 northeast corner One Hundred and Sixty-third street and Washington avenue.  
 1 northwest corner One Hundred and Fifty-ninth street and Elton avenue.  
 1 northwest corner One Hundred and Fifty-ninth street and Melrose avenue.  
 1 northeast corner One Hundred and Fifty-ninth street and Courtland avenue.  
 1 northwest corner One Hundred and Fiftieth street and Third avenue.  
 1 northwest corner One Hundred and Fiftieth street and Melrose avenue.  
 1 northeast corner One Hundred and Fiftieth street and Courtland avenue.  
 1 northeast corner One Hundred and First street and Eleventh avenue.  
 1 north side of One Hundred and First street, between Eleventh avenue and Riverside drive.  
 1 northeast corner One Hundred and First street and Riverside drive.  
 1 northeast corner One Hundred and Forty-first street and Willis avenue.  
 1 north side One Hundred and Forty-first street, between Willis and Brook avenues.  
 1 southwest corner One Hundred and Forty-first street and Brook avenue.  
 1 north side of One Hundred and Fourth street, between First and Second avenues.  
 1 northwest corner One Hundred and Fourth street and First avenue.  
 1 north side of One Hundred and Seventh street, between Second and Third avenues.  
 1 northeast corner One Hundred and Seventh street and Second avenue.  
 1 Wolf street and Aqueduct avenue.  
 1 Wolf street and Sedgwick avenue.  
 1 west side Courtland avenue, between One Hundred and Sixty-third and One Hundred and Sixty-fourth streets.  
 1 west side Courtland avenue, between One Hundred and Sixtieth and One Hundred and Sixty-first streets.  
 1 west side Courtland avenue, between One Hundred and Fifty-ninth and One Hundred and Sixtieth streets.  
 1 west side Courtland avenue, between One Hundred and Fifty-eighth and One Hundred and Fifty-ninth streets.  
 1 north side of Fellar place, 120 feet west of Courtland avenue.  
 1 west side of Walton avenue, between One Hundred and Fiftieth and One Hundred and Fifty-first streets.  
 1 Inwood street and Hudson River Railroad.  
 1 northeast corner One Hundred and Thirty-fifth street and Seventh avenue.  
 1 One Hundred and Thirty-fifth street, between Sixth and Seventh avenues.  
 1 northwest corner One Hundred and Thirty-fifth street and Sixth avenue.  
 1 northwest corner Tenth avenue and Eighty-second street.  
 1 northwest corner Tenth avenue and Eighty-first street.  
 1 northwest corner Ninety-ninth street and Second avenue.  
 1 northeast corner Ninety-ninth street and Second avenue.  
 1 northwest corner Ninety-ninth street and First avenue.  
 1 northwest corner Tenth avenue and One Hundred and Ninth street.  
 1 northwest corner Tenth avenue and One Hundred and Tenth street.  
 1 southwest corner Tenth avenue and One Hundred and Tenth street.  
 1 northeast corner Boulevard and One Hundred and Tenth street.  
 1 north side One Hundred and Tenth street, between Boulevard and Tenth avenue.  
 1 northeast corner One Hundred and Third street and Third avenue.  
 1 northeast corner One Hundred and Third street and Second avenue.  
 1 northwest corner Sixty-seventh street and Madison avenue.  
 1 northwest corner One Hundred and Thirty-second street and Sixth avenue.  
 1 north side of One Hundred and Thirty-second street, between Sixth and Seventh avenues.  
 1 northwest corner One Hundred and Thirty-first street and Sixth avenue.  
 1 northwest corner One Hundred and Fifty-fourth street and Courtland avenue.  
 1 northeast corner One Hundred and Fifty-fourth street and Courtland avenue.  
 1 northwest corner One Hundred and Fifty-fourth street and Melrose avenue.  
 1 northeast corner One Hundred and Fifty-fourth street and Melrose avenue.  
 1 northwest corner One Hundred and Fifty-fourth street and Third avenue.  
 1 northwest corner One Hundred and Forty-first street and College avenue.  
 1 northeast corner One Hundred and Forty-first street and College avenue.  
 1 northwest corner One Hundred and Forty-first street and Third avenue.  
 1 northeast corner Seventy-sixth street and Lexington avenue.  
 1 northeast corner Seventy-fifth street and Lexington avenue.  
 1 northwest corner Seventy-fifth street and Third avenue.  
 1 south side Seventy-second street, between First and Second avenues.  
 1 northeast corner Seventy-second street and Second avenue.  
 1 northeast corner Forty-second street and First avenue.  
 1 Forty-second street and East river.  
 1 northwest corner Sixty-fourth street and Tenth avenue.  
 1 northeast corner Sixty-fourth street and Eleventh avenue.  
 1 northwest corner Seventy-second street and Ninth avenue.  
 1 south side Seventy-second street, between Ninth and Tenth avenues.  
 1 northwest corner Eleventh avenue and Sixty-ninth street.  
 1 northeast corner Eleventh avenue and Sixty-eighth street.  
 1 northeast corner Ninth avenue and Ninety-first street.  
 1 southeast corner Ninth avenue and Ninety-first street.  
 1 southeast corner Ninth avenue and Eighty-sixth street.  
 1 northwest corner Eighty-first street and Eighth avenue.  
 2 Seventy-ninth street, between Sixth and Seventh avenues.  
 1 northwest corner Seventy-ninth street and Fifth avenue.  
 4 west side Mott avenue, between One Hundred and Fifty-second and One Hundred and Fifty-eighth streets.  
 1 west side Mott avenue, between Ellis place and One Hundred and Sixty-fifth street.  
 1 southwest corner One Hundred and Sixty-fifth street and Mott avenue.  
 1 northwest corner One Hundred and Fifty-first street and Courtland avenue.  
 1 northwest corner One Hundred and Fifty-first street and College avenue.  
 1 northeast corner One Hundred and Fifty-first street and Morris avenue.  
 1 northeast corner One Hundred and Fifty-first street and Railroad avenue.  
 1 west side Washington avenue, between One Hundred and Seventy-seventh and One Hundred and Seventy-eighth streets.  
 1 west side Washington avenue, between One Hundred and Seventy-eighth and Monroe streets.  
 2 west side Washington avenue, between Talmadge and Monroe streets.  
 1 northwest corner Talmadge street and Madison avenue.  
 1 west side Madison avenue, between One Hundred and Seventy-seventh and One Hundred and Seventy-eighth streets.  
 1 west side Madison avenue, between One Hundred and Seventy-eighth and One Hundred and Seventy-ninth streets.  
 2 west side Madison avenue, between One Hundred and Seventy-ninth and Talmadge streets.  
 1 intersection of One Hundred and Forty-third and One Hundred and Forty-fourth streets.  
 1 northeast corner Willis avenue and One Hundred and Forty-fifth street.  
 1 north side One Hundred and Forty-fifth street, between Willis and Brook avenues.  
 1 northwest corner One Hundred and Forty-fifth street and Brook avenue.  
 2 west side Concord avenue, between Wall and One Hundred and Sixty-third streets.  
 1 west side Concord avenue, between Cliff and One Hundred and Sixty-third streets.  
 1 west side Concord avenue, between Cliff street and Denman place.  
 1 west side Concord avenue, between Cedar street and Denman place.  
 2 west side Concord avenue, between Cedar and One Hundred and Fifty-sixth streets.  
 1 northwest corner Concord and Westchester avenues.  
 1 northeast corner Concord avenue and Cliff street.  
 1 northeast corner Grove avenue and Cliff street.  
 3 west side Boston avenue, between One Hundred and Sixty-ninth and Jefferson streets.  
 1 west side Boston avenue, 200 feet north of Jefferson street.  
 1 southeast corner Seventy-eighth street and Fifth avenue.  
 1 northeast corner Riverside drive and Eighty-eighth street.  
 1 northeast corner Riverside drive and Ninetieth street.  
 1 northeast corner Riverside drive and Ninety-second street.  
 1 northeast corner Riverside drive and Ninety-fourth street.  
 1 northeast corner Riverside drive and Ninety-sixth street.  
 1 northwest corner Ninety-sixth street and Eleventh avenue.  
 1 north side of One Hundred and Thirty-eighth street, between Third and Alexander avenues.  
 1 west side of Alexander avenue, between One Hundred and Thirty-seventh and One Hundred and Thirty-eighth streets.  
 1 north side One Hundred and Thirty-eighth street, between Alexander and Willis avenues.  
 1 northeast corner One Hundred and Thirty-eighth street and Willis avenue.  
 1 northwest corner One Hundred and Thirty-eighth street and Brown place.  
 1 northeast corner One Hundred and Thirty-eighth street and Brook avenue.  
 1 northeast corner One Hundred and Thirty-eighth street and St. Ann's avenue.  
 1 northwest corner One Hundred and Thirty-eighth street and Cypress avenue.  
 1 northwest corner One Hundred and Thirty-eighth street and Southern Boulevard.  
 1 northeast corner One Hundred and Thirty-eighth street and Southern Boulevard.  
 1 southwest corner One Hundred and Fortieth street and Southern Boulevard.  
 1 southwest corner One Hundred and Fortieth street and Southern Boulevard.  
 1 northwest corner One Hundred and Forty-first street and Southern Boulevard.

1 northwest corner One Hundred and Fifty-second street and College avenue.  
 1 northeast corner One Hundred and Fifty-second street and Morris avenue.  
 1 northeast corner One Hundred and Fifty-second street and Railroad avenue.  
 1 One Hundred and Fifty-sixth street and Westchester avenue.  
 1 Union avenue and Westchester avenue.  
 1 Prospect avenue and Westchester avenue.  
 4 west side Prospect avenue, between Westchester avenue and One Hundred and Sixty-fifth street.  
 4 west side Sedgwick avenue, between Wolf street and Riverside place.

*Single Nozzle, Case Hydrants set 1880, 3½-inch Barrel.*

#### February—

1 on northwest corner of Fourth avenue and Eighth street.  
 1 on northeast corner of Fourth avenue and Ninth street.  
 1 on northeast corner of Fourth avenue and Tenth street.  
 1 on southeast corner of Twelfth street and Fourth avenue.  
 1 on west side of Fourth avenue, opposite Eleventh street.  
 1 on south side of Twelfth street, between University place and Broadway.

#### March—

1 on south side of Fourth street, between Sixth avenue and Macdougall street.  
 1 on south side of Washington place, between Sixth avenue and Macdougall street.  
 1 on south side of Ninth street, 250 feet east of Sixth avenue.  
 1 on south side of Ninth street, 250 feet west of Fifth avenue.  
 1 on south side of Ninth street, between Fifth avenue and University place.  
 1 on north side of Eleventh street, between Fifth avenue and University place.  
 1 on north side of Twelfth street, between Fifth avenue and University place.  
 1 on south side of Eleventh street, 250 feet west of Fifth avenue.  
 1 on south side of Eleventh street, 250 feet east of Sixth avenue.  
 1 on south side of Twelfth street, 250 feet west of Fifth avenue.  
 1 on south side of Twelfth street, 250 feet east of Sixth avenue.  
 1 on south side of Sixteenth street, 150 feet west of Broadway.  
 1 on north side of Sixteenth street, 250 feet west of Fifth avenue.  
 1 on north side of Sixteenth street, 150 feet east of Sixth avenue.  
 1 on south side of Seventeenth street, 450 feet west of Sixth avenue.  
 1 on south side of Seventeenth street, 200 feet east of Fifth avenue.  
 1 on north side of Nineteenth street, 250 feet west of Fifth avenue.  
 1 on south side of Nineteenth street, 250 feet east of Sixth avenue.  
 1 on south side of Twentieth street, 250 feet west of Fifth avenue.  
 1 on south side of Twentieth street, 250 feet east of Sixth avenue.  
 1 on south side of Twenty-second street, 250 feet west of Fifth avenue.  
 1 on south side of Twenty-second street, 250 feet east of Sixth avenue.

#### April—

1 on south side of Eleventh street, 250 feet east of Seventh avenue.  
 1 on south side of Eleventh street, 200 feet west of Sixth avenue.  
 1 on south side of Twelfth street, 250 feet east of Seventh avenue.  
 1 on south side of Twelfth street, 200 feet west of Sixth avenue.  
 1 on north side of Fifteenth street, 200 feet east of Eighth avenue.  
 1 on south side of Fifteenth street, 250 feet west of Seventh avenue.  
 1 on south side of Fifteenth street, 250 feet east of Seventh avenue.  
 1 on south side of Fifteenth street, 200 feet west of Sixth avenue.  
 1 on south side of Sixteenth street, 250 feet east of Seventh avenue.  
 1 on south side of Sixteenth street, 200 feet west of Seventh avenue.  
 1 on northwest corner Sixteenth street and Eighth avenue.  
 1 on south side of Seventeenth street, 400 feet east of Eighth avenue.  
 1 on southwest corner of Eighteenth street and Eighth avenue.  
 1 on south side of Eighteenth street, 200 feet west of Seventh avenue.  
 1 on south side of Eighteenth street, 250 feet east of Seventh avenue.  
 1 on north side of Eighteenth street, 200 feet west of Sixth avenue.  
 1 on south side of Nineteenth street, 200 feet east of Eighth avenue.  
 1 on south side of Nineteenth street, 250 feet east of Seventh avenue.  
 1 on north side of Nineteenth street, 200 feet west of Sixth avenue.  
 1 on southwest corner of Twentieth street and Eighth avenue.  
 1 on south side of Twentieth street, 200 feet west of Sixth avenue.  
 1 on south side of Twentieth street, 250 feet east of Seventh avenue.  
 1 on south side of Twenty-second street, 200 feet west of Sixth avenue.  
 1 on south side of Twenty-second street, 250 feet east of Seventh avenue.  
 1 on south side of Twenty-second street, 400 feet west of Seventh avenue.  
 1 on southeast corner of Twenty-second street and Eighth avenue.

#### May—

1 on south side of Twenty-fourth street, 200 feet east of Eighth avenue.  
 1 on south side of Twenty-fourth street, 250 feet west of Seventh avenue.  
 1 on north side of Twenty-fourth street, 250 feet east of Seventh avenue.  
 1 on south side of Twenty-fourth street, 200 feet west of Sixth avenue.  
 1 on north side of Twenty-fourth street, 200 feet east of Sixth avenue.  
 1 on north side of Twenty-fourth street, 200 feet west of Broadway.  
 1 on south side of Twenty-fifth street, 200 feet east of Eighth avenue.  
 1 on south side of Twenty-fifth street, 250 feet west of Seventh avenue.  
 1 on south side of Twenty-fifth street, 250 feet east of Seventh avenue.  
 1 on north side of Twenty-fifth street, 250 feet east of Seventh avenue.

#### June—

1 on northwest corner of Sixth avenue and Twenty-sixth street.  
 1 on southeast corner of Sixth avenue and Twenty-sixth street.  
 1 on north side of Twenty-sixth street, 200 feet east of Sixth avenue.  
 1 on south side of Twenty-sixth street, 200 feet west of Sixth avenue.  
 1 on south side of Twenty-sixth street, 250 feet east of Seventh avenue.  
 1 on north side of Twenty-seventh street, 150 feet west of Broadway.  
 1 on south side of Twenty-seventh street, 200 feet west of Sixth avenue.  
 1 on south side of Twenty-seventh street, 250 feet east of Seventh avenue.  
 1 on south side of Twenty-seventh street, 250 feet west of Seventh avenue.  
 1 on south side of Twenty-seventh street, 200 feet east of Eighth avenue.  
 1 on southeast corner of Thirtieth street and Sixth avenue.  
 1 on north side of Thirtieth street, 200 feet west of Fifth avenue.  
 1 on north side of Thirtieth street, 100 feet east of Broadway.  
 1 on south side of Thirtieth street, 75 feet west of Broadway.  
 1 on north side of Thirtieth street, 75 feet east of Sixth avenue.  
 1 on north side of Thirtieth street, 200 feet west of Sixth avenue.  
 1 on south side of Thirtieth street, 250 feet east of Seventh avenue.  
 1 on south side of Thirtieth street, 250 feet west of Seventh avenue.  
 1 on south side of Thirtieth street, 200 feet east of Eighth avenue.  
 1 on south side of Thirty-first street, 200 feet east of Eighth avenue.  
 1 on south side of Thirty-first street, 250 feet west of Ninth avenue.  
 1 on south side of Thirty-first street, 200 feet west of Sixth avenue.  
 1 on south side of Thirty-first street, 175 feet east of Broadway.  
 1 on north side of Thirty-second street, 200 feet west of Fifth avenue.  
 1 on south side of Thirty-second street, 200 feet east of Broadway.  
 1 on south side of Thirty-second street, 200 feet west of Sixth avenue.  
 1 on southeast corner of Thirty-third street and Broadway.  
 1 on south side of Thirty-second street, 250 feet east of Seventh avenue.  
 1 on south side of Thirty-second street, 200 feet west of Seventh avenue.  
 1 on south side of Thirty-second street, 250 feet east of Eighth avenue.  
 1 on south side of Thirty-third street, 250 feet west of Fifth avenue.  
 1 on south side of Thirty-third street, 250 feet east of Broadway.  
 1 on north side of Thirty-third street, 200 feet west of Sixth avenue.  
 1 on south side of Thirty-third street, 250 feet east of Seventh avenue.

#### August—

1 on south side of Thirty-third street, 200 feet east of Eighth avenue.  
 1 on south side of Thirty-third street, 200 feet west of Eighth avenue.  
 1 on south side of Thirty-fourth street, 200 feet west of Eighth avenue.  
 1 on south side of Thirty-fifth street, 200 feet west of Eighth avenue.  
 1 on south side of Thirty-sixth street, 200 feet west of Eighth avenue.  
 1 on south side of Thirty-seventh street, 200 feet west of Eighth avenue.

#### November—

1 on north side of King street, between Hudson and Greenwich streets.  
 1 on north side of Charlton street, between Hudson and Greenwich streets.  
 1 on the south side of Vandam street, between Hudson and Greenwich streets.  
 1 on west side of Renwick street, 200 feet south of Spring street.  
 1 on south side of First street, 150 feet west of Second avenue.  
 1 on south side of First street, 150 feet east of Second avenue.  
 1 on southeast corner of Second avenue and First street.

## Hydrants set 1880.

## January—

- 1 northwest corner Sixty-sixth street and Second avenue.
- 1 north side of Twenty-first street, at East river.
- 1 north side of Ninth street, between Third and Fourth avenues.
- 1 south side of Tenth street, between Third and Fourth avenues.
- 1 south side of Eleventh street, between Third and Fourth avenues.
- 1 north side of Twelfth street, between Third and Fourth avenues.
- 1 north side of Eighteenth street, between Broadway and Fourth avenue.
- 1 south side of Eighteenth street, between Broadway and Fourth avenue.
- 1 south side of Nineteenth street, between Broadway and Fourth avenue.
- 1 south side of Nineteenth street, between Broadway and Fourth avenue.
- 1 south side of Twenty-second street, between Broadway and Fourth avenue.
- 1 on Twenty-fifth street, 200 feet west of Sixth avenue.
- 1 on southeast corner Broadway and Fifty-first street.
- 1 on east side of Avenue A, between Sixty-seventh and Sixty-eighth streets.
- 1 on southeast corner of Twelfth avenue and Fifty-ninth street.

## October—

- 1 on southwest corner of Charles and Washington streets.

## November—

- 1 on northwest corner of Sixty-ninth street and Madison avenue.

## December—

- 1 on northwest corner of One Hundred and Second street and Third avenue.
- 1 on northeast corner of One Hundred and Second street and Lexington avenue.

## No. 1 Hydrants set in 1880.

- 1 at Bettner's lane and Cuthbert's lane.
- 1 at Bettner's lane and Randolph's lane.
- 1 at foot of Randolph's lane.
- 3 on Bettner's lane, between Randolph's lane and River avenue.
- 1 at Bettner's lane and River avenue.
- 1 southwest corner River and Pallisade avenues.
- 1 West street, 900 feet south of River avenue.
- 1 west side Pallisade avenue, between South street and River avenue.
- 1 west side Pallisade avenue, between Spaulding's lane and South street.
- 1 south side Spaulding's lane, between Pallisade and Riverdale avenues.
- 1 on Delafield's property, 300 feet south of Delafield's lane.
- 1 on Delafield's lane.
- 1 northwest corner Delafield's lane and Riverdale avenue.
- 2 west side Riverdale avenue, between Delafield's and Spaulding's lanes.
- 1 east side Riverdale avenue, at Spaulding's lane.
- 1 east side Riverdale avenue, near South street.
- 4 east side Riverdale avenue, between River avenue and Mount St. Vincent.
- 1 Randall's Island, near laundry.
- 1 Randall's Island, near branch Penitentiary.
- 1 in front of workshops on Blackwell's Island.
- 1 in front of workshops on Blackwell's Island.
- 2 on main line.
- 1 on north side Seventieth street, between First and Second avenues.
- 1 on northeast corner Boulevard and Ninety-second street.
- 1 on south side of One Hundred and Twenty-sixth street, 150 feet east of Eighth avenue.
- 1 on south side Twenty-second street, east of Avenue A.
- 1 No. 2 hydrant in front of wash-house, Blackwell's Island.

## Document "E."

DEPARTMENT OF PUBLIC WORKS,  
WATER PURVEYOR'S OFFICE, 31 CHAMBERS STREET,  
NEW YORK, January 12, 1881.

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

SIR—I have the honor to submit herewith the report of the business of this Bureau for the three months ending December 31, 1880, together with the further information requested by you.

## REPAIRING AND RENEWAL OF PIPES, STOP-COCKS, ETC.

The Croton water-mains, stop-cocks, and fire-hydrants throughout the city have been kept in good repair during the quarter. All breakages have been promptly attended to and without inconvenience to the public. Many of the old fire-hydrants and mains have become worn out and new hydrants and sections of mains have necessarily been substituted, particularly in the lower portion of the city.

## REPAIRS AND RENEWAL OF PAVEMENTS.

Little work was done during the quarter in repairing pavements. Up to the time when the frost prevented any work under this head, all dangerous places in the pavements were promptly repaired. Under a permit granted by this Department, and without expense to the city, the International Pavement Company paved the roadway of Fifth avenue, between Forty-sixth and Forty-seventh streets, with compressed asphalt blocks. It was only completed at the beginning of the cold weather, so that an examination of it as to the effect of travel upon it, its slipperiness, etc., was precluded. The old stone blocks taken up when this asphalt was laid were removed to Thirty-eighth street, between Tenth and Eleventh avenues, where they will be laid in the spring, replacing an old cobble pavement. The length and area of pavements entirely relaid from curb to curb during the year is shown in the statement inclosed.

## REPAVING STREETS AND AVENUES, CHAPTER 476, LAWS OF 1875.

The early occurrence of the cold weather, combined with the difficulty of getting stone blocks for the pavement, prevented the completion of two of the contracts made under this head; work on these is, however, partly done, and will be speedily finished as soon as the weather will permit. The extent of the pavement, and the streets and avenues where laid, are given in the statement hereto appended.

## PUBLIC DRINKING HYDRANTS.

Owing to the scarcity of Croton water, the hydrants for man and beast were shut off earlier the last fall than usual. All of the hydrants have been kept in good order, and several new ones purchased and erected. There are now 558 public drinking hydrants in the city under the care of this Department.

## BOULEVARDS, ROADS, AND AVENUES, MAINTENANCE OF.

For a report of the business done under this head you are respectfully referred to the statement of Joseph K. Choate, hereto appended.

Number of men employed during the months of October, November, and December, 1880, with amounts of pay-rolls:

MONTHS, 1880.	REPAIRS AND RENEWAL OF PAVEMENTS.		REPAIRING AND RENEWAL OF PIPES, STOP-COCKS, ETC.		CROTON WATER MAIN FUND, No. 1.		CROTON WATER MAIN FUND, No. 2.		LAYING CROTON PIPES.	
	No. Men.		No. Men.		No. Men.		No. Men.		No. Men.	
October.....	226	\$10,496 02	66	\$3,817 27	..	.....	20	\$1,042 35	18	\$902 50
November.....	107	2,039 25	76	3,868 27	28	\$338 79	12	512 06	25	1,044 55
December.....	14	816 18	66	3,888 51	2	152 00	..	.....	28	1,210 11
Total....	347	\$13,351 45	208	\$11,574 05	30	\$490 79	32	\$1,554 41	71	\$3,157 16

Number of vault permits issued during the quarter was twenty-nine (29). Amount received for same was \$14,129.43.

During the year 1880, one hundred and forty-three (143) permits were issued, and there was received for same, \$39,549.00.

Respectfully,

DANIEL O'REILLY, Water Purveyor.

BUREAU OF WATER PURVEYOR,  
OFFICE OF ENGINEER-IN-CHARGE BOULEVARD, ROADS, AND AVENUES,  
January 1, 1881.

DANIEL O'REILLY, Esq., Water Purveyor:

SIR—Agreeably to your instructions, I respectfully submit the following report of the work done during the past three months; also a resumé of what has been done during the past year within the jurisdiction of the Water Purveyor under the immediate care of the Engineer-in-Charge of Roads and Avenues.

The appropriation for maintenance, during 1880, of all macadamized and gravel boulevards, streets, and avenues, was—

For labor, materials, etc.....\$46,000 00  
" supervision (salaries).....4,000 00  
" " by transfer.....500 00

Total appropriation.....\$50,500 00  
Amount expended to April 1, 1880.....\$7,509 92  
" from March 31 to July 1.....15,867 67  
" " June 30 to October 1.....16,937 26  
" " September 30 to January 1, 1881.....10,183 43

Balance.....\$1 72

The expenses during the past three months are specified as follows:

Sprinkling.....\$1,197 85  
Cleaning roads and gutters.....1,572 26  
Repairing roads.....1,390 73  
Cleaning basins.....506 55  
Repairing monitors, hand-carts, snow-ploughs, etc.....530 16  
Removing snow.....74 23  
Material.....2,392 12  
General expenses, including supervision, Foreman's time, Watchman, repairing tools, etc.....2,519 53

Total.....\$10,183 43

The labor was thus distributed with reference to the various boulevards:

Avenue St. Nicholas, One Hundred and Tenth to One Hundred and Twenty-fifth street.....\$500 37  
Avenue St. Nicholas, One Hundred and Twenty-fifth to One Hundred and Fifty-fifth street.....375 52  
Boulevard, south of Manhattan street.....707 48  
" north.....438 09  
Sixth avenue, One Hundred and Tenth street, north.....258 96  
Seventh " ".....839 82  
Fifth " Fifty-ninth to Ninetieth street.....1,189 86  
Fifth " One Hundred and Twenty-fourth to One Hundred and Thirtieth street.....76 99  
Other streets and avenues.....884 69

Total.....\$5,271 78

For the entire year the various items of expenditure were as follows:

Sprinkling.....\$8,581 10  
Cleaning roads and gutters.....9,183 08  
Spreading material for road surfacing.....1,511 53  
Repairing roads.....1,953 78  
Cleaning basins.....1,630 11  
Removing snow.....100 73  
Building monitors.....156 00  
Repairing monitors, rollers, hand-carts, etc.....2,831 64  
Maintaining trees.....350 10  
Material.....10,191 88  
General expenses, including supervision, Foreman's time, Watchman, repairing tools, etc.....8,508 33

Total.....\$50,498 28

The labor for the year was apportioned with reference to the various boulevards as follows:

Avenue St. Nicholas, One Hundred and Tenth to One Hundred and Twenty-fifth street.....\$1,973 35  
Avenue St. Nicholas, One Hundred and Twenty-fifth to One Hundred and Fifty-fifth street.....3,118 90  
Boulevard, south of Manhattan street.....4,266 44  
Boulevard, north of Manhattan street.....2,447 15  
Sixth avenue, One Hundred and Tenth street, north.....2,017 67  
Seventh avenue, One Hundred and Tenth street, north.....4,939 70  
Fifth avenue, Fifty-ninth to Ninetieth street.....5,903 19  
Fifth avenue, One Hundred and Twenty-fourth to One Hundred and Thirtieth street.....876 51  
Other streets and avenues.....8,773 46

Total.....\$34,816 37

The repaving of Fifth avenue with macadamized pavement, from Seventy-second to Ninetieth street, was completed June 20, 1880; 21,902 square yards of pavement having been laid since the commencement of the work.

The following amounts were paid during the year on this account:

To William Everard, contractor.....\$26,210 36  
To supervision, Engineers, Inspectors, etc.....332 95  
Total.....\$26,543 31

Owing to the wearing away of the fine stone used in the building of Fifth avenue, large areas of this roadway have been taken up and replaced with a larger size (stone), which gives promise of standing the heavy traffic and keeping a good wheelway.

Seventh avenue, from One Hundred and Tenth street to Harlem river, and Sixth avenue, from One Hundred and Thirty-fifth street to One Hundred and Forty-fifth street, were covered with sand and clay similar to that used in 1879 with so much success; all of the other avenues and streets have received a light dressing of Roa Hook gravel, which has given them a good smooth surface and kept the stone from picking up.

All of these avenues and streets are in a very good condition, and I would recommend about the same treatment for the present year.

Owing to the smallness of the appropriation for 1880, very little has been done to the Western Boulevard, and during the coming season a large amount of repairing will have to be done to keep it in a safe condition.

I would also recommend the paving with 4-foot gutters all of the steep grades on the different avenues, as it is almost impossible to keep them from washing out with every storm.

A skilled gardener has been employed the past season to thoroughly prune, cultivate, and care for the young trees planted on the various avenues. He has performed his work in a skillful and thorough manner and the trees are now in a flourishing condition.

I would recommend his employment during the present year.

I would also suggest the laying of a water-pipe and the placing of hydrants at convenient points in Seventh avenue north of One Hundred and Thirtieth-eighth street, to facilitate the taking of water in sprinkling the upper part of this avenue, it being almost impossible and very expensive to haul the water and lay the dust to McComb's Dam Bridge.

The present force consists of 2 foremen, 3 skilled laborers, 1 blacksmith, 1 carpenter, 1 watchman, 3 carts, 8 two-horse teams, and 20 laborers.

The extent and description of the various roadways maintained during the year are exhibited in the following table:

BOULEVARDS, ROADS, AND AVENUES.	KIND OF ROADWAY.	Width of Roadway in Feet.	Area in Square Yards.	Length in Miles.
Boulevard, from Circle, Fifty-ninth street, to One Hundred and Fifty-fifth street.....	Telford-macadam.....	80 & 102	256,181	4.894
Sixth avenue, from One Hundred and Tenth street to Harlem river.....	".....	80	84,835	1.807
Seventh avenue, from One Hundred and Tenth street to Harlem river.....	".....	80	103,313	2.201
Avenue St. Nicholas, from One Hundred and Tenth to One Hundred and Fifty-fifth street.....	Gravel.....	55	75,505	2.346
Tenth avenue, from One Hundred and Fifty-fifth to One Hundred and Ninety-fourth street.....	Macadam 50, earth 20.....	70	79,283	1.930
One Hundred and Fifty-fifth street, from Ninth avenue to Hudson river.....	Grawack, Telford-macadam.....	60	17,506	0.485
Manhattan street, from Avenue St. Nicholas to One Hundred and Twenty-fifth street.....	Telford-macadam.....	70	5,709	0.139
Avenue A, from Fifty-seventh to Eighty-sixth street.....	".....	60	52,528	1.458
Avenue A, from One Hundred and Sixteenth to One Hundred and Twenty-fourth street.....	".....	60	8,791	0.248
Seventy-second street, from Avenue A to Fifth avenue.....	".....	40	18,836	0.779
Seventy-second street, from Eighth avenue to Riverside Drive.....	".....	60	19,933	0.605
One Hundred and Tenth street, from First avenue to Riverside Drive.....	".....	30 & 40	34,794	1.734
One Hundred and Sixteenth street, from Avenue A to Seventh avenue.....	".....	40 & 60	32,382	1.115

BOULEVARDS, ROADS AND AVENUES.	KIND OF ROADWAY.	Width of Roadway in Feet.	Area in Square Yards.	Length in Miles.
One Hundred and Twenty-second street, from Tenth avenue to Riverside Drive .....	Telford-macadam .....	42	6,255	0.275
One Hundred and Twenty-third street, from avenue west of Mt. Morris Park to Eighth avenue .....	" .....	30	6,903	0.431
One Hundred and Twenty-fourth street, from Avenue A to Seventh avenue .....	" .....	30	14,961	0.840
One Hundred and Forty-fifth street, from Sixth avenue to the Boulevard .....	" .....	60	27,923	0.809
Ninth avenue, One Hundred and Twenty-third to One Hundred and Twenty-sixth street .....	" .....	60	4,441	0.113
One Hundred and Fifty-second street, from Avenue St. Nicholas to Boulevard .....	Macadam .....	30	5,018	0.269
First avenue, from Ninety-second to One Hundred and Sixteenth street .....	Telford-macadam .....	60	12,252	0.348
Avenue B, from Seventy-ninth to Eighty-sixth street .....	Earth .....	60	11,935	0.339
Fifth avenue, from Fifty-ninth to Ninetieth street .....	Telford-macadam .....	40	36,714	1.504
Fifth avenue, from One Hundred and Twenty-fourth to One Hundred and Thirtieth street .....	" .....	40	6,996	0.293
Total .....			922,994	25.02

Respectfully submitted,  
JOSEPH K. CHOATE,  
Assistant Engineer.

Statement of Contracts for Paving done in 1880.  
(Repaving, Chap. 476, Laws of 1875.)

LOCATION OF WORK.	LENGTH, FEET.		KIND OF PAVEMENT REMOVED.	SQUARE YARDS.
	Granite.	Trap.		
Eleventh street, from Third to Fourth avenue .....	417.8		Cobble .....	1,366
Thirteenth and Gansevoort streets, from Eighth to Twelfth avenue .....	1,718.2		" .....	5,183
Twenty-first street, from First to Third avenue .....	1,454.8		" .....	4,995
Jay street, from Hudson to West street .....	373.9		" .....	1,445
Cliff street, from Fulton to Ferry street .....	528.8		Wood .....	1,230
Twelfth street, from Fifth to Sixth avenue .....	725.2		Cobble .....	2,363
Gold street, from Frankfort to Liberty street .....	1,578.3		" .....	3,334
Forty-second street, from Second to Third avenue .....	787.8		" .....	5,333
Jefferson street, from Division to South street .....	1,266.0		" .....	4,338
Madison street, from Clinton to Grand street .....	2,010.0		" .....	7,160
Fifty-sixth street, from Fifth to Sixth and Seventh to Ninth avenue .....	2,486.5		Wood .....	8,257
Fifty-eighth street, from Sixth to Ninth avenue .....	2,233.2		" .....	7,446
Walker street, from Baxter street to West Broadway .....	1,385.2		Cobble .....	4,857
Fifty-seventh street, from Fifth to Sixth avenue .....	945.8		Wood .....	4,231
Fulton street, from Broadway to South street .....	2,399.8		Belgian .....	9,593
Pearl street, from State to Whitehall street .....	327.3		Cobble .....	651
Moore street, from Pearl to South street .....	409.0		" .....	1,099
William street, from Beaver to Broad street .....	510.0		" .....	1,144
Stone street, from William to Broad street .....	516.3		" .....	1,102
Old slip, from Pearl to South street .....	504.3		" .....	4,493
Seventh avenue, from Eleventh to Fourteenth street .....	756.2		" .....	4,200
Greenwich avenue, from Sixth to Eighth avenue .....	1,891.4		" .....	7,800
Second avenue, from Nineteenth to Twenty-third street .....	927.0		" .....	4,428
Tenth avenue, from Twenty-second to Thirty-first street .....	2,291.6		" .....	15,325
Tenth avenue and West street, from Eleventh to Fourteenth street .....	2,527.3		" .....	11,810
Front street, from Whitehall street to Old slip .....	1,012.6		" .....	2,756
Twenty-fourth street, from Lexington avenue to East river .....	2,450.9		" .....	8,554
First avenue, from Thirtieth to Thirty-sixth street .....	1,442.8		" .....	9,500
Tenth avenue, from Thirty-first to Forty-second street .....	2,864.6		" .....	19,262
Hanover street, from Exchange place to Pearl street .....	227.0		" .....	442
Depeyster street, from Water to South street .....	405.6		" .....	619
Fletcher street, from Pearl to South street .....	650.9		" .....	953
Platt street, from William to Pearl street .....	554.5		" .....	1,128
Twenty-second street, from Sixth avenue to Hudson river .....	4,636.2		" .....	15,576
Centre and Marion streets, from Canal to Prince street .....	2,212.0		" .....	9,025
	12,184.5	35,401.3		191,018
REPAIRS AND RENEWAL OF PAVEMENTS.				
Fiftieth street, from First avenue to East river .....	505.4		Wood .....	1,711
Dutch street, from Fulton to John street .....	310.6		Cobble .....	501
Catharine lane, from Broadway to Elm street .....	210.4		" .....	320
Elm street, from Pearl to Worth street .....	190.0		" .....	299
Thirty-ninth street, from Fifth to Madison avenue .....	170.6		Belgian .....	505
Sixteenth street, from First avenue to Livingston place .....	447.0		Cobble .....	1,472
Twenty-sixth street, from Fourth to Lexington avenue .....	446.9		" .....	1,497
Sixty-third street, from Fifth to Madison avenue .....	444.0		Belgian .....	894
		2,724.9		7,259
ASSESSMENT WORK.				
One Hundred and Twenty-eighth street, from Second to Sixth avenue .....	3,392.6		Wood .....	11,403
Forty-second street, from First avenue to East river .....	521.5		" .....	3,470
Forty-third street, from First avenue to East river .....	422.8		" .....	1,291
Sixty-fifth street, from Eighth to Ninth avenue .....	826.5		" .....	2,735
Forty-seventh street, from Madison avenue to Harlem Railroad .....	170.0		" .....	476
One Hundred and Fifteenth street, from Third to Fourth avenue .....	919.0		" .....	3,116
Seventy-sixth street, from Second avenue to Avenue A .....	1,302.0		" .....	4,331
Fifty-sixth street, from Tenth to Eleventh avenue .....	827.2		" .....	2,484
Seventy-sixth street, from Fourth to Madison avenue .....	422.0		" .....	1,299
Fourth avenue, from Sixty-seventh to Seventy-second street .....	1,132.2		" .....	7,479
Ninety-fourth street, from Lexington to Fourth avenue .....	433.5		" .....	1,360
Sixty-fourth street, from Boulevard to Tenth avenue .....	900.0		" .....	2,857
One Hundred and Fourth street, from Fourth to Fifth avenue .....	931.1		" .....	2,971
Lexington avenue, from Ninety-fourth to Ninety-fifth street .....	222.6		" .....	876
Sixty-second street, from Avenue A to East river .....	117.4		" .....	383
	1,322.0	11,218.4		46,530

Length and Area of Pavements Laid.  
(Repaving under Chap. 476, Laws of 1875.)

Granite .....	2.35 miles.	50,041 square yards.
Trap .....	6.70 "	140,977 "
Repairs and Renewal of Pavements.		
Trap .....	0.52 miles.	7,259 square yards.
Assessment Work.		
Granite .....	0.25 miles.	4,156 square yards.
Trap .....	2.12 "	42,374 "
Total number miles of pavement laid .....		11.94
Total number square yards of pavement laid .....		244,807
Total Number of Miles of Paved Streets in the City.		
Granite and Trap Blocks .....	229 1/2 miles.	
Cobble .....	80 "	
Macadam .....	24 1/2 "	
Concrete .....	1/2 "	

Document "F."

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF SEWERS, ROOM NO. 21 CITY HALL,  
NEW YORK, January 7, 1881.

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

SIR—In compliance with your instructions, I beg leave to hand you herewith reports of the transactions of this Bureau for the quarter, and also for the entire year, ending December 31, 1880, with statements of work commenced and completed in 1880, work commenced previous to but completed during 1880, and also of work in progress at the close of the past year.

Respectfully,

STEVENSON TOWLE,  
Engineer in Charge of Sewers.

Report of the Transactions of the Bureau of Sewers for the Quarter ending December 31, 1880.

Credits to General Fund—

Amount received for 251 permits for sewer connections .....

\$5,393 20

Engineers' Fees—

Amount of Engineers' or Surveyors' fees assessed on property benefited, charged in assessment lists and credited to Street Improvement Fund .....

\$3,894 92

Sewers—Repairing and Cleaning—

Unexpended balance, September 30, 1880 .....

\$12,486 95

Transfer by Board of Estimate and Apportionment .....

500 00

Vouchers transmitted to the Commissioner of Public Works—

Pay-rolls Mechanics and Laborers .....

\$9,048 38

Thomas Barrington, cleaning basins, etc .....

2,100 00

Special repairs .....

639 65

Transportation expenses, Foreman, etc .....

162 60

Materials and sundries .....

662 00

Balance on hand, December 31, 1880 .....

374 32

12,986 95

Sewers—Repairing and Cleaning—1879 account—

Unexpended balance, January 7, 1880 .....

\$50 24

Voucher transmitted to the Commissioner of Public Works—

Stackpole & Brother, repairs to levels .....

\$14 00

Balance on hand, December 31, 1880 .....

36 24

50 24

Salaries—Sewers—Repairing and Cleaning—

Unexpended balance, September 30, 1880 .....

\$3,142 55

Vouchers transmitted to the Commissioner of Public Works—

Pay-rolls of Inspectors, etc .....

\$2,890 73

Transferred by Board of Estimate and Apportionment, December

17, 1880 .....

250 00

Balance on hand, December 31, 1880 .....

1 82

3,142 55

Salaries—Sewerage System—

Unexpended balance, September 30, 1880 .....

\$5,444 81

Transfers by Board of Estimate and Apportionment (October 5,

1880, \$2,000, and December 17, 1880, \$250) .....

\$2,250 00

Vouchers transmitted to the Commissioner of Public Works—

Pay-rolls of Engineers, etc .....

3,194 30

Balance on hand, December 31, 1880 .....

51

5,444 81

Restoring and Repaving—Special Fund, Department of Public Works—

Unexpended balance, September 30, 1880 .....

\$1,074 00

Amount received for 311 permits for street openings .....

3,139 00

Vouchers transmitted to the Commissioner of Public

Works .....

\$4,042 65

Of which the sum of \$1,637.27 was for restoring pave-

ments, etc., over openings for water connections,

etc .....

1,637 27

Balance on hand, December 31, 1880 .....

1,807 62

4,213 00

Contingencies—Department of Public Works—

Vouchers transmitted to the Commissioner of Public Works .....

\$111 24

Transportation expenses of Engineers, etc .....

111 24

Street Improvement Fund—

Vouchers transmitted to the Commissioner of Public Works .....

\$64,799 42

Pay-rolls of Engineers, etc .....

\$3,605 11

Pay-rolls of Inspectors on sewers .....

4,946 00

On contracts for sewers .....

56,248 31

64,799 42

Work done by Mechanics and Laborers, William Webb, Foreman—

820 receiving basins and culverts cleaned.

3,850 lineal feet of sewer cleaned.

151 lineal feet of sewer rebuilt.

99 lineal feet of culvert rebuilt.

99 lineal feet of spur pipe laid.

27 receiving basins repaired.

1 new basin head put on.

8 basin heads reset.

4 new basin covers put on.

108 manholes repaired.

100 manhole heads reset.

4 new manhole heads put on.

29 new manhole covers put on.

20 lineal feet of curb stone reset.

3 lineal feet of new curb stone set.

6 lineal feet of gutter stone relaid.

20 square feet of crosswalk relaid.

98 square feet of sidewalk relaid.

308 square yards of pavement relaid.

298 cubic yards of earth excavated.

2,639 cubic yards of earth filled in.

1,650 cart loads of dirt removed.

Work done by contract—

7,917 lineal feet of sewer built,

255 lineal feet of culvert built,

9 receiving basins built, and

1,871 lineal feet of piles driven;

Making the present total length of sewerage in the city, 1,988,991 lineal feet (376 70-100 miles),

with 4,573 receiving basins.

Report of the Transactions of the Bureau of Sewers for the Year ending December 31, 1880.

Credits to General Fund—

Amount received for 1,136 permits for sewer connections, under which permits

1,715 house connections were made .....

\$24,267 03

Restoring and Repaving—Special Fund, Department of Public Works—

Amounts received for—

284 permits for street openings for sewer connections .....

\$3,420 00

150 permits for street openings for repairs to sewer connections .....

888 00

\$4,308 00

Work done by contract during the year 1880—

25,449 lineal feet of sewer built.

1,472 lineal feet of culvert built.

49 receiving basins built.

13 receiving basins rebuilt.

34 manhole heads furnished and set.

9,752 lineal feet of piles driven.

Work done by Mechanics and Laborers, William Webb, Foreman, during the year 1880—

4,965 receiving basins and culverts cleaned.

17,905 lineal feet of sewer cleaned.

1,661 lineal feet of sewer rebuilt.

341 lineal feet of culvert rebuilt.

448 lineal feet of spur pipe laid.

36 lineal feet of new curb stone set.

75 lineal feet of curb stone reset.

28 lineal feet of gutter stone reset.

16 lineal feet of new flagging laid.

9 receiving basins rebuilt.

98 receiving basins repaired.

19 new basin heads and gutter stones put on.

20 basin heads reset.

21 new basin covers put on.

5 new manholes built.

7 manholes rebuilt.

477 manholes repaired.

403 manhole heads reset.

96 new manhole heads and covers put on.

121 new manhole covers put on.  
4,516 cubic yards of earth excavated.  
6,857 cubic yards of earth filled in.  
32 square feet of crosswalk relaid.  
456 square feet of sidewalk relaid.  
1,994 square yards of pavement relaid.  
15 cubic yards of solid masonry built.  
180 cart loads of stone removed.  
9,896 cart loads of dirt removed.

Work commenced and completed during the year ending December 31, 1880—  
Sewer in Forty-third street, between First avenue and East river.  
Sewer in One Hundred and Third street, between Third and Lexington avenues.  
Sewer in One Hundred and Thirty-second street, between Seventh avenue and 300 feet west of Seventh avenue.  
Sewer in One Hundred and Twenty-second street, between Seventh avenue and summit east of Seventh avenue.  
Sewer in One Hundred and Twenty-second street, between Sixth avenue and summit west of Sixth avenue.  
Sewer in One Hundred and Twenty-eighth street, between Second and Third avenues.  
Sewer in Sixty-seventh street, between Eighth and Ninth avenues.  
Sewer in One Hundred and Fifth street, between Fourth and Fifth avenues.  
Sewer in Eighty-second street, between First avenue and Avenue B, etc.  
Sewer in One Hundred and Thirtieth street, between Seventh avenue and summit east of Seventh avenue.  
Sewer in One Hundred and Fifth street, between Tenth avenue and Boulevard.  
Sewer in One Hundred and Seventh street, between Lexington and Fourth avenues.  
Sewer in Ninety-sixth street, between Fifth and Madison avenues.  
Sewer in Avenue B, between Eighty-fourth and Eighty-sixth streets, etc.  
Sewer in Avenue B, between Seventy-ninth and Eighty-second streets.  
Sewer in Avenue A, between Tenth and Eleventh streets.  
Sewer in Madison avenue, between One Hundred and Tenth and One Hundred and Thirteenth streets.  
Sewer in Mt. Morris avenue, between One Hundred and Twenty-third and One Hundred and Twenty-fourth streets.  
Sewer in Ninth avenue and New avenue, east of Morningside Park, etc.  
Sewer in Macdougall street, between West Fourth street and West Washington place.  
Sewer in Front street, between Dover and Roosevelt streets.  
Sewer in Cliff street, between Beekman and Ferry streets.  
Sewer in Jackson street, between Grand and Madison streets.

Sewer in Washington street, between Gansevoort and Little West Twelfth streets.  
Sewer in Water street, between Roosevelt street and James slip.  
Sewer in Lexington avenue, between One Hundred and Fourth and One Hundred and Fifth streets.  
Sewer in Lexington avenue, between Sixty-ninth and Seventieth streets.  
Sewer in Lexington avenue, between One Hundred and Sixth and One Hundred and Eighth streets.  
Sewer in Lexington avenue, between Seventy-seventh and Seventy-eighth streets.  
Sewer in Lexington avenue, between One Hundred and Twenty-sixth and One Hundred and Twenty-seventh streets.  
Receiving basins northeast and southeast corners of Jane street and Thirteenth avenue.  
Receiving basin southeast corner of One Hundred and Forty-fifth street and Eighth avenue.  
Receiving basin northeast corner of Front and Montgomery streets.  
Receiving basin southeast corner of South and Montgomery streets.

Work commenced prior to 1880, and completed during the year ending December 31, 1880—  
Sewer in Forty-third street, between Second and Third avenues.  
Sewer in One Hundred and Thirty-fifth street, outlet, between Harlem river, etc.  
Sewer in Twelfth avenue, between One Hundred and Thirty-first and One Hundred and Thirty-third streets.  
Sewer in Sixty-fourth street, between Eighth avenue and Boulevard.  
Sewer in Sixty-ninth and Seventieth streets, between Second and Third avenues.  
Sewer in Sixty-eighth, Sixty-ninth, and Seventieth streets, between Avenue A and First avenue.  
Sewer in Seventy-third street, between Eighth and Tenth avenues.  
Extension of sewer at foot of Houston street, East river, etc.

Work in progress at the close of the year 1880—  
Sewer in One Hundred and Tenth street, between New avenue, etc., and Ninth avenue, etc.  
Sewer in West street, between Spring and West Eleventh streets, etc.  
Sewer in Fifth avenue, east side, between Fifty-fifth and Fifty-ninth streets.  
Sewer in Eightieth street, between Tenth avenue and Boulevard.  
Sewer in Eightieth and Eighty-first streets, between Avenues A and B, etc.  
Sewer in One Hundred and Fifty-eighth street, outlet, from Hudson river, etc.  
Sewer in Seventy-sixth street, between Eighth and Tenth avenues.  
Sewer in Sixty-ninth street, between Eighth and Ninth avenues.  
Sewer in Tenth avenue, east side, between Eighty-third and Ninety-second streets, etc.  
Sewer in One Hundred and Second street, between Third and Lexington avenues.  
Sewer in Suffolk street, between Delancey and Rivington streets.  
Sewer in Eighty-first street, between Tenth avenue and summit east of Tenth avenue.  
Sewer in One Hundred and Twenty-eighth street, between Seventh and Eighth avenues.

## Document "G."

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF STREET IMPROVEMENTS, ROOM 5, 31 CHAMBERS STREET,  
NEW YORK, January 8, 1881.

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

SIR—I submit herewith the annexed statements, showing the operations of the Bureau of Street Improvements for the three months of October, November, and December, as also for the year 1880.

During the year, 38 contracts have been completed at a cost of \$234,390.77, and for which assessment lists have been transmitted to the Chief Clerk's office.

## WORKS COMPLETED.

The retaining walls, arch steps, railing set in East Forty-second street, between First and Second avenues, have been finished, which, besides opening a direct route from the Grand Central Depot to the East river, is also an improvement which was much needed by the neighborhood.

Madison avenue, from Ninety-ninth to One Hundred and Fifth street, has been completed, thus furnishing a continuous thoroughfare along said avenue, from its commencement to the Harlem river.

One Hundred and Second street and One Hundred and Third street, from Fifth avenue easterly, have both been finished, thus rendering a large district at once available for improvements.

## WORKS UNDER CONTRACT.

Sixty-eighth street, from Eighth avenue to Boulevard, is well in work, and will be finished during the ensuing season.

Seventieth street, from Eighth to Tenth avenue, is also well advanced.

Seventy-first street, from Fifth avenue to East river, which has been declared abandoned and several times relet, is now in the hands of a contractor who manifests a great desire to at once proceed with the work. I have therefore no doubt that the work will be completed with all possible dispatch.

Seventy-third street, from Third avenue to East river, mainly a heavy rock contract, has progressed rapidly during the past year, and will probably be completed in the latter part of the summer.

Ninety-fourth, Ninety-seventh, and Ninety-eighth streets, from Eighth avenue to the Boulevard (very necessary improvements), are under good headway, and will probably be finished about next September.

Lexington avenue, between Ninety-sixth and Ninety-seventh streets, and Fourth avenue,

between Ninety-fourth and Ninety-sixth streets, as well as between One Hundred and Fifteenth and One Hundred and Sixteenth streets, will be completed in the spring months.

One Hundred and Thirteenth street, between Fourth and Fifth avenues, and One Hundred and Seventeenth street, between Fifth and Sixth avenues, will probably be both finished in early summer. One Hundred and Twenty-fifth street, from Manhattan street to the Boulevard, will be completed next autumn, and will afford valuable facilities for cross-town travel.

Eleventh avenue, from One Hundred and Fifty-fifth street to Kingsbridge road, is at present nearly completed.

One Hundred and Seventy-fifth street, from Tenth avenue to Kingsbridge road, is a work mainly of rock excavation, contract for which has been signed and operations thereon will soon commence.

## APPROPRIATIONS.

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

The total appropriation for this year (including transfer) was \$2,100.00 for these purposes, during which time, however, \$500.00 were transferred for the purpose of defraying other necessary expenses of the Department, leaving a balance for the above uses of \$1,600, of which an amount of about \$1,575.00 was expended in restoring such sidewalks and fencing in such portion of city property as were required.

## STREET IMPROVEMENTS.

## For Surveying, Monumenting, and Numbering Streets.

The amount appropriated for this purpose was \$3,000, of which \$1,900 by transfer were used by other Bureaus of the Department. The Bureau expended \$1,001.24 mainly for the purpose of establishing levels in the upper part of the city (starting from the water-table at Bellevue Hospital), which had become absolutely necessary for accommodation of the public and the use of the Department.

## Numbering and Renumbering of Streets, etc.

The work of numbering and renumbering of streets, avenues, etc., which is also in charge of this Bureau, was performed during the months of February, March, and April, which is the only portion of the year set apart for such purpose by ordinance of the Common Council, up to December, 1880, when said ordinance was revised.

All of which is respectfully submitted.

GEORGE A. JEREMIAH,  
Superintendent Street Improvements.

Statement showing Works in Progress in Bureau of Street Improvements on the 31st day of December, 1880.

LOCATION OF WORK.	CONTRACTOR.	SURVEYOR.	INSPECTOR.	CONTRACT TIME.	ESTIMATED COST.	AMOUNT EARNED.	AMOUNT RETAINED.	AMOUNT PAID.	REMARKS.
Regulating, Grading, Curb, Gutter, and Flagging—									
Lexington avenue, Ninety-sixth street to Ninety-seventh street.....	Albert J. Riss.....	Frank E. Towle	Cornelius Flynn.....	50 days.	\$872 70	.....	.....	.....	
Fourth avenue, Ninety-fourth street to Ninety-sixth street.....	Thomas F. Kane.....	M. A. Kellogg.	Michael Hogan.....	90 "	3,656 30	.....	.....	.....	
Fourth avenue, Ninety-sixth street to One Hundred and Second street..	"	W. V. Smith...	Walter S. Edwards...	150 "	17,100 00	\$2,437 50	\$731 25	\$1,706 25	
Fourth avenue, One Hundred and Fifteenth street to One Hundred and Sixteenth street.....	James J. Jones.....	M. A. Kellogg.	Suspended.....	50 "	1,596 90	.....	.....	.....	Work suspended.
Sixty-first street, Tenth avenue to Eleventh avenue.....	William E. Dean.....	John E. Eustis..	"	40 "	1,695 10	.....	.....	.....	"
Sixty-sixth street, Eighth avenue to Boulevard.....	John Mulholland.....	F. M. Leonard.	Myron B. Silkman...	300 "	14,272 76	6,626 50	1,687 95	4,638 55	
Seventieth street, Eighth avenue to Tenth avenue.....	John Brady.....	M. Lovell.....	James J. Fitzgerald...	300 "	18,305 00	11,500 00	3,450 00	8,050 00	
Seventy-first street, Fifth avenue to East river.....	Thomas Gearty.....	W. V. Smith...	George W. Nash.....	120 "	6,536 00	.....	.....	.....	
Seventy-third street, Third avenue to East river.....	Patrick Farley.....	"	John Lawrence.....	300 "	40,237 00	16,114 00	4,834 20	11,279 80	
Eighty-fifth street, Ninth avenue to Tenth avenue.....	Thomas F. Kane.....	"	Not yet appointed....	100 "	4,487 80	.....	.....	.....	"
Ninety-fourth street, Eighth avenue to Boulevard.....	James Slattery.....	Frank E. Towle	Patrick J. Carty.....	200 "	12,661 10	.....	.....	.....	
Ninety-fifth street, Lexington avenue to Fifth avenue.....	James Williams.....	"	Suspended.....	100 "	7,114 50	6,592 50	1,977 75	4,614 75	"
Ninety-seventh street, Eighth avenue to Boulevard.....	Albert J. Riss.....	W. M. Dean...	John Shelley.....	170 "	14,462 50	5,358 10	1,607 43	3,750 67	"
Ninety-eighth street, Eighth avenue to Boulevard.....	Thomas L. Butler.....	"	Suspended.....	150 "	8,242 50	.....	.....	.....	"
One Hundred and First street, Ninth avenue to New avenue.....	Charles Devlin.....	M. A. Kellogg.	"	300 "	4,932 40	.....	.....	.....	"
One Hundred and Thirteenth street, Fourth avenue to Fifth avenue...	Thomas F. Gallagher.	W. V. Smith...	"	100 "	2,955 00	.....	.....	.....	"
One Hundred and Fourteenth street, Tenth avenue to Morningside ave.	T. F. Curran & N. Rogers.	Frank E. Towle	Patrick Browne.....	70 "	1,953 30	.....	.....	.....	
One Hundred and Seventeenth street, Fifth avenue to Sixth avenue.....	Thomas F. Kane.....	W. M. Dean...	Robert J. Wilkinson..	175 "	5,741 00	.....	.....	.....	
One Hundred and Twenty-fifth street, Manhattan street to Boulevard.	John Phelan.....	W. V. Smith...	Patrick H. Kedney...	450 "	17,911 47	2,160 00	648 00	1,512 00	
One Hundred and Fifty-third street, Avenue St. Nicholas to Tenth ave.	James Reilly.....	Eugene E. McLean.....	J. Howard Kinch....	60 "	910 00	.....	.....	.....	
One Hundred and Seventy-fifth street, Tenth avenue to Kingsbridge road.....	T. F. Curran & N. Rogers.	M. A. Kellogg.	Not yet appointed....	300 "	21,963 00	.....	.....	.....	
Special Contracts.									
Regulating, Grading, Curb, Flagging, and Paving—									
Sixty-second street, Avenue A to 123 feet east.....	Thomas Gearty.....	Eugene E. McLean.....	"	20 "	806 15	.....	.....	.....	
Ninth avenue, One Hundred and Fiftieth street to Avenue St. Nicholas	James Reilly.....	W. V. Smith...	"	20 "	633 50	.....	.....	.....	
Flagging—									
Ninth avenue, Seventy-first street to Seventy-second street.....	Michael Mahoney....	Frank E. Towle	"	20 "	554 88	.....	.....	.....	
Fifty-eighth street, Sixth avenue to Seventh avenue.....	M. A. Kellogg.....	W. V. Smith...	"	20 "	662 32	.....	.....	.....	
Fencing Vacant Lots—									
Fourth avenue, Seventy-fifth street to Seventy-sixth street.....	Michael Mahoney....	John E. Eustis..	"	20 "	35 65	.....	.....	.....	
Madison and Fifth avenue, Eighty-fifth street and Eighty-sixth street..	"	W. M. Dean...	"	20 "	176 08	.....	.....	.....	
South side Eighty-third street, Eighth and Ninth avenues, and east side	"	"	"	20 "	307 54	.....	.....	.....	
Ninth avenue, Eighty-second and Eighty-third streets.....	"	"	"	20 "	37 50	.....	.....	.....	
West side First avenue, Seventy-third and Seventy-fourth streets, and	"	Eugene E. McLean.....	"	20 "	48 05	.....	.....	.....	
Seventy-third street 100 feet west First avenue.....	"	"	"	20 "	88 35	.....	.....	.....	
North side Forty-fifth street, Ninth avenue to Tenth avenue.....	"	"	"	20 "	178 25	.....	.....	.....	
South side Fifty-eighth street, Sixth avenue to Seventh avenue.....	"	"	"	20 "	150 55	.....	.....	.....	
North side Fifty-ninth street, Seventh avenue to Eighth avenue.....	"	"	"	20 "	.....	.....	.....	.....	
South side Fifty-ninth street, Seventh avenue to Sixth avenue.....	"	"	"	20 "	.....	.....	.....	.....	
Boulevard and Avenues—									
Eleventh avenue, One Hundred and Fifty-fifth st. to Kingsbridge road	Michael Noonan.....	J. K. Choate...	J. L. Florence.....	300 "	65,523 20	53,545 60	16,063 68	37,481 92	
Total.....					\$276,924 33	\$104,334 20	\$31,300 26	\$73,033 94	

*Statement showing the Amount of Work Done in 1880.*

NATURE OF WORK.	FROM OCTOBER 1 TO DECEMBER 31.	FROM JANUARY 1 TO DECEMBER 31.
Earth excavation.....cubic yards.	5,030	15,921
Rock excavation....."	17,647	59,799
Filling furnished....."	39,466	128,145 54-100
Cut-stone masonry built....."	.....	106
Rubble range masonry built....."	.....	1,478
Brick masonry built....."	.....	263 4-10
Painting stone-work.....square yards.	.....	434
Surfacing brick-work.....lineal feet.	.....	100
Wrought-iron railing....."	.....	999
Curb and gutter stones set....."	7,089	23,300 33-100
Curb-stones set....."	2,455 1-6	5,516 1-6
Flagging laid.....square feet.	54,149 1-6	82,460 40-100
Picket fence built.....lineal feet.	2,501 1-12	12,116 5-100
12-inch vitrified pipe laid....."	489	509
15-inch vitrified pipe laid....."	229	229
18-inch vitrified pipe laid....."	37	37
12x12-inch vitrified pipe branches laid....."	3	3
18x12-inch vitrified pipe branches laid....."	1	1
Manholes....."	1	1
Receiving-basin....."	1	1
<i>Work Done in Front of City Property.</i>		
Curb and gutter stones reset.....	.....	400½
Flagging laid.....	1,074	7,155 52-100
Flagging relaid.....	986	2,368 30-100

*Statement showing the Amount of Vouchers Drawn during 1880.*

ON ACCOUNT OF—	FROM OCTOBER 1 TO DECEMBER 31.	FROM JANUARY 1 TO DECEMBER 31.
Regulating, grading, etc.....	\$51,889 31	\$146,090 28
Boulevards and avenues.....	6,128 57	24,712 03
Street improvements—For surveying, monumenting, and numbering streets.....	886 24	1,001 54
Flagging sidewalks and fencing vacant lots in front of City property.....	241 52	1,515 43
Contingencies—Department of Public Works.....	72 85	209 25
Salaries—Department of Public Works.....	.....	511 20
Expenses of grading, paving, etc., Fort Gansevoort Market.....	.....	2,162 05
Special appropriation—Contract of T. T. Masterson for regulating, grading, etc., Twelfth avenue, One Hundred and Thirtieth to One Hundred and Thirty- third street .....	.....	225 00
Total.....	\$59,216 49	\$176,426 54

### APPROPRIATIONS FOR 1880.

Street Improvements—For Surveying, Monumenting, and Numbering Streets.....		\$3,000 00
Amount of vouchers drawn.....	\$1,001 24	
Transfers by Board of Estimate and Apportionment.....	1,900 00	
Balance December 31.....	98 76	
		<u>3,000 00</u>
Flagging Sidewalks and Fencing Vacant Lots in front of City Property..	\$2,000 00	
Transfers by Board of Estimate and Apportionment.....	100 00	
		<u>\$2,100 00</u>
Amount of vouchers drawn.....	\$1,515 43	
Transfers by Board of Estimate and Apportionment.....	500 00	
Outstanding liabilities (estimated).....	60 00	
Balance (estimated).....	24 57	

APPROPRIATION, 1879.

Expenses of grading, paving, etc., Fort Gansevoort Market.....		\$25,000 00
Amount of vouchers drawn in 1879.....	\$22,835 53	
Amount of vouchers drawn in 1880.....	2,162 05	
Balance.....	2 42	

WORKS COMPLETED DURING OCTOBER, NOVEMBER, AND DECEMBER.

Regulating, grading, etc.—		
Seventy-sixth street, from Fourth to Third avenue.....	\$1,306	88
One Hundred and Second street, from Fifth avenue to Harlem river.	52,679	62
One Hundred and Third street, from First to Fifth avenue.....	32,398	23
		<u>\$86,384 73</u>
Flagging—		
Sixty-third street, from Ninth to Tenth avenue.....		166 14
Fencing vacant lots—		
Lexington avenue, from Seventy-fifth to Seventy-sixth street. . . . .	\$78	88
Second avenue, from Eighty-fourth to Eighty-fifth street, etc. . . . .	152	21
West side Boulevard, from Eighty-third to Eighty-sixth street. . . . .	252	13
South side Seventy-third street, from Ninth to Tenth avenue. . . . .	154	35
South side Seventy-sixth street, from Third to Lexington avenue. . . .	67	21
South side Seventy-seventh street, from Eighth to Ninth avenue. . . . .	256	55
		<u>961 33</u>
Total.....	\$87,512	20

WORKS COMPLETED DURING THE YEAR 1880.

Tree-planting—		
Boulevard, from Fifty-ninth to One Hundred and Fifty-fifth street..	\$29,562	04
Avenue St. Nicholas.....	4,980	61
		<hr/>
Retaining walls, arch, steps, etc.—		\$34,542
Forty-second street, from First to Second avenue.....		65
		<hr/>
Regulating, grading, etc.—		
Madison avenue, from Ninety-ninth to One Hundred and Fifth street.	\$51,226	46
Sixty-eighth street, from Third avenue to East river, except between		
First avenue and East river.....	2,809	94
Seventy-sixth street, from Fourth to Third avenue.....	1,306	88
Eighty-first street, from Eighth to Ninth avenue.....	2,879	81
One Hundred and Second street, from Fifth avenue to Harlem river.	52,679	62
One Hundred and Third street, from First to Fifth avenue.....	32,398	23
One Hundred and Sixth street, from Madison to Fourth avenue....	4,285	77
		<hr/>
		147,586
		71
Curb, gutter, and flagging—		
Seventy-sixth street, from Fourth to Madison avenue.....		677
		73
Flagging—		
West side Fourth avenue, from Sixty-first to Sixty-fifth street.....	\$240	12
East side Fourth avenue, from Sixty-second to Sixty-fifth street.....	490	49
Sixty-third street, from Ninth to Tenth avenue.....	166	14
South side Seventieth street, from Madison to Fifth avenue.....	79	20
		<hr/>
		975
		05

### Fencing vacant lots—

West side of Boulevard, from Fifty-fifth to Fifty-sixth street.....	\$38 11
West side of Boulevard, from Seventy-second to Seventy-fourth street.....	61 36
West side of Boulevard, from Eighty-third to Eighty-sixth street.....	252 13
Lexington avenue, from Seventy-fifth to Seventy-sixth street.....	78 88
Second avenue, from Eighty-fourth to Eighty-fifth street, etc.....	152 21
East side Eighth avenue, from One Hundred and Tenth to One Hundred and Fifteenth street.....	302 36
West side Eighth avenue, from One Hundred and Seventh to One Hundred and Fifteenth street.....	728 76
Southwest corner First avenue and Sixty-first street.....	110 94
Southwest corner Fifth avenue and One Hundred and Twenty-fifth street.....	118 73
Northeast corner Ninth avenue and Seventy-fifth street.....	242 18
Northeast corner Eighty-sixth street and Avenue A.....	82 32
Block bounded by Fifth and Madison avenues, Seventy-ninth and Eightieth streets.....	145 76
South side Fifty-seventh street, between Second and Third avenues.....	24 29
South side Fifty-ninth street, between Fifth and Sixth avenues.....	93 26
Sixtieth street, between Tenth and Eleventh avenues.....	116 22
South side Sixty-ninth street, commencing 200 feet west of Tenth avenue and extending to Eleventh avenue.....	180 50
Seventy-second street, between Ninth and Tenth avenues, and Tenth avenue, between Seventy-second and Seventy-fourth streets.....	171 13
South side Seventy-third street, between Ninth and Tenth avenues.....	154 55
Seventy-sixth street, between Lexington and Fourth avenues.....	280 62
South side Seventy-sixth street, between Lexington and Third avenues.....	67 21
Seventy-seventh street, between Fourth and Fifth avenues.....	367 10
South side Seventy-seventh street, between Eighth and Ninth avenues.....	256 55
One Hundred and Tenth street, between Seventh and Ninth avenues.....	652 86

Total.....	\$234,390 77
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## RECAPITULATION

OF CONTRACTS COMPLETED DURING 1880.

2 contracts for tree-planting.....	\$24,542	65
1 contract for retaining walls, arch, steps, etc.....	45,929	90
7 contracts for regulating, grading, etc.....	147,586	71
1 contract for curb, gutter, and flagging.....		677
4 contracts for flagging.....		975
23 contracts for fencing vacant lots.....	4,677	83
38 contracts, amounting to.....	\$234,390	77

NEW YORK, December 31, 1880.

GEO. A. JEREMIAH, Superintendent Street Improvements.

## Document "H."

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF STREETS, ROOM 19, CITY HALL,  
NEW YORK, January 15, 1881.

HUBERT O. THOMPSON, Esq., *Commissioner of Public Works:*

SIR—In compliance with your instructions, I have the honor to submit herewith my report of the transactions of this Bureau for the quarter ending December 31, 1880.

The following are the principal items of work done :

- Repairing One Hundred and Ninth street, from Fourth to Fifth avenue.
- Repairing One Hundred and Eleventh street, from Fourth to Lexington avenue.
- Repairing One Hundred and Fifteenth street, from Fourth to Fifth avenue.
- Repairing One Hundred and Twentieth street, from Sixth to Madison avenue.
- Repairing One Hundred and Thirty-second street, from Sixth to Eighth avenue.
- Repairing One Hundred and Thirty-third street, from Sixth to Eighth avenue.
- Repairing One Hundred and Thirty-fourth street, from Fifth to Eighth avenue.
- Repairing One Hundred and Thirty-fifth street, from Fifth to Eighth avenue.
- Repairing One Hundred and Fifty-eighth street, from Eleventh avenue to Hudson river.
- Repairing Eighth avenue, from One Hundred and Thirty-first street to McComb's Dam Bridge.
- Repairing Tenth avenue, from One Hundred and Fifth to One Hundred and Sixteenth street.
- Repairing Tenth avenue, from One Hundred and Forty-first to One Hundred and Fifty-fifth street.
- Repairing Lexington avenue, from One Hundred and Fifth to One Hundred and Twenty-third street.
- Repairing Madison avenue, from Ninety-eighth to One Hundred and Twentieth street.
- Repairing Inwood lane, from Kingsbridge road to bridge.
- Repairing Devlin's Bridge road, from Kingsbridge road to bridge.
- Repairing Kingsbridge road, from One Hundred and Sixty-second street to Kingsbridge

To give a general idea of the amount of work done during the year 1880, I make the following statement of quantities of materials used in maintenance and repairs of roads, avenues, and unpaved streets :

Purchased 2,525 cubic yards of lime-stone chips.  
 " 500 " of broken stone.  
 " 500 " earth-filling.  
 " 3,900 feet of planks and bridge-timbers.  
 10,000 cubic yards of earth-filling obtained free of cost, except for cartage by the carts employed by this Bureau.

Owing to the small amount of the appropriation, nearly the whole amount available was required for the payment of the necessary force to keep the roads and unpaved streets repaired and sprinkled, leaving very little of the appropriation for the purchase of materials which are required to make the necessary improvement on the roads, avenues, and unpaved streets, under the charge of this Bureau.

The following is a statement of the condition of the appropriation of "Roads, Avenues, Maintenance, and Sprinkling," for the quarter ending December 31, 1880, also the amount expended for the first, second, and third quarters of 1880:

Amount appropriated for 1880.....	\$22,000 00
Amount expended for the first quarter.....	1,712 28
Balance April 1st.....	\$20,287 82
Amount expended for the second quarter.....	7,385 57
Balance July 1st.....	\$12,902 25
Amount expended for the third quarter.....	7,324 39
Balance October 1st.....	\$5,577 86
Amount expended for the fourth quarter is as follows :	
Pay-roll for two weeks ending September 30.....	\$789 75
“ “ “ “ October 15.....	737 92
“ “ “ “ “ 31.....	677 61
“ “ “ “ November 15.....	568 44
“ “ “ “ “ 30.....	474 17
“ “ “ “ December 15.....	442 58
“ “ “ “ “ 31.....	170 71
Wm. McDonald, lime-stone chips.....	800 00
“ “ “ “ “ “.....	400 00
“ “ “ “ “ “.....	150 00
P. Daly, repairing tools, etc.....	197 81
“ “ “ “ “ “.....	43 75
J. J. Mooney, traveling expenses.....	125 00
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	5,577 74
Balance December 31, 1880.....	\$0 12

Total vouchers drawn during the year 1880, forty-seven.

The following is a statement of the force employed in the Bureau of Streets, for the year 1880 :  
1 Foreman, 24 Laborers, 8 teams, 4 horses and carts, and 4 sprinklers—total, 36.

Respectfully,  
**JAMES J. MOONEY**, Superintendent of Streets.

## Document "I."

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF LAMPS AND GAS,  
NEW YORK, January 10, 1881.

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

SIR—In compliance with the directions contained in your circular letter of 31st ultimo, I herein submit a report of the transactions of the Bureau of Lamps and Gas for the three months ending December 31, 1880, with a summary of the same for the entire 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 sums 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 sixty-six thousand seven hundred and nineteen dollars and eighty cents (\$166,719.80), and for the year of four hundred and ninety-four thousand six hundred and fifty-eight dollars and fifty-one cents (\$494,658.51). There are no liabilities against the appropriation, and there is left a surplus balance of thirteen hundred and forty-one dollars and forty-nine cents. Exhibit "C" is a summary of the appropriation for "Salaries—Lamps and Gas," and shows an expenditure during the quarter of fourteen hundred and seventy-five dollars and sixty-four cents (\$1,475.64), and for the year of fifty-nine hundred and ninety-nine dollars and sixty-four cents (\$5,999.64), leaving a surplus balance of thirty-six cents. 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, eighty-seven new lamps having been lighted, fifteen old lamps relighted, and sixty-six lamps discontinued during the quarter; and a total of four hundred and twenty-two new lamps lighted, ninety-three old lamps relighted, and one hundred and forty lamps discontinued during the year. The total number of public lamps lighted on the streets, avenues, piers, bridges, parks, and places of the city on December 31, 1880, was twenty-three thousand five hundred and eleven (23,511), being a net increase of three hundred and seventy-five over the corresponding period of 1879. Exhibit "E" is a statement showing the lowest, highest, and average illuminating power of the gases supplied by the several gas-light companies during the quarter and the year. It will be seen by this statement that the gases have at all times exceeded the illuminating power specified in the contracts, which is sixteen candles, and also that our city is supplied with gas of a high illuminating power, and probably a better gas than is supplied to any other city in this country. No tests have been made of the gases supplied in the annexed territory by the Central or Northern Gas-light Companies, because this Department has no photometric station in the annexed district, and the above companies have no photometric apparatus for testing the gas. The gas of the Yonkers Gas-light Company, which is supplied to Riverdale in the Twenty-fourth Ward, has been occasionally tested by Mr. Love, our Gas Examiner, who has visited Yonkers and used the photometer in the station of the company. This gas, on his several examinations, has been found to vary from 23.16 to 34.88 candles, the average being 27.97 candles, the tests being made with a Bray No. 7 burner. Exhibit "F" is a table showing the pressure on the lamps of the several gas companies on Manhattan Island during various hours of the day for three successive days. For this purpose street-lamps were selected on different elevations of ground and at various distances from the gas-works, the pressure being recorded on the six-inch lamp pressure registers of this Bureau. Exhibit "G" is a copy of the contract with the New York Gas-light Company for lighting the public lamps, the contracts with all the other companies being similar in form, and differ only in regard to prices, and which are shown further on in this report. Exhibit "H" is a copy of the timetable for lighting and extinguishing the public lamps.

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

BY WHAT GAS COMPANY.	New Lamps Fitted up.	Lamp-posts Removed.	Lamp-posts Reset.	Lamp-posts Straightened.	Columns Relighted.	Columns Relined.
New York Gas-light Company.....	30	35	41	295	62	134
Manhattan Gas-light Company.....	51	51	51	380	21	129
Metropolitan Gas-light Company.....	140	38	61	324	14	61
N. Y. Mutual Gas-light Company.....	1	5	11	78	3	11
Harlem Gas-light Company.....	140	30	28	185	24	32
Central Gas-light Company.....	42	30	30	63	1	6
Northern Gas-light Company.....	..	..	..	..	..	..
Yonkers Gas-light Company.....	16	..	..	..	..	..
Totals.....	420	189	222	1,328	127	373

The following table will show the number of new lamps lighted by the several gas companies during each year from 1873 to 1880, inclusive:

BY WHAT GAS COMPANY.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.
New York Gas-light Company.....	5	28	27	11	59	150	78	30
Manhattan Gas-light Company.....	11	33	23	4	112	72	131	58
Metropolitan Gas-light Company.....	147	142	140	187	67	148	110	137
N. Y. Mutual Gas-light Company.....	..	..	2	5	1	..	152	1
Harlem Gas-light Company.....	364	102	312	235	130	130	134	138
* N. Y. & N. J. Globe Gas-light Company..	..	..	1	2	55	89	115	42
Central Gas-light Company.....	..	..	..	15	41	27	90	..
Northern Gas-light Company.....	..	..	..	..	72	..	..	16
Yonkers Gas-light Company.....	..	..	..	..	..	..	..	..
Totals.....	527	305	505	459	545	628	810	422

\* 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 1873 to 1880, inclusive:

BY WHAT GAS COMPANY.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.
New York Gas-light Company.....	3,025	3,008	3,009	2,638	2,890	3,148	3,381	3,560
Manhattan Gas-light Company.....	6,758	6,546	6,550	4,996	5,954	6,618	6,680	6,804
Metropolitan Gas-light Company.....	4,002	3,582	3,514	3,633	3,767	3,890	4,068	4,282
N. Y. Mutual Gas-light Company.....	..	440	584	2,516	1,323	587	800	1,037
Harlem Gas-light Company.....	4,097	4,024	3,915	3,938	2,554	3,900	4,280	4,682
* N. Y. & N. J. Globe Gas-light Company..	..	..	..	..	2,106	506	510	..
Central Gas-light Company.....	..	1,523	1,524	1,536	1,569	1,649	1,764	1,834
Northern Gas-light Company.....	..	924	932	932	909	989	1,026	1,090
Yonkers Gas-light Company.....	..	..	..	..	71	72	72	76
Totals.....	17,882	20,047	20,028	20,159	21,203	21,419	22,590	23,365

\* Lighted by naphtha.

The following comparative statement shows the total expenditures on account of the appropriations for Lamps and Gas, and the number of public lamps in use, for several years since 1860:

IN YEAR—	TOTAL EXPENDITURE.	TOTAL NO. OF LAMPS.
1860.....	\$431,355 00	14,630
1865.....	1,121,082 00	16,591
1870.....	1,355,710 00	18,198
1875.....	625,651 00	20,139
1880.....	494,658 00	23,511

While comparing the above figures, the facts should be considered that not only has the number been greatly increased, but that additional duties have been imposed on the Department of Public

Works since 1870, by the following acts of the Legislature: Chapter 613 of the Laws of 1873 (the Annexation Act) placed the lighting and maintenance of the lamps in the annexed territory upon the city; chapter 304 of the Laws of 1874 (the Consolidation Act) imposed upon us the lighting of the county buildings; chapter 275 of the Laws of 1878 added the several armories; and chapter 478 of the Laws of 1879 placed upon this Department the lighting and maintenance of the lamps on the public parks and bridges of the city.

## TWENTY-THIRD AND TWENTY-FOURTH WARDS.

The contracts for lighting the public lamps in the Twenty-third and Twenty-fourth Wards, which were made in 1870 by the town officers of Morrisania and West Farms, expired on the 31st of December last. In accordance with the proposals which were received on November 29, a contract has been made with the Central Gas-light Company for the lamps in the Twenty-third Ward (formerly town of Morrisania) for the four months ending April 30, next, at the rate of \$10.75 for each lamp for the term. This is at the rate of \$29.79 per year of 3,833 1/3 hours; the price paid under the old contract being \$45.00 per year of 3,833 1/3 hours. A contract has also been made with the Northern Gas-light Company for the lamps in that portion of the Twenty-fourth Ward which formerly comprised the town of West Farms, for the same period, at the rate of \$13.00 for each lamp for the term; which is at the rate of \$36.02 per year of 3,833 1/3 hours. The price paid under the old contract was \$50.00 per year of 3,833 1/3 hours. The term of four months was fixed in these contracts in order that they may expire at the same time as the contracts with all the other companies, and then, in April next, the entire city can be included in the proposals which will then be invited for the period of one year.

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

GAS COMPANY.	For Gas for and Lighting, etc., each Lamp.	For each Lamp-post Straightened.	For each Column Relined.	For each Column Relighted.	For each Lamp-post Removed.	For each Lamp-post Reset.	For each New Lamp Fitted up.
New York Gas-light Co.....	Per Year. \$15 00	\$1 50	\$1 50	\$3 50	\$3 50	\$10 00	\$10 00
Manhattan Gas-light Co.....	15 00	1 50	1 50	3 50	3 50	10 00	10 00
Metropolitan Gas-light Co.....	15 00	2 00	2 00	3 00	3 00	8 00	8 00
N. Y. Mutual Gas-light Co.....	15 00	1 50	1 50	3 50	3 50	10 00	10 00
Harlem Gas-light Co.....	17 00	2 50	2 50	3 50	3 50	8 00	8 00
Yonkers Gas-light Co.....	30 00	1 00	1 00	1 00	1 50	8 00	10 00
Central Gas-light Co.....	4 Mos. 10 75	1 50	1 50	1 50	3 50	8 00	8 00
Northern Gas-light Co.....	13 00	1 50	1 50	1 50	3 00	8 00	8 00

The following statement shows the prices named in the proposals which were received on December 8, for furnishing gas to such of the public buildings as are lighted by the Department of Public Works, for the year 1881, also the illuminating or candle-power of the gas each company proposes to furnish:

PROPOSAL OF—	Price per 1,000 cubic ft. for 1881.	Illuminating Power of Gas in Candles.	Cubic Feet of Gas used in Buildings in 1880.	Price paid per 1,000 cubic ft. in 1880.
New York Gas-light Co.....	\$1 75	20	6,301,400	\$1 40
Manhattan Gas-light Co.....	1 75	18	7,499,700	75
Municipal Gas-light Co.....	1 80	25	7,200	2 25
Metropolitan Gas-light Co.....	1 75	20@23	1,903,200	60
Harlem Gas-light Co.....	2 25	16	458,300	1 25
N. Y. Mutual Gas-light Co.....	..	..	10,300	2 25
			16,180,100	

No bids were received from either the New York Mutual or Knickerbocker Gas-light Companies.

Contracts have been made with the New York Gas Company for supplying the buildings south of Grand street; with the Manhattan Company for the building between Grand and Thirty-fourth streets; with the Metropolitan Company for the buildings between Thirty-fourth and Seventy-ninth streets; and with the Harlem Gas-light Company for the buildings on Manhattan Island north of Seventy-ninth street.

The prices charged by the several companies to private consumers are as follows:

By New York Gas-light Co.....	\$2.25 per 1,000 cubic feet.
By Manhattan Gas-light Co.....	2.25 "
By Municipal Gas-light Co.....	2.25 "
By N. Y. Mutual Gas-light Co.....	2.25 "
By Metropolitan Gas-light Co.....	2.25 "
By Harlem Gas-light Co.....	2.25 "
By Knickerbocker Gas-light Co.....	2.25 "
By Central Gas-light Co.....	2.25 "
By Northern Gas-light Co.....	3.00 "
By Yonkers Gas-light Co.....	2.50 "

The New York Gas-light Company has mains laid in and supplies gas to that portion of the city lying south of Grand street.

The Manhattan Gas Company has mains in and supplies gas to that portion of the city lying between Grand and Thirty-fourth streets.

The Metropolitan Gas Company has mains in and supplies gas to that portion of the city lying between Thirty-fourth and Seventy-ninth streets.

The Harlem Gas Company has mains in and supplies gas to that portion of the city lying north of Seventy-ninth street and south of Harlem river.

The New York Mutual Gas Company has mains laid in and supplies gas to various streets between Battery place on the south and Sixty-sixth street on the north.

The Municipal Gas Company has mains laid in and supplies gas to various streets between Grand street and Seventieth street.

The Knickerbocker Gas Company has mains laid in and supplies gas to various streets between Thirty-fourth and One Hundred and Thirty-third streets.

The Central Gas Company supplies gas to the Twenty-third Ward, formerly town of Morrisania.

The Northern Gas Company supplies the Twenty-fourth Ward, formerly town of West Farms.

The Yonkers Gas Company supplies a small section of the Twenty-fourth Ward, formerly in town of Kingsbridge.

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

	Feet.	Total miles laid to December 31, 1880..	Miles.	Feet.
By New York Gas-light Co.....	2,100..	"	113	1,837
By Manhattan ".....	4,317..	"	174	2,379
By Metropolitan ".....	16,018..	"	133	4,990
By N. Y. Mutual ".....	555..	"	118	2,868
By Municipal ".....	3,809..	"	76	452
By Harlem ".....	25,165..	"	120	202
By Knickerbocker ".....	16,310..	"	65	19
By Central ".....	4,435..	"	43	2,481
By Northern ".....	..	"	24	4,950
By Yonkers ".....	..	"	4	1,161

Total miles laid in 1880... 13,498.88 Total number of gas-mains laid in the city on December 31, 1880..... 874 318

The New York Gas Company bought from Municipal Gas Company.....	11,972 feet.
The Knickerbocker Gas Company bought from Municipal Gas Company.....	3,573 "
The Harlem Gas Company has taken up.....	3,493 "
The New York Gas Company has taken up.....	464 "

The total length of streets lighted is.....	402 miles 1,255 feet.
" " piers.....	1 " 820 "
" " bridges.....	1 " 2,790 "
" " area of parks.....	61 acres.

The following statement will show the amount of gas consumed in the public lamps and buildings of the city during the year 1880:

GAS COMPANY.	Average No. of Lamps.	Hours Lighted per Annum.	Burning per hour, Cubic Feet	Total Cubic Feet Consumed by each Lamp per Annum.	Total Cubic Feet Consumed by all the Public Lamps per Annum.
New York Gas-light Co. ....	3,560	4,000	3	12,000	42,720,000
Manhattan Gas-light Co. ....	6,804	4,000	3	12,000	81,648,000
Metropolitan Gas-light Co. ....	4,282	4,000	3	12,000	51,384,000
N. Y. Mutual Gas-light Co. ....	1,037	4,000	3	12,000	12,444,000
Harlem Gas-light Co. ....	4,682	4,000	3	12,000	56,184,000
Central Gas-light Co. ....	1,834	3,833 <sup>2</sup> / <sub>3</sub>	3	11,500	21,091,000
Northern Gas-light Co. ....	1,090	3,833 <sup>2</sup> / <sub>3</sub>	3	11,500	12,535,000
Yonkers Gas-light Co. ....	76	4,000	3	12,000	912,000
Total. ....	23,365				278,918,000
Add amount consumed in public buildings (under Department of Public Works) .....					16,180,100
"      "      police stations (under Police Department) .....					4,322,000
"      "      fire engine-houses (under Fire Department) .....					3,965,960
"      "      public schools (under Board of Education) .....					6,654,500
"      "      hospitals, etc. (under Department of Charities) .....					2,539,360
"      "      offices of Department of Parks (under Department of Parks) .....					849,900
"      "      offices of Department of Docks (under Department of Docks) .....					65,100
"      "      offices of Board of Health (under Board of Health) .....					77,300
"      "      office of Board of Excise (under Board of Excise) .....					61,400
"      "      office of Register (under the Register) .....					63,000
"      "      Coroners' office (under Board of Coroners) .....					1,000
Total amount obtained from gas companies .....					313,700,560
Add amount made on Blackwell's and Ward's Islands, by Department of Charities, for public buildings on said islands .....					7,883,300
Total amount of gas used in 1880 for the purposes of the city .....					321,583,860

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

OF WHAT GAS COMPANY.	SULPHUR. (Grs. in 100 cu. ft.)	AMMONIA. (Grs. in 100 cu. ft.)	SULPHURETTED HYDROGEN.
New York Gas-light Co. ....	7.95	None.	None.
Manhattan Gas-light Co. ....	20.89	8.57	None.
N. Y. Mutual Gas-light Co. ....	3.49	None.	Frequent traces.
Municipal Gas-light Co. ....	2.56	None.	None.
Metropolitan Gas-light Co. ....	10.00	6.66	None.
Harlem Gas-light Co. ....	38.58	1.03	Occasional 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 Fahr.

The following is the specific gravity of the gases :

New York Gas-light Company, specific gravity..	.613 to .690
Manhattan Gas-light Company "	.424 to .447
New York Mutual Gas-light Company "	.724 to .817
Municipal Gas-light Company "	.640 to .661
Metropolitan Gas-light Company "	.527 to .568
Harlem Gas-light Company "	.413 to .456
Yonkers Gas-light Company "	.672 to .708

The gases of the several companies are of the following kinds :

New York Gas-light Company, water gas, Tessié du Motay process.  
Manhattan Gas-light Company, coal gas.  
New York Mutual Gas-light Company, from pine wood and naphtha.  
Municipal Gas-light Company, water gas, Tessié du Motay process.  
Metropolitan Gas-light Company, coal and naphtha.  
Harlem Gas-light Company, coal gas.  
Knickerbocker Gas-light Company, water gas, Tessié du Motay process.  
Yonkers Gas-light Company, water gas.  
Central Gas-light Company, coal gas.  
Northern Gas-light Company, coal gas.

The following table will show the composition of the several gases, as determined by Mr. Love, the official Gas Examiner, from his analyses made during the year :

CONSTITUENTS.	NEW YORK GAS CO.	MANHATTAN GAS CO.	METROPOLITAN GAS CO.	N. Y. MUTUAL GAS CO.	MUNICIPAL GAS CO.	HARLEM GAS CO.
Hydrogen .....	27.14	45.79	35.41	10.57	26.25	46.53
Marsh Gas .....	25.35	39.01	42.66	41.75	28.91	42.38
Carbonic Oxide .....	26.84	6.31	9.17	9.53	27.12	3.14
Illuminants .....	14.63	6.38	7.41	15.41	15.80	6.31
Nitrogen .....	2.87	2.51	5.35	20.69	1.92	0.50
Carbonic Acid .....	3.02	....	....	1.51	....	1.08
Oxygen .....	0.15	....	....	0.54	....	0.06
Sulphuretted Hydrogen.	....	....	....	trace.	....	trace.
	100.00	100.00	100.00	100.00	100.00	100.00

The following statement will show the average maximum and minimum pressure on the mains of such of the companies as can be reached, as recorded on the pressure register in the photometrical stations of this Department, this average being made for the time during which the public lamps were required to be kept lighted during the quarter, and hence does not include the day pressure :

OF WHAT GAS COMPANY.	AVERAGE MAXIMUM PRESSURE.	AVERAGE MINIMUM PRESSURE.	WHERE TAKEN.	DISTANCE FROM GAS-WORKS.
	Inches.	Inches.		Miles.
New York Gas-light Co.....	1.94	1.41	Cor. Grand and Centre streets..	$\frac{4}{2100}$
Manhattan Gas-light Co.....	1.97	1.19	" " ..	$\frac{33}{1100}$
N. Y. Mutual Gas-light Co.....	2.00	1.33	" " ..	$\frac{79}{1100}$
Municipal Gas-light Co.....	3.34	0.94	" " ..	$\frac{64}{3100}$
Metropolitan Gas-light Co.....	1.82	0.89	{ Seventy-ninth street, between Second and Third avenues. }	$\frac{33}{3100}$
Harlem Gas-light Co.....	3.02	1.50	{ Seventy-ninth street, between Second and Third avenues. }	$\frac{75}{1100}$

Prior to April last the New York Gas Company had been manufacturing its gas entirely from coal, but since then its works have been changed and remodeled, and its gas has been made by the "Tessié du Motay" process, and is what is known as water gas. During the year the works and plant of the Knickerbocker Gas Company has changed ownership, and under the new administration these works have been entirely remodeled and additional holders erected, and its gas is also to be made by the "Tessié du Motay" process.

### TESTING BURNER.

In specification 2 of our former contracts it was provided that the gas should be tested by an Argand burner having fifteen holes and a seven-inch chimney, and consuming at the rate of five cubic feet of gas per hour, and by this test the gas should have an illuminating power of not less than sixteen candles. This is the old London standard burner, and, while it is adapted for the testing of ordinary sixteen-candle coal gas, it is not a suitable or fair burner for testing the richer and higher specific gravity gases which are now supplied by the gas companies of this city. It was therefore deemed desirable that a burner should be selected for the regular daily testings which would be better adapted for the kind of gas to be tested and which could readily be obtained by gas consumers. Specification 2 was therefore slightly changed for the present contracts by providing that the gas should have an illuminating power of not less than sixteen candles when tested by the fifteen-hole Argand burner, and adding a clause that "the regular daily tests should 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." With the view, therefore, of selecting for testing purposes a burner best adapted for the kind of gas to be tested, and which was readily obtainable for general household illumination, Mr. Love, our Gas Examiner, procured burners of various descriptions and from different makers. With these burners frequent and careful tests were made of the gases of the several companies, and after due consideration the burners now used on the photometer were selected for the regular daily examinations.

The following shows the burners selected for the several gases, the illuminating power of the gas when tested by these burners, and the illuminating power of the same gas when tested by the old fifteen-hole Argand burner :

New York gas, by Bray's Slit Union No. 7, 22.28 candles. By old 15-hole Argand burner, 19.78 candles.

Manhattan gas, by Empire 5-foot burner, 19.70 candles. By old 15-hole Argand burner, 17.69 candles.

New York Mutual gas, by Bray's Slit Union No. 7, 24.57 candles. By old 15-hole Argand burner, 10.06 candles.

Municipal gas, by Bray's Slit Union No. 7, 27.46 candles. By old 15-hole Argand burner, 21.32 candles.

Metropolitan gas, by Bray's Slit Union No. 6, 23.43 candles. By old 15-hole Argand burner,

Harlem gas, by Empire 5-foot burner, 19.18 candles. By old 15-hole Argand burner, 17.25 candles.

Yonkers Gas Company gas, by Bray's Slit Union No. 7, burner. candles. By old 15-hole Argand candles.

It will be seen by the above that while in coal gas there is a difference of about 2 candles between the new flat flame burner and the old Argand, in the water and naphtha gases there is a difference of from 3 to 6 candles.

## PHOTOMETER.

In June last alterations and improvements were made to the photometer at the Grand street station. This photometer, although a first class one, was a single apparatus, designed for the testing of gas against the candle. It was deemed advisable to duplicate on the left hand or candle end the apparatus which is necessary on the gas-burner end. A combined meter and clock, a governor, pressure gauge, standard for burner, with micrometer cock and eccentric movement, and an automatic shut off were therefore fitted on the candle end, so that now this photometer is one of the most complete instruments for testing purposes in this country. Being a double photometer we can not only test gas against the candle, but we can also test the gas of one company against the gas of another, and the larger gas burners, now being introduced, can also be tested.

### ARMORIES AND DRILL-ROOMS.

Prior to the year 1878 the bills for gas supplied to the armories of the "National Guard" located in the city were paid by the several military organizations out of their regimental funds. At the legislative session of 1878 a law was enacted (chapter 275), section 121 of which provides that the lighting of the armories shall be done at the expense of the county in which the same may be located. In my report for the last quarter of 1878, allusion was made to this matter, and the opinion was therein expressed that inasmuch as the expense of lighting these buildings was placed upon the city, and the regimental funds thereby relieved from such disbursement, there would be no incentive on the part of the persons in charge of the armories to exercise proper economy in the use of the gas, and that hence we would find the consumption of gas greatly increased. The opinion therein expressed has since been verified, as the monthly bills are continually growing to larger proportions. In an endeavor to effect a more economical use of the gas, and a reduction in the amounts of the bills, letters were addressed to the several regimental commanders, in which their attention was called to the subject, and a request was made that the armorers and janitors be instructed to exercise prudence and economy in the use of the gas. The effort, however, has been without avail, as will be seen by the enormous increase in the amount of gas consumed during the year just passed over the amount consumed in 1877, when the cost was defrayed by the different organizations, as shown by the following

*Comparative Statement of the Amounts of Gas Consumed in the Armories of the National Guard  
during the years 1877 and 1880.*

ARMORY OF—	GAS CONSUMED IN 1877.	GAS CONSUMED IN 1880.	INCREASE IN 1880.
	Cubic Feet.	Cubic Feet.	Cubic Feet.
Fifth Regiment.....	128,800	264,100	135,300
Seventh ".....	403,700	1,246,283	842,583
Eighth ".....	208,000	118,200	110,200
Ninth ".....	288,000	818,900	530,900
Eleventh Regiment.....	120,000	240,500	120,500
Twelfth ".....	218,800	364,200	145,400
Twenty-second Regiment.....	316,900	1,055,800	738,900
Sixty-ninth ".....	90,400	403,300	312,900
Seventy-first ".....	119,100	315,300	196,200
Third Regiment, Cavalry.....	66,700	84,420	17,720
Separate Troop A.....	60,100	99,100	38,000
B.....	28,320	118,200	89,880
Battery B.....	14,400	11,300	.....
Totals.....	2,062,420	5,320,200	3,260,880

It will be seen by the above statement that the amount of gas consumed in the armories in 1880 exceeded by over three and one-quarter million cubic feet the amount consumed in 1877, or prior to the passage of the law which placed the lighting upon the city. This enormous increase, in my opinion, is entirely unnecessary. The same gas companies supplied these buildings in 1877 that supplied them in 1880, and we are getting better gas now than in 1877. If the buildings were sufficiently lighted in 1877, when the expense was defrayed by the several organizations, then it is evident that some action should be taken by the regimental commanders whereby such an extravagant use of the gas may be prevented in the future.

## ELEVATED RAILROADS.

In consequence of the construction of the elevated railroads, the streets beneath the structures have been very materially darkened, and complaints were frequently received in regard to the same. To remedy this the Common Council, on the 24th of March, 1880, adopted the following :

Whereas, In the construction of the elevated railroads in the Second, Third, Sixth, and other avenues and streets of this city, some of the posts are so placed as to be directly in or near the centre of the space formed by the intersecting streets and avenues, rendering travel in the night time extremely dangerous, from the liability of vehicles to collide with such posts; therefore be it

Ordained by the Mayor, Aldermen, and Commonalty of the City of New York, as follows :

Section 1. There shall be placed or suspended and lighted, on or from every elevated railroad post, column, or pillar standing in or near the intersection of every street or avenue, on the outer side of such post, column, or pillar facing the street or avenue which intersects the street or avenue through which such elevated railroad is constructed, a gas-light inclosed in a glass globe or lamp of such pattern and construction as shall be approved by the Commissioner of Public Works, the work to be done and the gas used for the purpose of lighting the said lamps to be furnished at the expense of the elevated railroad company aforesaid; said gas to be kept burning during the same hours as the ordinary street-lamps. Every failure to comply with the provisions of this section of this ordinance, on the part of the president, superintendent, directors, or other officers of every such railroad company, shall be deemed a misdemeanor, and shall be punished, on conviction before any of the police magistrates of this city, by a fine not exceeding ten dollars (\$10) for each offense, or in default of payment of such fine, by imprisonment not exceeding ten days.

In compliance with the above ordinance the Manhattan Elevated Railroad Company has caused one hundred and sixteen lamps of the boulevard pattern to be fitted up at various places on their structures, to wit: On the Second avenue line, 28; on the Third avenue line, 41; on the Sixth avenue line, 14; and on the Ninth avenue line, 33. Some of the most important places on the several routes have, however, been omitted, but these will probably be attended to when the weather permits.

## ELECTRIC LIGHT—"VOLTAIC ARC."

During the year 1877-'8, the electric light was attracting considerable of the public attention, both at home and abroad, and in my fourth quarterly report of the latter year a short history of the light was given, together with a description of the generating machines and lamps, and the manner of their working. At that time comparatively few of the lamps had been shown in this vicinity, and those mostly for advertising or exhibition purposes. Since then, however, improvements have been made in dynamo machines and lamps and their uses have been greatly extended. While two years ago there were probably not over two hundred "arc" lamps in use in this country, there are now over ten thousand, and they are being quite extensively introduced for general illumination. In the city of Cleveland, Ohio, sixteen of the Brush lamps have been in use since April, 1879, for the lighting of Monumental Park, which is 651 feet square; and Superior street, from the park to the viaduct, a distance of 1,400 feet. The park lamps are on posts about 16 feet high and those on the street about 28 feet, all in clear globes. The lamps are supplied by a No. 7 dynamo machine and absorb about 13 horse-power; they are lighted 2,300 hours per annum, the same time as the street-lamps, and displace 125 gas-lamps. The city engineer informs me that the lights are very steady and give general satisfaction. In the city of Montreal sixteen Brush lamps are in use along the wharves, on a circuit of about 12,000 feet, and it is stated that by their lights the loading and discharging of vessels can be carried on by night as well as by day. The city of Wabash, Indiana, has four lamps of intense brilliancy suspended from two cross bars placed on the flag-staff on the dome of the court-house, which give the lamps an elevation of about 150 feet above the city. The contract with the Brush Company required that the lamps should light a radius of one-half mile, and should illuminate the furthest point as well as can be done by the usual street-lamps placed there. For inside illumination the Brush lamps are used in the Continental Hotel of Philadelphia; the Grand Pacific of Chicago; the Palace and Baldwin Hotels of San Francisco; and the Sturtevant and Gilsey Hotels of this city. They are also in use in several hundred rolling mills, machine shops, woolen and silk factories, and in very many mercantile and other business houses in this and neighboring cities. The longest inside lighting in this city has taken place in the Equitable building, the New York Post-office, and the two stores of Nicol, the tailor. These buildings are lighted by the machines and lamps of the U. S. Electric Light Company. In the Equitable building there are 6 arc lights which have been in use since 1879, and 48 incandescent lights (Maxims) which have been in use since October, 1880. In the post-office 22 arc lights, with  $\frac{3}{8}$  carbons, have been in use since 1879, and it is stated that they give general satisfaction.

Mr. Nicol has had eight lamps in his Bowery store since April, 1879, and his engineer states that they have been working regularly and give entire satisfaction. This company has a station and factory on the corner of Sixth avenue and Twenty-fifth street, and their business has grown to such proportions that they have taken a larger building at Avenue B and Seventeenth street for the manufacturing of their plant. The most extensive electric illumination yet undertaken is to be carried on during the present year in the city of London. In that city the Commissioners of Sewers have charge of the public lighting, and under their supervision experiments or trials are to be made with the electric light, which are to continue for one year. For this purpose they have selected three prominent sections of the city. The first district comprises Blackfriars Bridge, New Bridge street, Ludgate circus, Ludgate hill, St. Paul's Churchyard, and Cheapside to King street; this district has been allotted to the Anglo-American Company, which employs the "Brush" system. It proposes to furnish thirty-two lamps at a cost of \$3,300 for the year's lighting, and an additional cost of \$3,700.00 for the plant; the number of gas-lamps to be displaced is 150. The second district comprises Southwark Bridge, Queen Victoria street, Queen street, and Queen place; this has been given to a company employing the Jablochkoof system, who propose to furnish fifty-two lamps at a cost of \$7,900.00 for the year, and an additional sum of \$6,750.00 for the plant; the number of gas-lamps displaced is 161. The third district comprises London Bridge, the north end of Queen street, the eastern end of Cheapside, King street, Guildhall Yard, the Poultry, the space in front of the Mansion House and Royal Exchange, and King William street. This has been allotted to the Siemens Brothers, who will supply thirty-two lamps at a cost of \$11,350.00 for the year, and \$7,250.00 for the plant; the number of gas-lamps displaced is 138. As the foregoing lighting is to be done by rival systems under the direction of the city authorities, it will, no doubt, determine the practicability of electric illumination for public thoroughfares, and the result of the year's experiment will be awaited with much interest.

## BROADWAY LIGHTS.

On February 25, 1879, a resolution was adopted by the Common Council of this city, requesting the Mayor, Comptroller, and Commissioner of Public Works (the Gas Commission) "to have experiments made to test the practicability of lighting the Central Park and the other public parks or places, streets and avenues of this city with electric light, and with a view also of determining the relative cost of the two systems, viz.: gas or electric light; such experiment to be without expense to the city." As, under this resolution, no expense could be incurred by the city, no action could be taken in the matter, and, consequently the subject was held in abeyance. On November 6, 1880, a communication was received from the Brush Electric Light Company of New York, requesting permission "to erect ornamental lamp-posts, of iron, on Broadway, from Fourteenth street to Thirty-fourth street, for the purpose of lighting said thoroughfare by the Brush electric light; also, the necessary lamp-posts or poles in Twenty-fifth street, from its station to Broadway, for the wires for said purpose, all the work to be done, and lamps, wires, etc., maintained without expense to the city," and "the permission not to commit the city to any expense for said light." The length of said portion of Broadway is just one mile. On the reception of this communication the resolution of the Common Council was taken up and considered, and, in accordance with its provisions, a resolution was adopted by the Gas Commission on November 29, 1880, giving permission to the aforesaid company, on its application of November 6, 1880, to light Broadway, from Fourteenth street to Thirty-fourth street, by the electric light system of said company; provided, however, "that all the work be done and the lamps, wires, etc., maintained by the said Brush Electric Light Company at its own expense, and the Corporation of the City of New York be not committed to any expense for such lighting, and also provided that such permit shall be revocable by the Commissioner of Public Works at any time." In pursuance of the permission above quoted the company has fitted a station at Nos. 133 and 135 West Twenty-fifth street, placed therein a 150 horse-power, Corliss engine, with the necessary dynamo machines, etc. It has also erected 21 cast-iron lamp-posts, each 20 feet high, one having been placed at the intersection of each street crossing Broadway, also two cast-iron shafts on the candelabras opposite Madison Park. The lamp-posts are cast in three sections, the lower section or base being 8 feet high, and on the two upper sections are projecting teeth or foot-holds to enable the workman to climb the posts for the cleaning of the globe and replacing the carbon electrodes. The average distance between each lamp is 260 feet. The lamps have clear glass globes and are suspended in a cast-iron frame under an iron hood; on the top of this hood is a metal dome, which covers the two horns containing the rods or carbon holders. The iron work is of an ornamental design, but somewhat too heavy and massive, as they present too much obstruction to the light and, hence, cause too great a shadow. The "voltaic arc," when formed, is about one foot above the top of the post, which brings the light 21 feet above the surface of the street. The lamps are of very simple construction and contain no clock-work or similar mechanism. The feeding of the positive carbon is entirely automatic and is regulated by the electric current and the wire helices above the lamp, and after they are properly adjusted the lamps require no other attention than that necessary for the placing of the carbons in position. They contain two sets of  $\frac{3}{8}$  copper-coated carbons, each set of sufficient length to burn eight hours, so that both set will furnish a light for sixteen hours and a triple set for twenty-four hours. The positive carbon is 12 inches in length and the lower or negative carbon is about 6 inches, these unequal lengths being used because the positive carbon burns away about twice as fast as the negative. There are two movable carbon rods or holders, one for each set; these are placed three inches apart and both are actuated by the same magnet, in like manner as in the single lamp. The lighting mechanism connected with the magnet is so arranged that one of the rods is lifted slightly in advance of the other. When the electric current first passes through the lamp both set of carbons, having their members in contact, will divide the current between them; but as soon as the members of one set are separated by the action of the magnet the whole current is thrown through the other set without showing any spark between the carbons first separated. When the continued action of the magnet separates the other pair of carbons, the voltaic arc appears and the light is established. Now, the clamp which was the last to raise its rod will be the first to release it when a forward movement of the carbons become necessary; hence, the set of carbons which first came into play will burn until consumed; the other set remaining separated. But when the burning carbons are exhausted and the whole further effort of the magnet to feed them will at once bring the reserve set into contact, and the whole current will then pass through this set, leaving the other carbons without current and permanently separated. The reserve carbons are then separated by the action of the magnet and the voltaic arc is formed between their points; the transfer of the arc from one set of carbons to the other being instantaneous and scarcely perceptible.

The fifteen lamps south of Twenty-sixth street were placed on one circuit and connected with the station by No. 4 American gauge copper wire insulated, and supplied with the electric current from a No. 7 dynamo machine; while the eight lamps north of Twenty-sixth street were subsequently placed on the same circuit, and another No. 7 machine added. A number of commercial or private lamps in the Sturtevant and Gilsey Hotels, and other buildings, are on another circuit, and supplied with current from a No. 8 or forty-light machine. The work of procuring and erecting the lamp-posts, mounting the lamps, and stretching the wires, was done in a hurried manner, several of the lamps having been placed in position after dark on a cold winter's night. On the evening of December 20, just three weeks after the company had received the necessary permission to do the work, the engine was started, and the generating machine instantly sent forth the electric current to the fifteen lamps south of Twenty-sixth street, and in another instant fifteen "voltaic arcs" sent out their brilliant light to what was previously a poorly lighted thoroughfare. The lamps north of Twenty-sixth street had not then been connected in consequence of a lack of wire, but those were lighted on the night of January 15, and complete a full mile of electric illumination. A time-table was then furnished the company for all night lighting. Since the engine was first started, private or

commercial lights have been added, so that now there are seventy-one lights supplied with current from two No. 7 and one No. 8 machine.

The No. 7 machine will supply current for sixteen lamps, requires fourteen horse-power, and makes 750 revolutions per minute. The No. 8 machine will light forty lamps, requires thirty-six horse-power, and makes 700 revolutions per minute. Its electro-magnets are eighteen inches deep, sixteen inches long, and eleven inches thick. The armature is twenty-four inches diameter, and has twelve bobbins. The pulley is twenty inches diameter and twelve inches in width.

When the lamps were first lighted the change from gas-light to the electric light was very great, the more so as Broadway is very inadequately supplied with gas-light. It is eighty feet wide, and has but three gas-lamps to the block, and these containing only three-foot gas-burners. To note the effect of the electric light alone the gas-lamps have been turned off on several occasions, but their light was not missed, and it is found that the twenty-three electric lights will displace about 110 gas-lamps on Broadway and the side streets. An order will now be given the gas company to discontinue the lighting of the Broadway lamps for two or three weeks. The lamps south of Twenty-sixth street have been in use just twenty-eight nights, too short a time to permit of a positive opinion as to their permanency and entire reliability for street illumination. During this time three total extinguishments have taken place. The first of these occurred on the night of December 26; this, it may be remembered, was the night of the very severe gale and driving snow storm. On going over the route on that evening for the purpose of noting the behavior of the lamps under a severe gale, it was found that the lamps were acting badly, the fluctuations or blinking were almost constant, and the arc frequently disappeared. These defects occurred whenever the stormy winds struck the lamps. On visiting the station, the lamp therein, which was on the same circuit as the Broadway lamps, was found to be acting in the same manner as those on the street, and I then suggested that the engine be stopped. On an examination being made the cause of the trouble was readily ascertained. It was found that three of the lamps which had been mounted after dark were fitted on the posts in an imperfect manner; the iron supports were loose, and hence the winds caused these lamps to vibrate and bring the horns in contact with the iron cover, and when this occurred of course the current on the entire circuit was disturbed or broken. These defects, which may be ascribed to imperfect or hasty construction, were remedied on the following day. The second entire extinguishment took place at six o'clock on the night of the 30th, and this was occasioned by the slipping of a belt in the station, the lights being out about fifteen minutes. The third extinguishment occurred at midnight of January 6, and this was caused by the breaking of a shaft containing the pulley, and was remedied by shifting the dynamo machine to another pulley. With the above exceptions the lamps have performed their proper functions, and are burning in a brilliant manner. The lights are remarkable for their steadiness, and seem to be entirely free from the frequent blinking or fluctuations and the hissing noise so generally observed in arc lights.

Some disappointment has been expressed because the lights are not so large or intense as was expected. Of course larger and intenser lights could be obtained by the use of larger carbons; these, however, would require greater power and necessarily increase the cost. The larger lights which are used for exhibition purposes or large open spaces usually contain  $\frac{1}{2}$ -inch or  $\frac{5}{8}$  carbons, and these are not desirable for street illumination as their great intensity would be offensive to the eyes, and besides they furnish much more light than is required. It is the desire of the company to supply a light for public highways which may be considered suitable for the purpose; one not too large or dazzling, but yet large enough for efficient and practical illumination, and this is all that is necessary. As the height of the lamp-post placed the lamps opposite the second story windows of several dwelling-houses, it was thought at first that possibly the glare of the light might be offensive or annoying to the occupants of the dwellings, and in such case it was the intention to grind the part of the globe facing the house or else place a screen behind the lamp. This, however, has been found unnecessary, as, on inquiry, it is learned that the lamps are in no way offensive.

The trials thus far made have demonstrated that the electric light can be made available for public illumination, and that it is now being advantageously used in various places. But for permanent street lighting the question of its positive reliability must be carefully considered. We must be sure that the light can be had during all the time it is required. All danger of failure must certainly be avoided, for no section of the city can be permitted to be in darkness during any time of the night. In erecting the circuits the wires must be so placed that they will be free from the risks which are liable to overhead lines, and they must be located where they cannot be tampered with. Plant in the station must be held in reserve and ready for immediate use, for accidents to the best made machinery will unexpectedly occur. All these things must be provided for before the lights can be permanently adopted on streets as an illuminating agent, and the entire exclusion of gas.

That the streets of our city are inadequately lighted is a fact which must be apparent to every way-farer. While a three-foot gas burner may have been ample a half century ago when our city was not much more than a town, it is quite evident that the light emitted from one of that capacity is insufficient for the convenience and comfort of a large commercial metropolis. Hence, an improvement in our street lighting is very desirable, and this can readily and surely be accomplished by the substitution of larger burners. This, of course, would involve an increase in the cost of the gas, but it is hardly possible that the electric arc light can compete with gas at the rates now charged by the gas companies for the public lamps of this city.

## THE INCANDESCENT LIGHT.

The foregoing remarks on the electric light refer only to the "voltaic arc" or large light, and while that system, as before stated, is available for large rooms, open spaces, or unobstructed public highways, it is not adaptable for the purposes of ordinary domestic illumination, nor is it suitable for the lighting of streets in the lower sections of the city, where the sidewalks are covered with awnings. For household electric illumination we must therefore depend on the incandescent system of lighting, which is the subdivision of the light into numerous small lights, each equal to an ordinary house-burner. This is the problem which Edison has been working out with so much patience and such untiring energy during the past three years, and which, it is now believed, he has brought to a successful issue. For the commercial introduction of this light a company has been formed under the title of "the Edison Electric Illuminating Company of New York." The persons comprising this company have organized under chapter 37 of the Laws of 1848, entitled, "An act to authorize the formation of gas-light companies," passed February 16, 1848. In section 1 of chapter 512 of the Laws of 1879, it is provided that "any corporation duly organized under the act entitled 'An act to authorize the formation of gas-light companies,' passed February 16, 1848, may use electricity instead of gas as the means of lighting streets, avenues, public parks and places, and public and private dwellings of cities, villages, and towns within this State." Under the authority conferred by the above-mentioned laws the company, under date of December 21, 1880, applied to the Board of Aldermen for permission "to lay tubes in the streets of this city, under such restrictions as may be deemed proper, for the purpose of holding its wires, conductors, and insulators, and to erect lamp-posts within the lines of the streets, avenues, parks, and public places therein, for conveying and using electric currents for the purposes of illumination." The communication was referred to the Committee on Law Department, and on December 28 the Committee presented a favorable report, and submitted for adoption an ordinance covering the subject of electric illumination. The report and ordinance were then laid over, and as the then Board of Aldermen held no other meeting at which public business was transacted, the matter, of course, fell through. It is the intention of the company, however, to renew their application to the present Board when an organization of the same is effected.

The plan of this company is to fit up central stations with the necessary engines and dynamo machines for generating the electric current; from these stations the current will be distributed by means of insulated copper conductors placed in tubes about eighteen inches below the pavement, probably under or near the gutter-stones. In the tubes will be openings or outlets opposite each house in the district, so that connections from the main wires can be carried into the houses, as is now done with gas services; from these connecting wires the electric current will be distributed throughout the building where it may be required. The houses will be provided with an electrometer, devised by Mr. Edison, by which the amount of current used can readily be measured, and these are so constructed that they show the consumer the consumption in dollars and cents. The lamps, which are glass bulbs about the size and shape of a Bartlett pear, containing the small "horse-shoe" carbons, will be furnished by the company to the consumer. They are very simple and require no care, other than brushing off the dust which may collect on the globe, and they can be taken off and replaced on the fixtures, either swing brackets or chandeliers, much more readily than a gas-burner. The lamps will be furnished in these sizes, one of three or four candles for the closet or sick-room, and the others of larger size for the ordinary rooms of the house. Each light can be turned on or off separately as readily as can be done by a gas-burner, and the turning off of one or more does not effect the intensity of the others; this was thoroughly demonstrated at Menlo Park by Mr. Edison moving a key on the key-board, and instantly turning off the three hundred lamps on the fields and permitting the sixty lamps in the laboratory to continue in current. He has also an arrangement by which the simple pressing of a button on the wall will light or extinguish all the lamps in a room. The light is mellow and soft, and much steadier than gas-light, being entirely free from the wavering so noticeable in gas.

For generating the current he has devised and is constructing a dynamo machine of novel design and enormous power; this machine is to be set in the centre of a Porter-Allen engine built for the purpose under Edison's direction; the crank of the engine is to be connected to a disk on the end of the armature shaft, and, hence, the machine takes its power direct from the engine without the intervention of pulleys and belts; this arrangement reduces the friction, and, of course, economizes the power. It will have three field magnets, each six and one-half feet long, and an armature twenty-one inches diameter and twenty-eight inches in length. It will be the largest dynamo machine ever constructed, and it is expected to do the work of sixteen of the largest machines hitherto made. In addition to furnishing electric current for the production of light, the company propose to furnish an electro motor, also devised by Mr. Edison, by which, from the same conductors and dynamo, power can be had for the running of lathes, sewing-machines, elevators, etc., so that the plant will be useful for day as well as for night.

In order to be prepared with a sufficient number of lamps for the commercial wants of a large district, a glass factory has been erected near the laboratory, and 1,000 glass globes are being made daily. Several visits have been made to Menlo Park, and from these it would seem that every detail had been carefully considered and brought to a successful issue, and that Mr. Edison had fully determined to be prepared for every emergency before permitting the introduction of his system for commercial uses.

Incandescent lamps, very similar in appearance to the Edison lamps, have been in use in this city during the past year. These are the lamps of Hiram S. Maxim, a mechanical engineer, and are furnished by the United States Electric Light Company; the carbons, however, are in shape like the letter M, and instead of being in vacuum, as in the Edison lamp, they are in a gas made from gasoline vapor, with which the bulb is filled after the air has been extracted. Fifty-one of these lamps are in use in the vaults and reading-rooms of the Mercantile Safe Deposit Company, at 122 Broadway; 18 are on the gas-brackets, and 13 on the chandeliers of the reading-room, and 20 are in the vaults. The advantage of these lights can readily be seen in the vaults, for here the ceilings are low and the spaces between the safes are somewhat close and confined, and hence, an equal number of gas-jets would make the atmosphere of the vaults almost intolerable in warm and murky weather.

It must be acknowledged that great progress has been made in electrical inventions during the past few years, and in these our American inventors are outstripping their European competitors. Already our scientists are turning their attention to the problem of electrical storage, and if this can be accomplished, then, indeed, the electric current has a wonderful future.

All of which is respectfully submitted.

S. McCORMICK,  
Superintendent of Lamp 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 1880, with the Totals for the whole year.

	First Quarter, ending March 31.	Second Quarter, ending June 30.	Third Quarter, ending September 30.	Fourth Quarter, ending December 31.	TOTAL
Washington Market.....	\$440 44	\$312 06	\$280 08	\$371 70	\$1,405 18
Catharine Country Market.....	24 50	17 08	14 84	24 22	80 64
Meat Market.....	17 22	11 34	10 78	14 84	54 18
Fulton Meat Market.....	110 32	91 56	87 92	108 78	398 58
Country Market.....	285 46	228 62	200 34	225 40	939 82
Essex Market.....	44 24	30 66	30 00	43 49	148 39
Centre ".....	144 08	102 54	93 89	136 87	477 38
Clinton ".....	32 10	58 27	60 23	100 06	250 66
Union ".....	9 00	4 19	3 00	6 22	22 41
Tompkins Market.....	102 52	58 73	59 77	136 27	357 29
Jefferson ".....	50 93	33 68	29 55	53 79	167 95
First District Police Court.....	179 06	158 62	140 98	114 24	592 90
Second ".....	43 80	19 49	11 77	40 51	115 57
Third ".....	38 24	31 88	28 57	45 21	143 90
Fourth ".....	20 34	15 84	12 12	22 02	70 32
Fifth ".....	17 76	9 76	8 63	18 87	55 02
Court of Special Sessions.....	56	56	70	42	224
Second District Civil Court.....	17 64	9 24	5 60	8 54	41 02
Fourth ".....	1 29	1 35	1 08	2 70	6 32
Fifth ".....	2 77	3 08	1 58	2 11	9 54
Sixth ".....	89	90	89	67	335
Eighth ".....	2 41	1 57	1 73	1 88	7 59
Ninth ".....	1 62	1 74	1 13	1 74	6 23
Marine Court.....	7 00	5 09	.....	.....	12 09
Court Room, Brown Stone Building.....	39 06	26 74	19 18	26 32	111 30
New Court-house.....	880 32	685 44	500 22	810 32	2,876 30
City Hall.....	434 28	277 22	246 12	400 26	1,357 88
Department of Public Works.....	.....	.....	.....	55 44	55 44
Receiver of Taxes' Office.....	169 26	80 30	35 28	237 16	522 06
Arrears of Personal Taxes Office.....	11 62	5 74	.....	.....	17 36
Corporation Attorney's Office.....	42 98	30 24	21 56	36 68	131 46
Pipe Yard, Rivington street.....	2 47	1 35	7	3 37	7 95
Department of Buildings.....	5 25	20	7	.....	22 02
County Jail.....	236 77	180 76	153 97	223 50	795 00
South Gate-house.....	9 12	4 75	99	3 99	18 85
Engineer of Boulevard's Office.....	50	.....	13	.....	63
Engine-house, High Bridge.....	72 25	34 64	19 25	37 88	164 02
Engine-house, Ninety-eighth street.....	57 00	.....	103 62	112 12	272 74
Clock, Third District Court-house Tower.....	134 25	89 70	86 56	81 89	392 40
Photometrical Rooms, Grand street.....	25 09	23 33	9 72	10 59	68 73
Photometrical Rooms, Seventy-ninth street.....	16 34	8 88	1 50	8 38	35 10
Armory Fifth Regiment.....	56 24	35 33	29 62	76 38	198 07
" Seventh ".....	169 87	94 68	47 52	470 63	782 70
" Eighth ".....	53 05	64 65	32 18	87 83	237 71
" Ninth ".....	253 34	142 72	43 50	174 60	614 60
" Eleventh ".....	39 90	27 22	18 07	95 17	180 36
" Twelfth ".....	92 23	46 80	18 30	61 20	218 53
" Twenty-second Regiment.....	243 07	177 76	91 66	279 37	791 86
" Sixty-ninth ".....	52 80	72 98	78 97	97 73	302 48
" Seventy-first ".....	69 12	40 02	21 66	58 38	189 18
" Third Regiment, Cavalry.....	58 97	29 68	12 60	16 94	118 19
" Separate Troop "A".....	39 45	17 84	6 07	10 94	74 30
" "B".....	28 86	12 48	2 86	22 20	70 92
" Battery "B".....	4 76	4 13	3 92	15 82	29 04
" "K".....	5 18	4 40	6 31	36 12	52 01
Public Bath, Battery.....	.....	4 90	27 44	6 07	32 81
" Gouverneur Slip.....	.....	2 66	24 08	6 07	32 81
" Bethune street.....	.....	3 52	15 76	4 58	23 86
" Fifth street, East river.....	.....	2 85	14 54	2 70	20 09
Public Bath, Nineteenth street, East river.....	.....	.....	8 47	4 20	12 67
Public Bath, Thirty-seventh street, East river.....	.....	2 28	10 86	2 00	15 14
Public Bath, Fifty-first street, North river.....	.....	1 98	9 54	1 46	12 98
Public Bath, One Hundred and Twelfth street, East river.....	.....	4 50	21 74	5 37	31 61
Lighting Public Markets Pay-rolls.....	285 00	285 00	285 00	285 00	1,140 00
Cleaning Photometrical Room (Pay-rolls).....	15 00	15 00	15 00	15 00	60 00
Lamp-posts.....	970 00	856 50	912 20	1,582 50	4,321 20
Lamp-posts, Twenty-third and Twenty-fourth Wards.....	.....	.....	487 50	350 00	837 50
Cast-iron Fenders.....	.....	.....	167 93	.....	167 93
Street Lamps.....	750 00	900 00	1,763 00	2,323 00	5,736 00
Street Lamps, Twenty-third and Twenty-fourth Wards.....	300 00	.....	300 00	300 00	900 00
Boulevard Lamps.....	1,564 16	1,251 75	1,212 50	1,331 25	5,359 66
Cross-heads.....	200 00	206 25	148 00	407 00	961 25
Lamp-irons.....	150 00	280 00	190 00	162 50	782 50
Lamp-irons, Twenty-third and Twenty-fourth Wards.....	.....	.....	48 75	.....	48 75
Lamp Brackets.....	.....	.....	37 50	.....	37 50
Glass, Twenty-third and Twenty-fourth Wards.....	.....	403 00	.....	.....	403 00
Street Signs.....	.....	70 75	.....	44 40	115 15
Tracing Paper, etc.....	570 00	.....	923 00	506 11	1,999 11
Supplies for Photometrical Rooms.....	92 00	625 41	146 06	6 60	869 07
Lamp Maps.....	9 80	.....	122 00	.....	131 80
Iron Bolts.....	12 18	4 80	6 85	.....	23 83
Granite Base.....	.....	.....	56 00	42 33	98 33
Metal Frames.....	.....	36 00	.....	.....	36 00
Painting Public Lamps.....	.....	.....	21 50	21 50	43 00
Repairing Public Lamps.....	.....	5 20	.....	.....	5 20
Candelabras, Fifth avenue, repairing, etc.....	.....	.....	108 00	.....	108 00
Temporary Lamps for One Hundred and Fifty-fifth street.....	58 41	6 67	.....	.....	65 08
Photometrical Rooms, Grand street—Rent.....	87 50	87 50	87 50	87 50	350 00
Photometrical Rooms, Seventy-ninth street—Rent.....	75 00	75 00	75 00	75 00	300 00
Traveling Expenses.....	78 40	79 10	77 90	78 90	314 30
Fitting-up New Lamps.....	448 00	786 00	997 43	916 00	3,147 43
Fitting-up New Lamps, Twenty-third and Twenty-fourth Wards.....	130 00	106 00	56 00	230 00	522 00
Resetting and Repairing Lamp-posts.....	553 50	995 00	1,666 00	2,411 00	5,625 50
Resetting and Repairing Lamp-posts, Twenty-third and Twenty-fourth Wards.....	84 00	34 50	117 00	169 00	404 50
Fitting-up New Lamps.....	448 00	786 00	997 43	916 00	3,147 43
Fitting-up New Lamps, Twenty-third and Twenty-fourth Wards.....	130 00	106 00	56 00	230 00	522 00
Lighting Public Lamps.....	49,873 15	76,167 97	78,812 59	105,520 48	310,374 19
Lighting Public Lamps, Twenty-third and Twenty-fourth Wards.....	22,068 52	33,216 56	33,301 13	44,604 02	133,190 23
Totals.....	\$83,215 21	\$120,001 71	\$124,721 79	\$166,719 80	\$494,658 51

#### RECAPITULATION.

	First Quarter, ending March 31.	Second Quarter, ending June 30.	Third Quarter, ending September 30.	Fourth Quarter, ending December 31.	TOTAL
Gas to Public Buildings.....	\$4,840 59	\$3,507 75	\$2,831 95	\$5,020 71	\$16,201 00
Supplies for Public Lamps, etc.....	4,917 45	5,117 18	6,103 44	7,154 19	23,292 26
Supplies for Public Lamps, Twenty-third and Twenty-fourth Wards.....	300 00	70 75	836 25	694 40	1,901 40
Resetting and Repairing Lamp-posts.....	553 50	995 00	1,666 00	2,411 00	5,625 50
Resetting and Repairing Lamp-posts, Twenty-third and Twenty-fourth Wards.....	84 00	34 50	117 00	169 00	404 50
Fitting-up New Lamps.....	448 00	786 00	997 43	916 00	3,147 43
Fitting-up New Lamps, Twenty-third and Twenty-fourth Wards.....	130 00	106 00	56 00	230 00	522 00
Lighting Public Lamps.....	49,873 15	76,167 97	78,812 59	105,520 48	310,374 19
Lighting Public Lamps, Twenty-third and Twenty-fourth Wards.....	22,068 52	33,216 56	33,301 13	44,604 02	133,190 23
Totals.....	\$83,215 21	\$120,001 71	\$124,721 79	\$166,719 80	\$494,658 51

#### EXHIBIT "B."

Summary of the Appropriation for "Lamps and Gas for 1880," showing the Amount of Expenditures during the year, with the Balance standing to the Credit of the Appropriation.

Amount appropriated for "Lamps and Gas, 1880".....	\$496,000 00
Amount of vouchers drawn in first quarter, ending March 31.....	\$83,215 21
Amount of vouchers drawn in second quarter, ending June 30.....	120,001 71
Amount of vouchers drawn in third quarter, ending September 30.....	124,721 79
Amount of vouchers drawn in fourth quarter, ending December 31.....	166,719 80
Total expenditures for the year 1880.....	494,658 51
Surplus balance.....	\$1,341 49

#### EXHIBIT "C."

Summary of the Appropriation for "Salaries—Lamps and Gas for 1880," showing the Amount of Expenditures during the year, with the Balance standing to the Credit of the Appropriation.

Amount appropriated for "Salaries—Lamps and Gas, 1880".....	\$6,000 00
Amount of vouchers drawn in first quarter, ending March 31.....	\$1,504 00
Amount of vouchers drawn in second quarter, ending June 30.....	1,508 00
Amount of vouchers drawn in third quarter, ending September 30.....	1,512 00
Amount of vouchers drawn in fourth quarter, ending December 31.....	1,475 64
Total expenditures for the year 1880.....	5,999 64
Surplus balance.....	\$0 36

#### 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, 1880, with a Recapitulation for the Year.

NEW YORK GAS-LIGHT COMPANY.			
Number of lamps burning September 30, 1880.....	3,568		
Number of new lamps lighted during the quarter.....	6		
Number of old lamps relighted during the quarter.....	1		
Less lamps discontinued during the quarter.....	3,575		
Number of lamps burning December 31, 1880.....	3,573		
MANHATTAN GAS-LIGHT COMPANY.			
Number of lamps burning September 30, 1880.....	6,826		
Number of new lamps lighted during the quarter.....	7		
Number of old lamps relighted during the quarter.....	1		
Less lamps discontinued during the quarter.....	6,834		
Number of lamps burning December 31, 1880.....	6,821		
METROPOLITAN GAS-LIGHT COMPANY.			
Number of lamps burning September 30, 1880.....	4,329		
Number of new lamps lighted during the quarter.....	10		
Number of old lamps relighted during the quarter.....	4		
Less lamps discontinued during the quarter.....	4,343		
Number of lamps burning December 31, 1880.....	4,306		
NEW YORK MUTUAL GAS-LIGHT COMPANY.			
Number of lamps burning September 30, 1880.....	1,042		
Number of new lamps lighted during the quarter.....	1		
Number of old lamps relighted during the quarter.....	3		
Less lamps discontinued during the quarter.....	1,046		
Number of lamps burning December 31, 1880.....	1,045		
HARLEM GAS-LIGHT COMPANY.			
Number of lamps burning September 30, 1880.....	4,706		
Number of new lamps lighted during the quarter.....	38		
Number of old lamps relighted during the quarter.....	6		
Less lamps discontinued during the quarter.....	4,750		
Number of lamps burning December 31, 1880.....	4,738		

*Statement giving the Illuminating Power of the Gas supplied by the several Gas-light Companies during the Quarter ending December 31, 1880, 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. 2.....	22.92	25.19	23.74	28.57	30.03	29.23	26.83	27.66	27.37	21.90	22.36	22.23	18.52	19.47	19.13	18.04	18.92	18.45
" 9.....	21.84	26.55	24.62	28.92	29.76	29.27	27.33	27.93	27.50	22.22	23.04	22.52	18.36	19.40	18.81	18.53	19.02	18.74
" 16.....	22.70	24.72	23.86	27.32	30.50	28.92	24.30	27.40	26.23	21.10	25.55	21.91	18.09	19.55	18.89	18.24	19.41	18.72
" 23.....	22.53	24.76	23.76	28.68	29.94	29.13	24.08	26.69	25.26	21.40	21.81	21.56	18.20	19.80	18.97	18.20	19.15	18.65
" 30.....	23.14	27.82	24.67	27.32	30.70	30.38	25.78	28.65	27.58	21.50	21.93	21.71	18.88	19.72	19.35	19.12	20.16	19.63
Nov. 6.....	21.45	24.27	23.45	27.42	29.85	28.81	25.29	26.67	26.02	20.73	23.06	22.12	18.01	19.12	18.75	19.78	20.08	19.94
" 13.....	22.89	23.05	25.54	25.85	28.10	27.11	25.15	26.30	25.97	22.54	23.85	23.13	18.24	19.03	18.57	19.19	21.29	20.00
" 20.....	20.50	26.28	22.64	24.02	26.40	25.50	24.25	26.03	25.30	22.74	23.90	23.06	17.75	19.35	18.16	18.66	19.74	18.89
" 27.....	18.49	24.11	21.79	25.16	27.47	25.94	20.93	23.67	22.90	21.72	22.84	22.12	17.32	19.70	18.62	18.38	19.10	18.66
Dec. 4.....	23.91	26.58	24.74	25.69	28.51	27.43	20.36	24.48	22.08	23.09	23.58	22.08	19.77	17.88	18.12	19.12	18.87	18.77
" 11.....	21.73	25.30	23.74	25.58	28.18	27.62	21.89	24.48	23.19	22.35	23.84	22.58	18.32	19.61	19.00	17.28	19.54	18.85
" 18.....	20.61	24.78	23.20	25.34	23.25	26.55	22.97	25.32	24.16	20.31	23.48	22.06	19.06	20.26	19.55	18.80	19.42	19.19
" 25.....	20.28	24.02	21.73	23.59	29.00	27.33	22.00	31.58	23.37	23.62	24.42	23.95	19.17	20.73	20.04	17.93	19.30	19.06
" 31.....	20.56	25.02	22.97	24.68	26.76	25.94	23.14	25.56	24.46	22.68	23.25	22.68	19.32	20.63	19.99	18.20	19.28	18.80

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 .....	15.42	24.70	18.78	26.43	31.97	30.00	18.00	28.66	21.94	15.56	20.26	18.00	16.02	21.07	18.45	15.80	18.60	17.17
February .....	18.06	21.00	20.18	26.95	31.85	30.42	22.44	28.87	25.99	15.17	20.45	18.11	18.56	20.19	19.52	16.62	17.60	17.13
March .....	17.56	21.81	19.24	27.04	31.83	29.82	26.54	29.72	27.69	19.15	21.85	20.53	17.53	20.40	18.78	16.87	18.32	17.55
April .....	17.05	19.85	18.57	24.77	31.70	29.79	25.18	29.19	27.36	20.45	23.30	21.24	18.42	20.91	19.70	16.68	17.94	17.36
May .....	21.17	27.01	24.65	26.24	31.16	29.93	25.00	28.20	27.22	19.67	22.56	21.22	20.14	22.30	20.71	14.99	16.27	17.48
June .....	19.05	25.13	23.48	24.55	29.13	27.63	24.54	27.91	25.39	20.46	22.82	21.50	18.31	21.39	20.68	17.60	19.63	18.28
July .....	22.14	26.27	23.80	26.35	32.44	25.37	25.52	32.17	27.59	19.16	23.30	21.78	18.07	20.70	18.90	16.87	19.36	18.18
August .....	20.68	27.86	24.01	27.20	32.40	28.11	25.51	28.62	27.38	19.90	22.34	20.99	18.58	21.08	19.48	17.31	18.46	18.08
September .....	22.28	25.97	24.15	27.06	32.39	28.26	23.83	29.53	27.72	20.10	22.35	21.17	18.04	20.25	19.28	17.95	18.87	18.57
October .....	21.84	27.82	24.13	27.32	30.76	28.32	25.08	26.65	25.80	21.10	23.04	21.68	18.09	19.80	19.03	17.04	19.16	18.84
November .....	18.49	28.05	23.35	24.02	29.85	26.84	20.96	26.67	25.08	20.73	23.95	22.67	17.32	19.78	18.52	18.06	21.29	19.38
December .....	20.28	26.52	23.17	23.59	29.20	26.65	20.38	26.04	23.93	20.91	24.42	23.13	18.32	20.73	19.67	17.28	19.82	18.91
Year .....	Average 22.31			Average 28.52			Average 26.26			Average 20.94			Average 19.35			Average 18.08		
Distance from Gas Works...	2 <sup>1</sup> / <sub>10</sub> Miles.			3 <sup>1</sup> / <sub>10</sub> Miles.			1 <sup>7</sup> / <sub>10</sub> Miles.			3 <sup>1</sup> / <sub>10</sub> Miles.			1 <sup>3</sup> / <sub>10</sub> Miles.			1 <sup>7</sup> / <sub>10</sub> 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.		

"F."  
*recorded in tenths of inches by the Lamp Pressure Registers.*

[illegible]

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Total number of lamps burning December 31, 1880.....	23,511
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15. 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 aforementioned period of one year, the sum of fifteen dollars.

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

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

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

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

For each lamp-post reset, the sum of ten dollars (\$10).

For each new lamp fitted up, the sum of ten dollars (\$10).

H. 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 at any time between May 1, 1880, and April 30, 1881, 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 to conduct the said gas. 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 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 manufactories of gas 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 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 provided, and 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.

L. And it is further agreed, that on or after the first day of each and every month from the month of June, 1880, to the month of May, 1881, 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 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 therefor 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.

M. 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 or accepted by the parties of the first part, any person or persons claiming to have performed any labor or furnished any material 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.

And the said party of the second part hereby further agrees that it will furnish the said Commissioner of Public Works, Mayor, and Comptroller with satisfactory evidence that all persons who have done work or furnished materials under this agreement, and who may have given written notice to the said Commissioner of Public Works, Mayor, and Comptroller, before or within ten days after the final completion and acceptance of the whole work under this contract, that any balance for such work or material is due and unpaid, have been fully paid or satisfactorily secured. And in case such evidence be not furnished as aforesaid, such amount as may be necessary to meet the claims of the persons aforesaid shall be retained from the moneys due the said party of the second part under this agreement, until the liabilities aforesaid shall be fully discharged or such notice withdrawn.

N. 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 any 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.

O. 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.

Witness:

JOHN S. ROUTH.

EDWARD COOPER,

Mayor of the City of New York.

JOHN KELLY,

Comptroller of the City of New York.

ALLAN CAMPBELL,

Commissioner of Public Works.

THE NEW YORK GAS-LIGHT COMPANY,

By THOMAS K. LEES, President.

G. W. DOANE, Secretary.

[SEAL]

Attest:

G. W. DOANE.

#### EXHIBIT "H."

##### Time-Table for Lighting and Extinguishing the Public Lamps, for the Year 1881.

DATE.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.	DATE.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.
January 1.....	H. M.	H. M.	July 1.....	H. M.	H. M.
" 8.....	4.30	6.35	" 9.....	7.30	3.15
" 15.....	4.40	6.35	" 16.....	7.30	3.15
" 22.....	4.50	6.30	" 23.....	7.20	3.15
" 29.....	5.00	6.30	" 30.....	7.10	3.15
February 5.....	5.05	6.20	" 6.....	7.10	3.45
" 12.....	5.20	6.15	" 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 6.....	6.45	4.00	November 5.....	4.40	5.45
" 13.....	6.55	3.40	" 12.....	4.30	5.60
" 20.....	7.00	3.30	" 19.....	4.25	5.60
" 27.....	7.10	3.15	" 26.....	4.20	5.60
" 31.....	7.15	3.15	December 3.....	4.20	6.15
June 4.....	7.25	3.15	" 10.....	4.20	6.20
" 11.....	7.25	3.15	" 17.....	4.20	6.20
" 18.....	7.30	3.15	" 24.....	4.20	6.25
" 25.....	7.30	3.15			

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

#### (Appendix to Time-Table.)

##### 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 the 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."

DEPARTMENT OF PUBLIC WORKS,  
BUREAU REPAIRS AND SUPPLIES,  
January 13, 1881.

HUBERT O. THOMPSON, Esq., Commissioner Public Works:

SIR—In compliance with your request I submit a report of the transactions of this Bureau for the three months ending December 31, 1880.

The exhibits marked "A," "B," and "C," hereto annexed, show the number and amount of certified vouchers drawn during the three months, also the condition of the appropriations upon which they have been drawn, and where the money has been applied.

The public buildings under the care of the Department require considerable repairing to put them in complete order. The New County Court-house should be thoroughly painted inside and outside.

The window-frames, sash, and the wood-work throughout the Brown Stone Building need a thorough overhauling, and when put in order should be painted.

The Hall of Records requires refitting and painting inside and outside.

The Fifth District Civil Court-house needs painting inside and outside.

The Centre Market would be greatly improved by painting the outside, including the brick-work.

The outside wood-work of the Fifty-seventh street Court-house should be painted.

The Special Sessions Court-room should be cleaned and painted inside, and the outside of the window-frames and sash.

The majority of the market buildings are in a dilapidated condition, and are constantly requiring repairs.

The following shows in detail the repairs and alterations effected during the quarter :

NEW COURT-HOUSE.

The location of steam-coils in the Surrogate's office has been changed, and galvanized iron pipes for hot air have been erected in the Surrogate's and Sheriff's offices. An iron stairway has been constructed in the Finance Department. The balustrade cornice and coping of the building have been pointed.

BROWN STONE BUILDING.

The cornices and trimmings have been pointed.

THIRD DISTRICT COURT-HOUSE.

The slate roof has been repaired and the tin roof painted. Two iron ladders have been erected in the bell-tower.

NINTH DISTRICT COURT-HOUSE.

The steam-coils in the prisoners' box has been repaired.

WASHINGTON MARKET.

The flooring of several stands has been repaired, new floors laid, and the support of roof made secure.

CENTRE MARKET.

The gas-fixtures have been repaired and the cornice painted.

CLINTON MARKET.

Repairs have been made to the gravel roof, to sky-lights and posts supporting roof, and the windows throughout the market reglazed.

The following report of the Superintendent of Free Floating Baths shows the number of male and female bathers during the year.

Yours respectfully,

THOMAS KEECH, Sup't of Repairs and Supplies.

	MALES.	FEMALES.	TOTALS.
Nineteenth street, East river.....	237,432	110,598	348,030
Fifth street, ".....	436,693	177,759	614,452
Thirty-seventh street, ".....	301,870	204,904	506,774
One Hundred and Twelfth street, East river.....	209,492	101,106	310,598
Gouverneur street, East river.....	374,587	158,153	532,740
Bethune street, North river.....	220,226	125,728	345,954
Fifty-first street, ".....	176,088	132,137	308,225
Battery, ".....	370,527	244,038	615,105
Totals.....	2,326,915	1,255,023	3,581,938

EXHIBIT "A."

Showing the Amount of Expenditures for which Certified Vouchers have been drawn on account of the several Appropriations therein named, and also showing the Buildings, Courts, Departments, etc., to which the same has been charged, from October 1 to December 31, inclusive, 1880.

BUILDINGS, COURTS, DEPARTMENTS, ETC.	Public Build- ings—Construc- tion and Repairs.	Supplies for and Cleaning Public Offices.	Supplies for and Cleaning Public Offices— For Salaries Charged to.	Free Floating Baths.	Free Floating Baths—For Salaries Charged to.	County Court-house Building, Completion of.	Salaries of Janitors of Civil and Police Courts.	Contingencies— Department of Public Works.	TOTALS.
Courts—									
Supreme.....		\$412 67							\$412 67
Superior.....		142 10							142 10
Common Pleas.....		24 50							24 50
Special Sessions.....		87 80							87 80
First Police.....		153 90							153 90
Second ".....		4 00							4 00
Third ".....	\$8 40	119 84							128 24
Fourth ".....		4 00							4 00
Fifth ".....		122 54							122 54
Sixth ".....		62 47							62 47
First Civil.....		33 25							33 25
Second ".....	95 73	133 60							229 33
Third ".....		13 50							13 50
Fourth ".....		74 37							74 37
Fifth ".....		64 74							64 74
Sixth ".....		55 23							55 23
Seventh ".....		32 87							32 87
Eighth ".....		43 79							43 79
Ninth ".....		69 25							69 25
Tenth ".....									
Court-houses—									
New.....	1,052 10	2,403 73				\$1,652 34			5,108 17
Third District.....	187 37	411 26						\$1,250 00	1,848 63
Fifth ".....	30 98								30 98
Seventh ".....	74 81	121 00							195 81
Markets—									
Washington.....	515 07								515 07
Centre.....	371 99								371 99
Fulton.....	15 00								15 00
Tompkins.....	165 63								165 63
Essex.....	127 54								127 54
Jefferson.....	187 22								187 22
Clinton.....	93 91								93 91
Departments—									
Executive.....		28 05							28 05
Public Works.....		732 41							732 41
Bureau of Repairs and Supplies.....	337 35	373 95							711 30
"    "    "    Pay-rolls.....	406 50	9,817 00	\$3,806 95				\$1,800 00		15,890 45
Finance.....	10 00	537 86							547 86
Law.....		174 50							174 50
Taxes and Assessments.....		7 50							7 50
Buildings.....		87 10							87 10
Offices—									
Commissioners of Accounts.....		2 55							2 55
District Attorney.....		17 10							17 10
Surrogate.....		74 03							74 03
Buildings, etc.—									
City Hall.....	201 20	955 26							1,156 55
Brown Stone Building, 32 Chambers street.....	541 76	359 92							901 68
Hall of Records.....	45 10								45 10
City Prison.....	17 46								17 46
County Jail.....	23 70								23 70
City Arsenal.....	90 84								90 84
Gansevoort Street Yard.....		5 50							5 50
Rivington Street Yard.....	78 83	25 00							103 83
Twenty-fourth Street Pipe Yard.....	28 30								28 30
49 Beekman street.....	2 90								2 90
27 Chambers street.....		38 00							38 00
31 Chambers street.....	2,707 09	254 73							2,961 82
Dog Pound.....		16 50							16 50
National Guard—									
Third Regiment.....		12 00							12 00
Fifth ".....		61 75							61 75
Seventh ".....		546 25							546 25
Eighth ".....		17 25							17 25
Ninth ".....		229 50							229 50
Eleventh ".....		175 84							175 84
Twelfth ".....		67 50							67 50
Twenty-second Regiment.....		73 25							73 25
Sixty-ninth ".....		108 65							108 65
Seventy-first ".....		204 58							204 58
Troop "A".....	133 88	39 50							173 38
Battery "E".....		84 75							84 75
Free Floating Baths.....				\$1,288 65	\$2,151 75				3,440 40
Totals.....	\$7,610 75	\$19,773 89	\$3,806 95	\$1,288 65	\$2,151 75	\$1,652 34	\$1,800 00	\$1,250 00	\$39,334 33

EXHIBIT "B."

Showing the Number and Amount of Vouchers drawn on account of the Appropriations therein named, from October 1 to December 31, 1880, inclusive.

APPROPRIATION.	NUMBER OF VOUCHERS.	AMOUNT.
Public Buildings—Construction and Repairs.....	56	\$7,610 75
Supplies for and Cleaning Public Offices.....	73	19,773 89
"    "    "    For Salaries.....	3	3,806 95
Free Floating Baths.....	13	1,288 65
"    "    "    For Salaries.....	3	2,151 75
County Court-house Building, Completion of.....	5	1,652 34
Salaries of Janitors of Civil and Police Courts.....	3	1,800 00
Contingencies—Department of Public Works.....	2	1,250 00
Totals.....	158	\$39,334 33

EXHIBIT "C."

Showing the condition of the Appropriations credited to the Bureau of Repairs and Supplies upon which Vouchers have been drawn, from October 1 to December 31, 1880, inclusive.

Public Buildings—Construction and Repairs—		
Balance October 1, 1880.....	\$12,911 01	
Amount transferred to.....	1,000 00	
Amount transferred from.....	\$600 00	\$13,911 01
Vouchers drawn.....	7,610 75	
Liabilities December 31, estimated.....	5,698 15	
Available balance.....		13,908 90
Supplies for and Cleaning Public Offices—		
Balance October 1, 1880.....	\$18,787 39	
Amount transferred to.....	2,368 25	
Vouchers drawn.....	\$19,773 89	\$21,155 64
Liabilities December 31, estimated.....	1,328 40	
Available balance.....		21,102 29
Available balance.....		\$53 35

Free Floating Baths—		
Balance October 1, 1880.....		\$3,826 00
Transferred from .....	\$1,850 00	
Vouchers drawn .....	1,288 65	
Liabilities December 31.....	633 00	
		3,771 65
Available balance.....		\$54 35
County Court-house Building, Completion of—		
Appropriated September 16, 1880.....		\$12,800 00
Vouchers drawn.....	\$1,652 34	
Liabilities December 31, estimated.....	150 75	
		1,803 09
Available balance .....		\$10,996 91
Supplies for and Cleaning Public Offices—Salaries—		
Balance October 1, 1880.....		\$4,328 33
Transferred from .....	\$400 00	
Vouchers drawn .....	3,806 95	
		4,206 95
Available balance.....		\$121 38
Free Floating Baths—Salaries—		
Balance October 1, 1880.....		\$3,370 00
Transferred from .....	\$1,218 25	
Vouchers drawn.....	2,151 75	
		3,370 00
Available balance.....		Nothing.

## Document "K."

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF INCUMBRANCES, ROOM 16, 31 CHAMBERS STREET,  
NEW YORK, January 8, 1881.

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

SIR—I submit herewith report of this Bureau for the quarter ending December 31, 1880 (months of October, November, and December), as also a condensed statement of the entire business during the year 1880.

Number of complaints received and notices issued therefor, against obstructions and incumbrances on streets and sidewalks, 428.

Number of removals of merchandise, wagons, stands, dirt, stones, etc., to the Corporation yard, or other suitable place, 81.

Cost of such removal (including 411 loads of dirt and stones) from various parts of the city, \$526.30.

Total expenses for the quarter, \$908.29.

Received for seized articles, by same being redeemed by owners thereof, \$40.50.

Received as proceeds of sale at Corporation yard, November 9, 1880, \$379.10, both of which amounts, together \$419.60, were paid over to the City Chamberlain.

There was also received, and paid over, as the proceeds of the sales of city property on certain streets and avenues, as follows:

Sales of October 6, 1880..... \$1,382 50  
" " 26, 1880..... 188 50

Total..... \$1,571 00

Number of permits issued to builders..... 1,138

" " to cut down trees..... 14

" " for special purposes..... 130

Number of notices issued to repair sidewalks..... 113

" " vault covers..... 5

During the year 1880, the total number of complaints received and notices issued..... 3,496

Removals to Corporation yard, etc..... 909

" of loads of stone, dirt, etc..... 2,760

Number of builders' permits issued..... 6,656

" special permits issued..... 560

" permits to cut down trees issued..... 53

" notices to repair sidewalks issued..... 1,301

" vault covers issued..... 13

Total expenditures for the year..... \$5,299 91

Receipts from sales at Corporation yard..... \$474 63

" owners, for seizures redeemed..... 179 75

" sales of October 6 and 26, 1880..... 1,571 00

Total..... \$2,225 38

—which was all duly paid over.

It will be seen that the work of this Bureau has largely increased over that of former years, and that with an increase of the appropriation for removing obstructions, from \$1,500 in 1879, to \$3,000 in 1880, or double the amount, the removals have been 909 in 1880, to 275 in 1879, or nearly four times as many. This amply justifies the appropriation for 1881 for that purpose, and proves that the Bureau can be made useful and effective, if supplied with the necessary means to carry out its allotted work.

During the last quarter of the past year the long contested case of Jane P. Emmons against Allan Campbell, Commissioner of Public Works, involving the right of the Commissioner to remove a structure, built on and occupying the public street, at New Church street, near Cortlandt street, and used for private and personal purposes, was decided in favor of the Commissioner, and under his direction I proceeded to take down the structure so erected, and removed the materials to the Corporation yard. This decision, and the prompt action of the Department under it, is most important, in that it declares such encroachments to be illegal and improper, and sets at rest any doubt as to the right of the Commissioner of Public Works to remove such.

Respectfully,  
JOSEPH BLUMENTHAL,  
Superintendent of Incumbrances.

## Document "L."

BUREAU OF WATER REGISTER,  
31 CHAMBERS STREET,  
NEW YORK, December 31, 1880.

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, 1880.

	Principal.	Penalties.	Taps.
October.....	\$83,357 20	\$1,951 00	\$884 50
November.....	75,105 23	2,523 75	687 50
December.....	62,082 76	1,177 85	549 00
	\$220,545 19	\$5,652 60	\$2,121 00

Total..... \$228,318 79

Deposited to the credit of Special Meter Stock—

October..... \$1,250 75

November..... 1,130 66

December..... 2,660 44

Total..... \$5,041 85

Special Fund—Repairing Streets and Sidewalks—	
October .....	\$904 00
November .....	795 00
December.....	702 00
Total.....	\$2,401 00

## RECEIPTS FOR THE YEAR 1880.

For 2,250 taps, amount received.....	\$10,248 10
* For 634 permits for repairing streets.....	3,219 00
The general collections from January 1, 1880, to and including December 31, 1880, amount to.....	1,550,350 07
Of which 719 building permits were issued, and receipts therefor were.....	19,175 16
Unpaid water rates for 1879, transmitted to the Clerk of Arrears, amount to.....	76,043 09
For Special Meter Stock, amount received.....	13,467 50

5,225 street opening permits were issued for the year, and 1,627 permits for using hose.

All of which is respectfully submitted.

J. H. CHAMBERS, Water Register.

\* From September 1 to December 31, 1880.

## APPROVED PAPERS.

Ordinances, resolutions, etc., approved by the Mayor during the week ending April 9, 1881.

Resolved, That permission be and the same is hereby given to H. D. Chigarey to erect two bay-windows on the south side of Twenty-eighth street, 14 feet, and 40 feet west of Madison avenue, according to the annexed diagram, the consent of the adjoining property owners having been obtained and is hereto annexed, the work done at his 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, March 22, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That permission be and the same is hereby given to W. D. Pitche to place and retain a stand for the sale of newspapers on the sidewalk at the northwest corner of One Hundred and Twentieth street and Second avenue; the consent of the adjoining property having been received and which is hereto annexed; said stand not to exceed eight feet in length and three feet in width, and to be so placed as not to obstruct the free use of the sidewalk; the work to be done at the expense of the said W. D. Pitche, and such permission to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, March 22, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That permission be and the same is hereby given to C. C. Ryan to place and keep a watering-trough on the sidewalk in front of No. 363 South street, corner of Montgomery street, the work done and water supplied at his 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, March 22, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That permission be and the same is hereby granted to Patrick O'Hare to place and keep a watering-trough in front of his premises, situated on the northeasterly corner of One Hundred and Thirty-ninth street and Third avenue, the work to be done and the water supplied at his 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, March 22, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That permission be and is hereby given to Sheppard Knapp to erect or extend a storm-door in front of store No. 103 West Thirteenth street; said door to be erected at his own expense, and to continue during the pleasure of the Common Council and under the direction of the Fire Department.

Adopted by the Board of Aldermen, March 22, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That permission be and the same is hereby given to Bernard Kearns to place a stand on the sidewalk in front of his place of business, northwest corner of Fourteenth street and Third avenue, said stand to be 5 foot long by 3 foot wide.

Adopted by the Board of Aldermen, March 22, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That permission be and the same is hereby given to Neidlinger, Schmitt & Co. to place and keep a platform scale in Sixty-third street, near the East river, as shown on the accompanying diagram, such scale to be made flush with the surface of the street, and so placed and constructed as to present no impediment to the free use of the street, 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, March 29, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That permission be and the same is hereby given to Charles H. Zeiger to place and keep a storm-door over the entrance to No. 60 Park place, such storm-door not to exceed ten feet in height, four feet in width, and not to project outwardly beyond the stoop-line, the work done at his 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, March 29, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That, pursuant to the provisions of section 91, article XVI, chapter 335, Laws of 1873, the Health Department of the City of New York be and is hereby authorized and empowered to procure in open market, without contract, and in such manner as said Department may deem to be necessary and for the best interests of the public, a steamboat, to be used for the transportation of persons sick with contagious diseases, at a cost not to exceed five thousand dollars.

Adopted by the Board of Aldermen, March 29, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That the Comptroller be and he is hereby authorized and directed to draw a warrant in favor of Joseph J. McAvoy, Chairman of the Special Committee appointed to represent the municipality on the occasion of solemnizing the funeral ceremonies of Hon. Fernando Wood, at the city of Washington, D. C., for the sum of one hundred and seventy-six 25-100 dollars, to reimburse said Committee for expenses incurred and paid, in giving effect to the instructions of this Common Council, and charge the amount to the appropriation for "City Contingencies."

Adopted by the Board of Aldermen, March 29, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That permission be and the same is hereby given to the Young Men's Christian Association to place and keep a bulletin board on the outer edge of the sidewalk in front of their premises, No. 2317 Third avenue, the said board to be seven feet high, four feet wide, and not to extend more than three feet from the curb-stone, 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, March 29, 1881.

Approved by the Mayor, April 4, 1881.

Resolved, That Silleck S. Scofield be and he is hereby appointed a Commissioner of Deeds in and for the City and County of New York, in place of Silleck S. Scofield, whose term expires April 7, 1881.

Adopted by the Board of Aldermen, March 29, 1881.  
Approved by the Mayor, April 4, 1881.

Resolved, That in order to provide necessary additional space for the transaction of the business of the Department of Taxes and Assessments, the Commissioner of Public Works is hereby authorized and directed to build an extension on the westerly side of the brown stone Court-house, on a level with the first floor, similar to the extension already built on that side of the building, and prepare the same for the use of the Department of Taxes and Assessments, to which it is hereby assigned.

Adopted by the Board of Aldermen, March 29, 1881.  
Approved by the Mayor, April 4, 1881.

Resolved, That Morris B. Bronner be and he is hereby reappointed a Commissioner of Deeds in and for the City and County of New York, in place of Morris B. Bronner, whose term of office has expired.

Adopted by the Board of Aldermen, March 29, 1881.  
Approved by the Mayor, April 4, 1881.

Resolved, That the Comptroller be and he is hereby authorized and directed to draw a warrant in favor of John F. Sloper, Keeper of the City Hall, for the sum of twelve dollars, to reimburse him for expenses incurred, by order of the Committee, in preparing the Governor's room in the City Hall for the reception of the remains of Fernando Wood, and charge the amount to the appropriation for "City Contingencies."

Adopted by the Board of Aldermen, March 29, 1881.  
Approved by the Mayor, April 4, 1881.

Resolved, That permission be and is hereby given to John J. Carroll to place and keep a storm-door over the entrance to the building at the southeasterly corner of Third avenue and Nineteenth street, such door to be within the stoop-line.

Adopted by the Board of Aldermen, March 29, 1881.  
Approved by the Mayor, April 4, 1881.

Resolved, That Fifth avenue, from the present crosswalk on the northerly side of Ninetieth street to a line five feet south of and parallel with the south curb of One Hundred and Tenth street, be paved, except where heretofore paved, with Macadam pavement of trap-rock, with Telford foundation, except that the gutters and intersections shall be paved with Belgian or trap-block pavement, with like foundation, and that crosswalks of blue stone be laid where indicated upon the accompanying map, which more specifically sets forth the exact nature and extent of all of the above work, and which is hereby made a part of this resolution and ordinance, under the direction of the Commissioner of Public Works; and that the accompanying ordinance therefor be adopted.

Adopted by the Board of Aldermen, March 29, 1881.  
Approved by the Mayor, April 5, 1881.

Resolved, That permission be and the same is hereby given to George A. Osgood to erect a bay-window on house No. 697 Fifth avenue, the consent of the adjoining property owners having been obtained, and is hereto annexed, according to the annexed diagram, the work done at his 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, March 29, 1881.  
Approved by the Mayor, April 5, 1881.

Resolved, That John B. Shea be and he is hereby appointed a City Surveyor.

Adopted by the Board of Aldermen, March 29, 1881.  
Approved by the Mayor, April 6, 1881.

Resolved, That Josiah A. Briggs be and he is hereby appointed a City Surveyor.

Adopted by the Board of Aldermen, March 29, 1881.  
Approved by the Mayor, April 6, 1881.

Resolved, That permission be and the same is hereby given to John McGuire to place and keep a watering-trough on the northwest corner of Ninety-ninth street and Eighth avenue, the work done and water supplied at his 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, March 29, 1881.  
Approved by the Mayor, April 6, 1881.

Resolved, That Croton water-mains be laid in St. Ann's avenue, from One Hundred and Fifty-sixth street to Westchester avenue, as provided in chapter 381, Laws of 1879.

Adopted by the Board of Aldermen, March 29, 1881.  
Approved by the Mayor, April 6, 1881.

Resolved, That the Commissioner of Public Works be and he is hereby authorized and requested to inclose with a suitable and safe partition wall the space in the vestibule of the basement of the New County Court-house, between the northerly entrance and the rotunda, and between the centre door of said entrance and the County Clerk's Office, and to make an entrance or doorway from the room so inclosed into the County Clerk's Office, and to fit up said room for the use of the County Clerk, to which the same is hereby assigned.

Adopted by the Board of Aldermen, March 29, 1881.  
Approved by the Mayor, April 6, 1881.

OFFICE OF THE U. S. HEATING AND POWER COMPANY,  
34 PINE STREET,  
NEW YORK, April 4, 1881.

To the Honorable Board of Aldermen of the City of New York:

GENTLEMEN—The Trustees of the United States Heating and Power Company hereby petition your Honorable Body to amend the franchise granted to them on the 16th of March, 1881, in accordance with the accompanying resolution. The change is asked for by the trustees with the unanimous approval of the stockholders of the company, in order that their obligations to the city may be made positive and without reference to the opinions of future City Boards, and to gain this end, they have asked that the compensation be fixed at the highest yearly limit allowed by the conditions of the grant voted by your Honorable Body, on the above date of March 16, 1880.

And your petitioners will ever pray,

P. J. CLAUSSEN, Secretary, on behalf of the Trustees.

Whereupon, Alderman Sheils offered the following:

Resolved, As requested in the foregoing memorial of the United States Heating and Power Company, that the fifth condition of the franchise or grant to the said company, to use the streets, etc., of this city for laying its pipes, conductors, etc., passed March 16, 1880, which reads as follows: "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."

—be and is hereby amended so as to read as follows:

"A report, under oath, shall be made by the secretary of the company, to the Comptroller, on or before the 17th day of March, each year, setting forth the quantity of mains laid during the preceding year, and the net profits of the company for the same time, and the company shall pay to the Comptroller, on or before the first day of May, of each year, three cents for each lineal foot for the mains laid, and two per cent. of the net profits for the year, embraced in such report of the secretary."

Adopted by the Board of Aldermen, April 5, 1881.  
Approved by the Mayor, April 6, 1881.

AN ORDINANCE to amend section 396, article XL., chapter 8, of the Revised Ordinances, approved December 31, 1880.

The Mayor, Aldermen, and Commonalty of the City of New York do ordain as follows:

That section 396, article XL., chapter 8, of the Revised Ordinances, approved December 31, 1880, be amended by inserting at the beginning of the section the following words: "The said inspector shall be entitled to demand and receive the following fees for inspecting and examining weights, measures, scale-beams, patent balances, steelyards, and other instruments for weighing, used in the city of New York, viz.:

For every weight under fourteen pounds, three cents. For every weight over fourteen pounds, five and a half cents.

"For every liquid measure, five cents.

"For every yard or dry measure, five cents.

"For every scale weighing less than two hundred and fifty pounds, twenty cents. For every scale weighing over two hundred and fifty pounds, fifty cents," so that said section shall read as follows, viz.:

Sec. 396. The said inspector shall be entitled to demand and receive the following fees for inspecting and examining weights, measures, scale-beams, patent balances, steelyards, and other instruments for weighing, used in the city of New York, viz.:

For every weight under fourteen pounds, three cents. For every weight over fourteen pounds, five and a half cents.

For every liquid measure, five cents.

For every yard or dry measure, five cents.

For every scale weighing less than two hundred and fifty pounds, twenty cents. For every scale weighing over two hundred and fifty pounds, fifty cents.

All weights, measures, scale-beams, patent balances, steelyards, and other instruments used for weighing, shall be inspected at the stores and places where the same may be used; but in case they or any of them shall be found not conformable to the standard of this State, they shall be sent by the owner thereof, at his expense, to the office of the city sealer, for the purpose of being adjusted and sealed, within three days after the owner thereof shall be required to do so, in writing, by the said inspector, under the penalty of ten dollars for such neglect.

Adopted by the Board of Aldermen, April 5, 1881.

Approved by the Mayor, April 6, 1881.

Resolved, That permission be and the same is hereby given to Thomas Jeffers & Son to place a pole and sign in front of No. 900 First avenue; such permission to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, March 29, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That permission be and the same is hereby given to Joseph H. Godwin to erect an iron covering over stairway No. 1683 Broadway, in accordance with diagram annexed, the work done at his 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, March 29, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That permission be and the same is hereby given to Frank Grimes to erect and maintain an ornamental lamp within the stoop-line, in front of his premises, No. 1599 Second avenue, gas supplied and the work done at his 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, March 29, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That permission be and the same is hereby given to Henry O'Neill to erect and maintain a bay-window on house on the northwest corner of One Hundred and Sixteenth street and Lexington avenue, according to the annexed diagram, the consent of the adjoining property owner having been obtained, and is hereto annexed, the work done at his 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, March 29, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That permission be and is hereby given to Concklin & Casson to retain four ornamental lamps and lamp-posts in front of their premises, Nos. 952 and 954 Broadway; such permission to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, March 29, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That the name of Alfred B. Thatcher, recently appointed a Commissioner of Deeds, be corrected so as to read Alfred B. Thacher.

Adopted by the Board of Aldermen, April 5, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That the name of William Mencke, recently appointed a Commissioner of Deeds, be changed to his correct name, which is William Meincke.

Adopted by the Board of Aldermen, April 5, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That the name of Charles E. Goeler, recently appointed a Commissioner of Deeds, be corrected so as to read George E. Goeller.

Adopted by the Board of Aldermen, April 5, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That Thomas J. Crombie be and he is hereby appointed a Commissioner of Deeds in and for the City and County of New York, in place of Thomas J. Crombie, whose term of office expires April 7, 1881.

Adopted by the Board of Aldermen, April 5, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That William Comerford be and he is hereby appointed a Commissioner of Deeds, in place and stead of William Comerford, whose term expires April 7, 1881.

Adopted by the Board of Aldermen, April 5, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That permission and the same is hereby given to Peter Lang to erect meat-rack in front of his store, No. 452 Hudson street; said permission to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, April 5, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That permission and the same is hereby given to James Woolsey to erect a booth or news-stand on the northwest corner Bedford and Carmine streets, said permission to continue only during the pleasure of the Common Council, and said booth to be six feet nine inches in height, six feet long, and three feet six inches wide; work to be done at his own expense.

Adopted by the Board of Aldermen, April 5, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That Newell Martin be and he hereby is appointed a Commissioner of Deeds in and for the City and County of New York, in place of Winfred R. Martin, resigned.

Adopted by the Board of Aldermen, April 5, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That John T. Toal be and he is hereby a Commissioner of Deeds in and for the City and County of New York, in place of Theodore Wright, heretofore appointed, and who failed to qualify.

Adopted by the Board of Aldermen, April 5, 1881.

Approved by the Mayor, April 8, 1881.

Resolved, That Daniel J. Cushing be and he is hereby appointed a Commissioner of Deeds in and for the City and County of New York, in place of Daniel J. Cushing, whose term of office has expired.

Adopted by the Board of Aldermen, April 5, 1881.  
Approved by the Mayor, April 9, 1881.

F. J. TWOMEY,  
Clerk Common Council.

## COMMISSIONERS OF THE SINKING FUND.

*Abstract of the Proceedings of the Commissioners of the Sinking Fund, at the meeting held April 6, 1881:*

Present—Hon. William R. Grace, Mayor (Chairman); Hon. Frederick Smyth, Recorder; Hon. Allan Campbell, Comptroller; J. Nelson Tappan, Esq., Chamberlain, and Joseph J. McAvoy, Esq., Chairman Finance Committee, Board of Aldermen.

The minutes of the meetings held March 17 and 30 were read and approved.

The Comptroller submitted the following report on the communication of the Counsel to the Corporation in relation to the suit of the "Mayor, etc., vs. William J. Sexton, administrator," viz.:

CITY OF NEW YORK—FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, April 5, 1881.

*To the Commissioners of the Sinking Fund:*

GENTLEMEN—I present herewith a communication from the Counsel to the Corporation requesting to be informed whether he shall bid in certain property, to be sold under a judgment of foreclosure of a mortgage for part of the purchase money given to the city by the late John Sexton, being three lots of land on Bogart street, and asking instructions in the matter.

Respectfully,

ALLAN CAMPBELL, Comptroller.

Resolved, That the Counsel to the Corporation be and is hereby authorized and directed to bid in the premises referred to in his communication, to be sold under a judgment of a foreclosure of a mortgage given to the Corporation by the late John Sexton, being three certain lots of land designated on a map entitled "Fort Gansevoort property, parcel No. 3," by the numbers 24, 25, and 26, situated on Bogart street, at a price to cover only the amount of the claim of the city against the premises.

The report was accepted and, on motion, the resolution adopted.

The Comptroller submitted the following report in relation to bonds of the city falling due May 1, 1881, viz.:

CITY OF NEW YORK—FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, April 5, 1881.

*To the Commissioners of the Sinking Fund:*

GENTLEMEN—Bonds payable from taxation under the statutes authorizing their issue fall due on May 1, 1881, as follows:

Bonds for State Sinking Fund Deficiency, bearing seven per cent. interest, authorized by chapters 147 and 304 of the Laws of 1874..... \$389,949 48

A resolution of the Commissioners of the Sinking Fund was adopted October 30, 1880, certifying to the Board of Estimate and Apportionment that the revenues of the Sinking Fund for the Redemption of the City Debt for the year 1881 were estimated at \$4,350,000, and that this amount was in excess of the amount of bonds and stocks falling due in said year, payable from taxation and from the Sinking Fund.

The Board of Estimate and Apportionment therefore did not make any appropriation for the payment of said bonds, and they are payable from the Sinking Fund for the Redemption of the City Debt.

I present a resolution to authorize their payment from that fund accordingly, as provided by section 8 of chapter 383 of the Laws of 1878.

Respectfully,

ALLAN CAMPBELL, Comptroller.

Whereas, Bonds of the City of New York, amounting to \$389,949.48, fall due on May 1, 1881, bearing seven per cent. interest, the redemption of which bonds has been provided for from the Sinking Fund, as stated in the report of the Comptroller, under the authority of section 8 of chapter 383 of the Laws of 1878;

Resolved, That the Commissioners of the Sinking Fund do hereby authorize and direct the payment from the Sinking Fund for the Redemption of the City Debt, of Bonds for State Sinking Fund Deficiency, payable May 1, 1881, authorized by chapters 147 and 304 of the Laws of 1874, amounting to the sum of three hundred and eighty-nine thousand nine hundred and forty-nine and 48-100 dollars.

The report was accepted and, on motion, the resolution adopted.

The Comptroller submitted the following report on the communication of Fred'k Townsend, Adjutant-General, State of New York, in relation to leasing armory for the Twenty-second Regiment, N. G. S. N. Y., viz.:

CITY OF NEW YORK—FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, April 6, 1881.

*To the Commissioners of the Sinking Fund:*

GENTLEMEN—Herewith I present a communication from Fred'k Townsend, Major-General and Adjutant-General, State of New York, dated April 5, 1881, informing me that on that day he had approved an application for lease of armory from the commanding officer of the Twenty-second Regiment, N. G. S. N. Y. The lease of this armory, situated on Fourteenth street, between Sixth and Seventh avenues, expires on May 1, 1881, and, as advised by the Adjutant-General, I have arranged with the agent of the owner to lease the premises for one year only from that date, at a rent of \$18,000 per annum, which is the value at which they have been appraised.

Believing that said rent for said term is fair and reasonable, I recommend that authority be given to enter into a lease accordingly.

Respectfully,

ALLAN CAMPBELL, Comptroller.

P. S.—A communication was also received from the Adjutant-General, dated March 28, 1881, advising that no lease of armories should be made for a longer period than one year, in view of probable disbandment and consolidation of military organizations.

Resolved, That the Counsel to the Corporation be requested to prepare a lease of the premises on Fourteenth street, between the Sixth and Seventh avenues, to be occupied as an armory and drill-rooms by the Twenty-second Regiment, N. G., for the term of one year from May 1, 1881, at the yearly rent of \$18,000, with the usual covenants and conditions, the lessor to pay taxes and Croton water rents, and keep the building in repair externally, and the Comptroller is authorized to enter into and execute such lease when so prepared and approved by the Counsel to the Corporation, as provided by chapter 461, Laws of 1880, and upon compliance with all the requirements of law applicable to the leasing of property for the use of the National Guard, State of New York.

The report was accepted and, on motion, the resolution adopted.

The Comptroller submitted the following report, on the application of Jacob Scholle and others for deeds of confirmation, viz.:

CITY OF NEW YORK—FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, March 31, 1881.

*To the Commissioners of the Sinking Fund:*

GENTLEMEN—Herewith I present the petitions, Nos. 1, 2, and 3, of Jacob Scholle and others, for confirmatory deeds of certain lots of land sold at public auction by the Corporation, May 21, 1866, designated as lots 8, 9, 10, 11, and 12, of Plot K, on the map of sale. The said sale was regular, and the terms complied with by the purchasers, and the amount of the purchase money has been paid into the City Treasury, to the credit of the Sinking Fund; but, as alleged, the deeds for said lands from the Corporation were not signed by the then Mayor of the city, and confirmatory deeds are required to cure that alleged defect in the title.

Respectfully,

ALLAN CAMPBELL, Comptroller.

Resolved, That the petitions, Nos. 1, 2, and 3, of Jacob Scholle and others, for confirmatory deeds of certain lots of land described therein sold at public auction by the Corporation on May 21, 1866, and referred to in the report of the Comptroller, be granted and referred to the Counsel to the Corporation to prepare such deeds as the facts may warrant and require, and that the Mayor and Clerk of the Common Council be authorized and directed to execute such deeds when so prepared and approved by him, and that the Comptroller be authorized to deliver the same, when duly executed and recorded in his office, to said petitioner or his attorney.

The report was accepted and, on motion, the resolution adopted.

The Comptroller submitted the following report on the application of Johanna Cohn, for a deed of confirmation, viz.:

CITY OF NEW YORK—FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, April 6, 1881.

*To the Commissioners of the Sinking Fund:*

GENTLEMEN—Herewith I present a petition of Johanna Cohn, by her attorney William H. Morrison, for a confirmatory deed of the lots of land sold at a Corporation sale of real estate, May 21, 1866, designated as lots 30, 31, and 32 in plot S, on the map of said sale. The sale was regular and the terms complied with by the purchaser of said lots; the purchase price has been paid in full and the amount deposited in the City Treasury to the credit of the Sinking Fund for the Redemption of the City Debt, as shown by the books of the Finance Department.

It is alleged that the Corporation deed of said lots was not signed by the then Mayor of the City.

Respectfully,

ALLAN CAMPBELL, Comptroller.

Resolved, That the petition of Johanna Cohn for a confirmatory deed of three lots of land described therein, and designated as lots Nos. 30, 31, and 32 in plot "S," on a map of a sale at public auction of real estate made by the Corporation on May 21, 1866, to Ephraim and Samuel Japha, be granted and referred to the Counsel to the Corporation to prepare such a deed as the facts may warrant and require, and that the Mayor and Clerk of the Common Council be authorized and directed to execute such deed when so prepared and approved by him, and that the Comptroller be authorized to deliver the same, when so executed and recorded in his office, to said petitioner or her attorney.

The report was accepted and, on motion, the resolution adopted.

The Comptroller submitted resolutions of the Board of Police, adopted April 1, 1881, in relation to leasing the (old) Dry Dock Savings Bank building for the use of the Police Department, which, on motion, was referred to the Comptroller.

The Comptroller submitted the following report of the sale, March 30, 1881, of ferry franchises in pursuance of resolution of the Commissioners of the Sinking Fund, adopted March 5, 1881:

CITY OF NEW YORK—FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, April 6, 1881.

*To the Commissioners of the Sinking Fund:*

GENTLEMEN—As authorized by a resolution of the Board adopted March 5, 1881, the leases of franchises along with the wharf property belonging to the city used or required for ferry purposes, of two ferries on the North river, were sold at public auction to the highest bidders, respectively, on March 30, 1881, as follows:

The ferry from the foot of One Hundred and Thirtieth street, North river, to Fort Lee, New Jersey. The lease was sold to Edward H. Coffin, for the term of ten years from May 1, 1881, at the rent of eight per cent. on the gross receipts at the landing in the City of New York.

The ferry from the foot of Forty-second street, North river, to Weehawken, New Jersey. The lease was sold to C. N. Jordan, for the term of ten years from May 1, 1881, at a rent of five per cent. on the gross receipts at the landing in the City of New York.

Leases of said ferries will be made accordingly, as authorized by the resolution above referred to.

No bids were received on the ferry from the foot of Pine street to Hunter's Point, Long Island, and the ferry from Second avenue, Harlem river, to a point at or near the depot of the New York, New Haven and Hartford Railroad Company offered for sale at the same time.

Respectfully,

ALLAN CAMPBELL, Comptroller.

The report was accepted and ordered to be placed on file.

The Comptroller submitted the following resolution to fix the terms and conditions of the sale of the franchises of the ferries now operated by the Union Ferry Company, and for the use of the wharf property belonging to the city required for the purposes of said ferries, which, on motion, was adopted, viz.:

Resolved, That the Commissioners of the Sinking Fund do hereby fix the terms and conditions of sale of the franchise of the five ferries on the East river, now run by the Union Ferry Company of the city of Brooklyn, along with the wharf property belonging to the Corporation of the City of New York, connected with each ferry, and used and required for ferry purposes as follows, to wit:

The Fulton Ferry.—From the foot of Fulton street, New York, to Fulton street, Brooklyn, L. I.

The Wall Street Ferry.—From the foot of Wall street, New York, to Montague street, Brooklyn, L. I.

The Catharine Ferry.—From the foot of Catharine street, New York, to Main street, Brooklyn, L. I.

The South Ferry.—From the foot of Whitehall street, New York, to Atlantic avenue, Brooklyn, L. I.

The Hamilton Avenue Ferry.—From the foot of Whitehall street, New York, to Hamilton avenue, Brooklyn, L. I.

The franchise of all the above-named ferries will be sold to the highest bidder at public auction, at a percentage rate on the total gross receipts thereof, to be fixed by the Commissioners of the Sinking Fund and announced at the sale, and also, at the same time, all the wharf property belonging to the Corporation of the City of New York, used or required for ferry purposes, at the landings of said ferries on both sides of the East river, hereinafter described, at an upset price for the yearly rent thereof, to be also fixed by the Commissioners of the Sinking Fund, and announced at the sale.

The franchise or right to run said ferries will be sold, along with the right to the use and occupation of said wharf property, as provided by chapter 498, Laws of 1880, for the term of five years from the first of May, 1881, under one lease to the same purchaser, and upon the following

### CONDITIONS OF SALE:

The highest bidder or purchaser will be required to pay, at the time of sale, to the Comptroller, in addition to the fee of the auctioneer, the sum of twenty-five thousand dollars, which amount shall apply to the rent first becoming due, in case he executes a lease with the covenants therein, as prepared by the Counsel to the Corporation, otherwise to be forfeited to the city. He will be required also to furnish an agreement or obligation, to be entered into at the time of the sale, with two good sureties, to this effect: that he will execute a bond with two sureties to be approved by the Comptroller, for the punctual payment of the rent quarter-yearly, and for the faithful performance of the covenants of the lease. No expense whatever is to be incurred by the Corporation for or in connection with the piers, bulkheads, or premises proposed to be leased along with the franchise of said ferries. He will be entitled, together with the said wharf property belonging to the Corporation at said ferry landings, to all the fixtures thereon, including ferry-houses, floats, bridges, racks, and other appendages necessary for ferry purposes, during the time of the lease.

The wharf property belonging to the Corporation to be leased along with the franchise of the ferries, consists of all those bulkheads, slips, and piers now used or required by the Union Ferry Company for ferry purposes, the surface of the piers adjoining the slips for landings being reserved, except so far as may have been required and is now occupied by fences or guards for protection behind the racks or piles, and as shown on maps filed in the office of the Comptroller and in the Department of Docks, comprised under the following general description, namely:

1. All that certain wharf property consisting of bulkheads, slips, and adjacent Piers Nos. 21 and 22, except the surface, now used and required by the Fulton Ferry for ferry purposes, at the foot of Fulton street, in the City of New York.

2. All that certain wharf property consisting of bulkheads, slips, and adjacent piers, except the surface, now used and required by the Fulton Ferry, at the foot of Fulton street, in the City of Brooklyn.

3. All that certain wharf property consisting of bulkheads, slips, and adjacent piers Nos. 34 and 35, except the surface, now used and required for the Catharine Ferry, at the foot of Catharine street, in the City of New York.

4. All that certain wharf property consisting of bulkheads, slips, and half the adjacent pier on the westerly side of the slip, except the surface, now used and required by the Catharine Ferry, at the foot of Main street, in the City of Brooklyn.

5. All that certain wharf property consisting of one-half the bulkhead and slip, and adjacent Pier No. 15, on the southerly side thereof, except the surface, now used and required by the Wall Street Ferry, at the foot of Wall street, in the City of New York.

6. All that certain wharf property consisting of bulkheads, slips, and Pier No. 2, northerly side, except the surface and short pier, southerly side, now used and required by the South and the Hamilton avenue ferries, at the foot of Whitehall street, in the City of New York.

The lessee or lessees will be required to dredge the ferry slips and dredge under the platforms to such depth as may be necessary, under the direction of the Department of Docks; and if necessary for the improvement of the water front of the city, as provided by law, the wharf property shall be given up for that purpose, as covenanted in the lease.

The lease shall contain covenants in conformity with the requirements of existing laws relative to ferries belonging to the City of New York, and that the lessee or lessees will conduct and manage such ferries, and each of them, according to the rules, regulations, ordinances, or by-laws as are now or may hereafter be made or passed by the Common Council and the Legislature of the State.

The lease shall also contain a covenant requiring each ferry-boat to have attached to its engine a fire apparatus or force pump, with not less than four hundred feet of hose of the quality and dimensions used by the Fire Department of the City of New York, and to be used for the extinguishment of fires when required by the Chief Engineer or his assistants of the Fire Department of the City of New York, for which service the lessee shall receive \$20 per hour for each hour engaged, and no time to be counted less than one hour.

The rates of ferriage shall not exceed those now charged by the Union Ferry Company.

The right to eject any bid, if deemed to be for the interests of the City of New York, is reserved by the Commissioners of the Sinking Fund.

The Comptroller submitted the following preamble and resolution in relation to the franchises held by the Union Ferry Company, viz.:

Whereas, By virtue of an illegal instrument purporting to be a lease, which was unlawfully entered into on the 22d day of June, 1870, against the public rights and interests, for the term of ten years from May 1, 1871, on behalf of the Mayor, Aldermen, and Commonalty of the City of New York, for the nominal consideration of \$1 per annum, the Union Ferry Company has held and enjoyed the valuable franchise to run five principal ferries across the East river between the City of New York and the city of Brooklyn, for the past ten years, to wit: The Catharine Ferry, the Fulton Ferry, the Wall Street Ferry, the South or Atlantic Avenue Ferry, and the Hamilton Avenue Ferry, together with the exclusive use and occupation of the valuable wharf property belonging to the Corporation of the City of New York, at the landings of said ferries in both the said City of New York and the city of Brooklyn. The commercial value of which wharf property is at least \$75,000 per annum; and

Whereas, The said Union Ferry Company has held and enjoyed the franchise to run the said ferries and use and occupy the said wharf property under a former lease for the term of ten years prior to May 1, 1871, the consideration of which lease was a moderate and just yearly rent of \$103,000; and

Whereas, The ostensible but wholly insufficient reason assigned for the entire remission and sacrifice of such yearly rent and the substitution thereof of the nominal sum of \$1 rent per annum, was a reduction of the ferriage of foot passengers over said ferries, for and during two hours only in the morning and two hours in the afternoon of each day, from 2 to 1 cent for every foot passenger; and

Whereas, Proceedings were commenced in the Supreme Court, in the year 1876, by the Mayor, Aldermen, and Commonalty of the City of New York, against the said Union Ferry Company, seeking relief that the said pretended lease of certain ferries and their appurtenances, unlawfully entered into in the year 1870, be canceled and the possession of the said ferries be restored to the plaintiff; and

Whereas, At Special Term, April, 1878, judgment was delivered by Judge Van Vorst, declaring that "After a consideration of the arguments and brief of the learned counsel for the defendant, I cannot conclude that the lease can be upheld upon authority. But contrariwise, I think reason, justice, and law is against its validity, and I conclude that there must be judgment for the plaintiff, as demanded in the complaint;" and

Whereas, The said Union Ferry Company has, during the whole of the past term of said lease, received large sums of money daily and yearly from ferriages on said ferries, with great profit thereon, as shown by the official statements of the receipts of the said ferry company for the term of the old lease from May 1, 1861, to May 1, 1871, at a rent of \$103,000 per annum, and for the nine years from May 1, 1871, to May 1, 1880, as follows:

Statement of gross receipts of the Union Ferry Company from May 1, 1861, to May 1, 1871.	
Two cents fare for foot passengers at all hours of the day.	
For the year ending May 1, 1862.....	\$632,925 00
" " " 1863.....	680,783 43
" " " 1864.....	735,531 93
" " " 1865.....	760,328 60
" " " 1866.....	845,510 49
" " " 1867.....	907,407 87
" " " 1868.....	940,968 75
" " " 1869.....	937,671 00
" " " 1870.....	955,910 12
" " " 1871.....	976,218 38
Total for ten years.....	\$8,373,255 57

Statement of gross receipts of the Union Ferry Company from May 1, 1871, to May 1, 1880.

One cent fare for foot passengers during four hours per day.

For year ending May 1, 1872.....	\$940,871 25
" " " 1873.....	968,556 62
" " " 1874.....	995,679 25
" " " 1875.....	1,022,554 00
" " " 1876.....	994,582 00
" " " 1877.....	961,916 00
" " " 1878.....	969,742 07
" " " 1879.....	979,537 32
" " " 1880.....	1,052,896 27
Total for nine years.....	\$8,886,334 78

By an official report dated November 15, 1880, filed according to law, a cash surplus is shown of \$1,025,295.33; and

Whereas, The said Union Ferry Company has heretofore unlawfully withheld from the Mayor, Aldermen, and Commonalty of the City of New York, possession of said ferries and their appurtenances, and unjustly refused and denied the payment of a just and equitable compensation therefor, thereby inflicting great wrong upon the public rights and injury to the public interests of said city; therefore,

Resolved, That the Counsel to the Corporation be respectfully requested to take such immediate steps as may be necessary to prosecute said pending suit and institute such other suits as may be necessary in the name and behalf of the Mayor, Aldermen, and Commonalty of the City of New York against said Union Ferry Company, for the restoration of the possession of said ferries and their appurtenances, and a just and equitable compensation for their enjoyment during the past ten years, in order that final judgment shall be obtained at as early a day as possible.

During the discussion of the resolution, the Counsel to the Corporation explained the condition of the suit now pending against the said ferry company.

The Comptroller stated his reasons for submitting the resolution under consideration.

The Mayor suggested that, as negotiations for a settlement with the ferry company were pending, the resolution be laid over for consideration; and that a Committee be appointed to investigate the subject and report; whereupon the Chamberlain moved that the resolution be laid over for consideration, and that the Mayor appoint a Committee of three to investigate the subject and report, which, on motion, was carried.

The Mayor appointed as such Committee, the Comptroller, Recorder, and Counsel to the Corporation.

W. H. DYKEMAN, Secretary.

## LAWS OF NEW YORK, 1881.

### CHAPTER 22.

AN ACT requiring all certificates of incorporations, hereafter filed pursuant to law, either in the office of the secretary of state, or in the office of any county clerk, to be recorded therein and regulating the fees therefor.

Passed March 2, 1881; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. All certificates of incorporations hereafter incorporated under any of the laws of this State, required by law to be filed in the office of the secretary of state, or in the office of any county clerk, shall be duly recorded in the office where the same shall be filed, in books specially provided therefor, which books of record shall be properly indexed. The same fees shall be charged for the recording of such certificates as are now provided by law for the recording of deeds. And the secretary of state and such county clerk shall neither file nor record any such certificate in their office unless the fees therefor are first duly paid.

Sec. 2. This act shall take effect immediately.

### CHAPTER 39.

AN ACT to enable the Eagle Fire Company of New York to hold real estate.

Passed March 17, 1881.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The Eagle Fire Company of New York, duly incorporated under an act entitled "An act to incorporate the Eagle Fire Company of New York," passed April fourth, eighteen hundred and six, and the acts amendatory thereof, is hereby authorized and enabled to purchase the real property in which their office is or shall be located in the city of New York, to an amount not exceeding five hundred thousand dollars, and to hold, transfer, and convey the same.

§ 2. This act shall take effect immediately.

## 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 April 2, 1881.

### Barometer.

DATE.	MARCH AND APRIL.	7 A. M.		2 P. M.		9 P. M.		Mean for the Day.	MAXIMUM.			MINIMUM.		
		Observed Height.	Reduced to Freezing.	Observed Height.	Reduced to Freezing.	Observed Height.	Reduced to Freezing.	Reduced to Freezing.	Observed Height.	Reduced to Freezing.	Time.	Observed Height.	Reduced to Freezing.	Time.
Sunday,	27	29.412	29.411	29.418	29.390	29.502	29.485	29.428	29.518	29.506	12 P. M.	29.383	29.352	4 P. M.
Monday,	28	29.596	29.584	29.636	29.595	29.730	29.700	29.626	29.724	29.702	12 P. M.	29.518	29.506	0 A. M.
Tuesday,	29	29.770	29.753	29.730	29.700	29.708	29.683	29.712	29.798	29.781	9 A. M.	29.620	29.603	12 P. M.
Wednesday,	30	29.416	29.407	29.074	29.057	29.014	28.997	29.153	29.620	29.603	0 A. M.	28.980	28.971	12 P. M.
Thursday,	31	28.972	28.963	29.024	28.999	29.218	29.198	29.053	29.254	29.237	12 P. M.	28.952	28.945	4 A. M.
Friday,	1	29.346	29.329	29.374	29.344	29.404	29.382	29.351	29.420	29.398	12 P. M.	29.254	29.237	0 A. M.
Saturday,	2	29.584	29.577	29.656	29.628	29.806	29.799	29.668	29.800	29.801	12 P. M.	29.420	29.398	0 A. M.

Mean for the week..... 29.427 inches.  
Maximum " at 9 A. M., March 29..... 29.781 "  
Minimum " at 4 A. M., March 31..... 28.945 "  
Range " ..... .836 "

### Thermometers.

DATE.  MARCH AND APRIL.		7 A. M.		2 P. M.		9 P. M.		MEAN.		MAXIMUM.			MINIMUM.			MAX- IMUM.		
		Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Time.	Wet Bulb.	Time.	Dry Bulb.	Time.	Wet Bulb.		Time.	
Sunday,	27	29	27	39	33	35	32	34.3	30.6	40	3 P. M.	34	3 P. M.	28	4 A. M.	26	4 A. M.	99
Monday,	28	33	30	45	38	40	36	39.3	34.6	46	3 P. M.	41	3 P. M.	32	5 A. M.	29	5 A. M.	102
Tuesday,	29	35	32	40	34	38	34	37.6	33.3	42	3 P. M.	35	3 P. M.	35	7 A. M.	32	7 A. M.	88
Wednesday,	30	32	32	35	35	35	35	34.0	34.0	38	4 P. M.	37	4 P. M.	32	7 A. M.	32	7 A. M.	42
Thursday,	31	32	32	38	36	36	35	35.3	34.3	38	3 P. M.	36	3 P. M.	31	4 A. M.	31	4 A. M.	74
Friday,	1	35	35	40	38	37	36	37.3	36.3	41	12 M.	38	12 M.	35	4 A. M.	35	4 A. M.	78
Saturday,	2	31	30	39	34	31	29	33.6	31.0	39	1 P. M.	36	1 P. M.	31	7 A. M.	30	7 A. M.	98

Mean for the week..... 35.9 degrees.  
Maximum for the week at 3 P. M., 28th..... 46. " at 3 P. M., 28th..... 41. "  
Minimum " at 4 A. M., 27th..... 28. " at 4 A. M., 27th..... 26. "  
Range " ..... 18. " ..... 15. "

### Wind.

DATE.	MARCH AND APRIL.	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,	27....	WNW	NW	WNW	181	194	159	534	7½	8	3½	18	1.15 P. M.
Monday,	28....	WNW	WNW	WNW	181	158	125	464	1½	7½	1½	14½	11 A. M.
Tuesday,	29....	NW	NNE	ENE	62	29	26	117	¾	0	0	1½	1 A. M.
Wednesday,	30....	ENE	E	NE	118	193	134	445	4½	11½	¾	22	10.30 A. M.
Thursday,	31....	NW	NNW	NW	70	43	30	143	¾	¾	0	1	3.30 P. M.
Friday,	1....	NNE	W	WNW	14	12	34	60	0	0	0	¾	7.10 P. M.
Saturday,	2....	NW	NW	NW	112	148	119	379	6½	4½	¾	12½	8.20 A. M.

Distance traveled during the week..... 2,142 miles.  
Maximum force " " ..... 22 pounds.

DATE.	MARCH AND APRIL.	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.	Depth of Snow.
Sunday,	27	.124	.110	.142	77	46	70	5 Cu.	4 Cir. Cu.	0	.....	.....
Monday,	28	.132	.138	.160	70	46	64	1 Cu.	1 Cu.	0	.....	.....
Tuesday,	29	.142	.118	.144	70	47	63	10	10	7 Cir.	.....	.....
Wednesday,	30	.181	.204	.204	100	100	100	10	10	10	5 A. M. 2.20 P. M.	9.20 .68
Thursday,	31	.181	.186	.191	100	81	90	9 Cu.	9 Cu.	9 Cu.	5.30 P. M. 7.30 P. M.	2.00 .03
Friday,	1	.204	.203	.199	100	82	90	9 Cu.	10	1 Cir.	4 A. M. 6 A. M.	4.00 .04
Saturday,	2	.155	.131	.137	89	54	79	2 Cir.	0	3 Cir.	.....	.....

\* Slight.

Total amount of water for the week..... .75 inch.

DANIEL DRAPER, PH. D., Director.

REPORTED MORTALITY\* for the week ending March 26, 1881, together with the ACTUAL MORTALITY for the week ending March 19, 1881.

SIR—There were 713 deaths reported to have occurred in this city during the week ending Saturday, March 26, 1881, which is an increase of 39, as compared with the number reported the preceding week, and 170 more than were reported during the corresponding week of the year 1880. The actual mortality for the week ending March 19, 1881, was 670, which is 121.2 above the average for the corresponding week for the past five years, and represents an annual death-rate of 28.87 per 1,000 persons living, the population estimated at 1,206,577.

[illegible]

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 1875.	REMARKS.	Total in institutions	
		Small-pox.	Measles.	Scarlatina.	Diphtheria.	Croup.	Whooping Cough.	Typhus Fever.	Typhoid Fever.	Malarial Fevers.	Puerperal Fever.	All Diarrheal Diseases.						Cerebro-Spinal Fever.
NEW YORK.—DEATHS FROM SMALL-POX, MEASLES, SCARLATINA, DIPHTHERIA, CROUP, WHOOPING COUGH, TYPHOID FEVER, TYPHUS FEVER, MALARIAL FEVERS, PUERPERAL FEVER, DIARRHEAL MALADIES, CEREBRO-SPINAL FEVER, AND OTHER ZYMOTIC DISEASES.																		
Actual Mortality during the Week ending March 19, 1881.																		
First .....	154	..	..	..	4	..	..	..	..	..	..	..	..	5	17	16	17,939	Castle Garden and Emigrant Depot, ..; U. S. Marine Hospital (Bedloe's Island), 1; Trinity Mission, .....
Second .....	81	..	..	..	1	..	..	..	..	..	..	..	..	1	16	2	1,608	Twenty-seventh Precinct Station, ..; House of Relief, 160 Chambers street, 4; Newsboys' Lodgings, .....
Third .....	95	..	..	..	..	..	..	..	..	..	..	..	..	..	5	1	3,582	Fourth Precinct Station, ..; Mission Home, ..; St. James' Home, .....
Fourth .....	83	..	..	..	1	..	..	..	..	..	..	..	..	4	11	11	21,015	Fifth Precinct Station, ..; Trinity Infirmary, 50 Varick street, 1; Park Street Mission Home, .....
Fifth .....	168	..	1	1	1	..	..	..	1	..	..	..	..	5	15	14	16,134	City Prison, ..; Home of Industry, ..; Centre Street Dispensary, ..; Park Street Mission Home, .....
Sixth .....	86	..	..	..	3	..	..	..	..	..	..	..	..	3	22	22	20,193	Seventh Precinct Station, ..; Sailors' Home, ..; Nursery and Child's Protectory, East Broadway, .....
Seventh .....	193	..	..	..	..	..	..	..	..	..	..	..	..	..	19	10	35,880	Eighth Precinct Station, ..; Home for Old Men and Aged Couples, ..; Northern Dispensary, .....
Eighth .....	188	..	..	..	2	1	..	..	..	..	..	..	..	..	30	26	54,593	St. Vincent's Hospital, 4; Home for Old Men and Aged Couples, ..; Northern Dispensary, .....
Ninth .....	322	..	..	..	1	..	..	..	..	..	..	..	..	..	8	28	47,553	Essex Street Prison, ..; Tenth Precinct Station, ..; Ludlow Street Jail, .....
Tenth .....	110	..	..	..	1	..	..	..	..	..	..	..	..	..	..	28	68,779	St. Francis' Hospital, 2; Eleventh Precinct Station, ..; Reception Hospital, 99th street, ..; Infants' Hospital, 5; Sheltering Arms, ..; N. Y. City Asylum for the
Eleventh .....	196	..	1	1	5	4	..	..	..	..	..	..	..	..	12	28	68,779	Insane, 4; Colored Orphan Asylum, ..; Ward's Island, 6; Randall's Island, 2; Bloomingdale Lunatic Asylum, ..; St. Joseph's Asylum, ..; House of Refuge, ..; House of Mercy, ..; Idiot Asylum, Randall's
Twelfth .....	504.13	..	2	4	1	3	..	..	2	..	..	1	3	16	48	23	81,802	Island, ..; Union Home and School, 1; House of Good Shepherd, 2; Deaf and Dumb Asylum, ..; Deborah
Thirteenth .....	107	..	..	1	..	..	..	..	1	..	..	..	..	3	14	14	37,797	Nursery, ..; Homeopathic Hospital, 7; Home for Aged and Infirm Hebrews, ..; Leake and
Fourteenth .....	96	..	..	2	1	..	..	..	..	..	..	..	..	7	19	18	30,172	Watts Orphan Home, ..; Unsectarian Home, ..; Convent of Sacred Heart, ..; Sheltering Arms, .....
Fifteenth .....	198	..	..	1	..	..	..	..	..	..	..	..	..	..	10	14	31,873	Thirteenth Precinct Station, ..; R. C. Orphan Asylum, 1; Lying-in Asylum, ..; Fourteenth Precinct Station, ..; House of Mercy, .....
Sixteenth .....	349.77	..	..	2	1	..	..	..	..	..	..	..	..	..	20	20	52,136	Fifteenth Precinct Station, ..; Midnight Mission, ..; Society for the Care of Infants and Young Children, 2, ..
Seventeenth .....	331	..	..	3	6	5	..	..	..	..	..	..	..	10	50	50	104,895	St. Joseph's Home for the Aged, ..; Samaritan Home for the Aged, ..; House of the Holy Communion, ..
Eighteenth .....	449.89	2	..	1	1	3	..	..	..	..	..	..	2	10	33	26	66,610	Association for Befriending Young Girls, ..; Eye and Ear Infirmary, ..; House of the Holy Family, ..
Nineteenth .....	1,480.60	10	1	1	5	3	..	1	..	1	..	5	1	2	30	119	158,108	Home for Respectable Aged and Indigent Females, ..; New York Hospital, 5; New York Infirmary for
Twentieth .....	444	..	..	5	1	..	..	1	1	..	1	..	1	10	48	42	86,023	Women and Children, ..; N. Y. Ophthalmic Hospital, ..; Reception Hospital, 2, ..
Twenty-first .....	411	1	..	2														

JOHN T. NAGLE, M. D., Deputy Register of Records.

## EXECUTIVE DEPARTMENT.

MAYOR'S OFFICE—BUREAU OF LICENSES,  
New York, April 8, 1881.

Number of Licenses issued and amount received therefor, for the week ending April 8, 1881:

DATE.	LICENSES.	AMOUNT.
April 2.....	34	\$40 75
" 4.....	48	81 00
" 5.....	38	75 75
" 6.....	38	55 25
" 7.....	35	49 50
" 8.....	41	118 75
Total .....	234	\$421 00

CHARLES REILLY,  
First Marshal.

## 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; JOHN TRACEY, Chief Clerk; WILLIAM M. IVINS, Secretary.

## Mayor's Marshal's Office.

No. 1 City Hall, 10 A. M. to 3 P. M.  
CHARLES REILLY, First Marshal.

## Permit Bureau Office.

No. 13½ City Hall, 10 A. M. to 3 P. M.  
HENRY WOLTMAN, Registrar.

## Sealers and Inspectors of Weights and Measures.

No. 7 City Hall, 10 A. M. to 3 P. M.  
WILLIAM EYERS, Sealer First District; THOMAS BRADY, Sealer Second District; JOHN MURRAY, Inspector First District; JOSEPH SHANNON, Inspector Second District.

## LEGISLATIVE DEPARTMENT.

## Office of Clerk of Common Council.

No. 8 City Hall, 10 A. M. to 4 P. M.  
PATRICK KEENAN, President Board of Aldermen.  
FRANCIS J. TWOMEY, Clerk Common Council.

## 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.

## 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 CADDY, 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.

## 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.  
JACOB HESS, President; GEORGE F. BRITTON, Secretary.

## FIRE DEPARTMENT.

## Headquarters.

Nos. 155 and 157 Mercer street.  
VINCENT C. KING, 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.

## Bureau of Inspection of Buildings.

WM. P. ESTERBROOK, Inspector of Buildings.  
Office hours, Headquarters and Bureaus, from 9 A. M. to 4 P. M. (Saturdays to 3 P. M.)

## Fire Alarm Telegraph.

J. ELLIOT SMITH, Superintendent of Telegraph.

## Repair Shops.

Nos. 128 and 130 West Third street.  
JOHN MCCABE, Captain-in-Charge, 8 A. M. to 5 P. M.

## Hospital Stables.

No. 100 Christie street.  
DREDERICK G. GALE, Superintendent of Horses.

## 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.  
Fordham 9 A. M. to 5 P. M.

## DEPARTMENT OF DOCKS.

Nos. 11 and 110 Duane street, 9 A. M. to 4 P. M.  
EUGENE T. LYNCH, Secretary.

## DEPARTMENT OF TAXES AND ASSESSMENTS

Brown-stone Building, City Hall Park, 9 A. M. to 4 P. M.  
THOMAS B. ASTEN, President; ALBERT STORER, Secretary.

## BOARD OF ASSESSORS.

Office, City Hall, Room No. 11½, 9 A. M. to 4 P. M.  
JOHN R. LYDECKER, Chairman; WM. H. JASPER, Secretary.

## BOARD OF EXCISE.

Corner Mulberry and Houston streets, 9 A. M. to 4 P. M.  
WILLIAM P. MITCHELL, President; ANTHONY HARTMAN, Chief Clerk.

## SHERIFF'S OFFICE.

Nos. 3 and 4 New County Court-house, 9 A. M. to 4 P. M.  
PETER BOWE, Sheriff; JOEL O. STEVENS, Under Sheriff.

## REGISTER'S OFFICE.

East side City Hall Park, 9 A. M. to 4 P. M.  
AUGUSTUS T. DOCHARTY, Register; I. FAIRFAX McLAUGHLIN, Deputy Register.

## COMMISSIONERS OF ACCOUNTS.

No. 1 County Court-house, 9 A. M. to 4 P. M.  
WM. PITT SHEARMAN, JOHN W. BARROW.

## COMMISSIONER OF JURORS.

No. 17 New County Court-house, 9 A. M. to 4 P. M.  
THOMAS DUNLAP, Commissioner; ALFRED J. KEEGAN, Deputy Commissioner.

## COUNTY CLERK'S OFFICE.

Nos. 7 and 8 New County Court-house, 9 A. M. to 4 P. M.  
WILLIAM A. BUTLER, County Clerk; J. HENRY FORD, Deputy County Clerk.

## DISTRICT ATTORNEY'S OFFICE.

Second floor, Brown-stone Building, City Hall Park  
9 A. M. to 4 P. M.  
DANIEL G. ROLLINS, District Attorney; B. B. FOSTER, Chief Clerk.

## THE CITY RECORD OFFICE.

And Bureau of Printing, Stationery, and Blank Books  
No. 2 City Hall, 8 A. M. to 5 P. M.  
THOMAS COSTIGAN, Supervisor; R. P. H. ABELL, Book-keeper.

## CORONERS' OFFICE.

No. 40 East Houston street.  
MORITZ ELLINGER, GERSON N. HERRMAN THOMAS C. KNOX, and JOHN H. BRADY, Coroners.

## RAPID TRANSIT COMMISSIONERS.

RICHARD M. HOE, 504 Grand street.  
JOHN J. CRANE, 138th street, Morrisania.  
GUSTAV SCHWAB, 2 Bowling Green.  
CHARLES L. PERKINS, 2 Nassau street.  
WILLIAM M. OLLIFFE, 6 Bowery.

## SUPREME COURT.

Second floor, New County Court-house, 10½ A. M. to 3 P. M.  
General Term, Room No. 9.  
Special Term, Room No. 10.  
Chambers, Room No. 11.  
Circuit, Part I., Room No. 12.  
Circuit, Part II., Room No. 13.  
Circuit, Part III., Room No. 14.  
Judges Private Chambers, Room No. 15.  
NOAH DAVIS, Chief Justice; WILLIAM A. BUTLER, Clerk.

## SUPERIOR COURT.

Third floor, New County Court-house, 11 A. M.  
General Term, Room No. 29.  
Special Term, Room No. 33.  
Chambers, Room No. 33.  
Part I., Room No. 34.  
Part II., Room No. 35.  
Part III., Room No. 36.  
Judges Private Chambers, Room No. 30.  
Naturalization Bureau, Room No. 32.  
Clerk's Office, 9 A. M. to 4 P. M., Room No. 31.  
JOHN SEDGWICK, Chief Judge; THOMAS BOESE, Chief Clerk.

## COURT OF COMMON PLEAS.

Third floor, New County Court-house, 11 A. M.  
Clerk's Office, 9 A. M. to 4 P. M., Room No. 22.  
General Term, Room No. 24.  
Special Term, Room No. 21.  
Chambers, Room No. 21.  
Part I., Room No. 25.  
Part II., Room No. 26.  
Part III., Room No. 27.  
Naturalization Bureau, Room No. 23.  
CHARLES P. DALY, Chief Justice; NATHANIEL JARVIS Jr., Chief Clerk.

## COURT OF GENERAL SESSIONS.

32 Chambers street. Parts I and II.  
FREDERICK SMYTH, Recorder, Presiding Judge of the General Sessions; HENRY A. GILDERSLEEVE and RUFUS B. COWING, Judges.  
Terms first Monday each month.  
JOHN SPARKS, Clerk.

## MARINE COURT.

General Term, Room 15, City Hall.  
Trial Term, Parts I., II., and III., second floor, City Hall.  
Special Term, Chambers, Room 21, City Hall, 10 A. M. to 4 P. M.  
Clerk's Office, Room 10, City Hall.  
GEORGE SHEA, Chief Justice; JOHN SAVAGE, Clerk.

## OYER AND TERMINER COURT.

General Term, New County Court-house, second floor southeast corner, Room 13, 10:30 A. M.  
Clerk's Office, Brown-stone Building, City Hall Park second floor, northwest corner.

## COURT OF SPECIAL SESSIONS

At Tombs, corner Franklin and Centre streets, Tuesdays, Thursdays, and Saturdays, 10 A. M.  
Clerk's Office, Tombs.

## DISTRICT CIVIL COURTS.

First District—First, Second, Third, and Fifth Wards southwest corner of Centre and Chambers streets, 10 A. M. to 4 P. M.  
JOHN CALLAHAN, Justice.

Second District—Fourth, Sixth, and Fourteenth Wards Nos. 112 and 114 White street, 9 A. M. to 4 P. M.  
CHARLES M. CLANCY, Justice.

Third District—Eighth, Ninth, and Fifteenth Wards Sixth avenue, corner West Tenth street.  
GEORGE W. PARKER, Justice.

Fourth District—Tenth and Seventeenth Wards, Nos. 20 and 22 Second avenue, 9 A. M. to 4 P. M.  
JOHN A. DINKEL, Justice.

Fifth District—Seventh, Eleventh, and Thirteenth Wards, No. 154 Clinton street.  
TIMOTHY J. CAMPBELL, Justice.

## DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE.

## TO CONTRACTORS.

## PROPOSALS FOR ESTIMATES.

ESTIMATES FOR THE FOLLOWING-NAMED Works, viz.:

1. The work and material required in the erection of a one-story quarantine pavilion on Randall's Island.
2. The slating and tinning required for the one-story quarantine pavilion on Randall's Island.
3. The mason work and material required in the erection of the east wing for Insane Asylum on Ward's Island.
4. The cut stone and setting required in the erection of east wing for Insane Asylum on Ward's Island.
5. The carpenter work and materials required in the erection of the east wing for Insane Asylum on Ward's Island.
6. The iron and wire work required in the erection of east wing for Insane Asylum on Ward's Island.
7. The slating and tinning required in the erection of east wing for Insane Asylum on Ward's Island.
8. The work and material required in the erection of a one-story pavilion at Alms-house on Blackwell's Island.
9. The slating and tinning required for the one-story pavilion at Alms-house, Blackwell's Island.
10. The mason work, iron work, carpenter work, and materials required in the alterations and additions to be made to engine-house, kitchen, and laundry at Lunatic Asylum, Blackwell's Island.
11. The slating and tinning required for the alterations and additions to be made to engine-house, kitchen, and laundry at Lunatic Asylum on Blackwell's Island.

—will be received by the Board of Commissioners at the head of the Department of Public Charities and Correction, at the office of said Department, No. 66 Third avenue, in the City of New York, until 9:30 o'clock, A. M., of Thursday, the 21st day of April, 1881, at which place and time the bids will be publicly opened by the head of said Department and read. The award of the contracts, if awarded, will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the works shall furnish 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 presentation, and a statement of the work to which it relates.

The amount of security required in each of the above-named works is as follows, viz.:

1. Of the work and material required in the erection of a one-story quarantine pavilion on Randall's Island, six thousand dollars (\$6,000.00).
2. Of slating and tinning required for the one-story quarantine pavilion on Randall's Island, fifteen hundred dollars (\$1,500.00).
3. Of the mason work and material required in the erection of the east wing for Insane Asylum on Ward's Island, fifteen thousand dollars (\$15,000.00).
4. Of the cut stone and setting required in the erection of east wing for Insane Asylum on Ward's Island, ten thousand dollars (\$10,000.00).
5. Of the carpenter work and materials required in the erection of the east wing for Insane Asylum on Ward's Island, ten thousand dollars (\$10,000.00).
6. Of the iron and wire work required in the erection of east wing for Insane Asylum on Ward's Island, nine thousand dollars (\$9,000.00).
7. Of the slating and tinning required in the erection of east wing for Insane Asylum on Ward's Island, fifteen hundred dollars (\$1,500.00).
8. Of the work and material required in the erection of a one-story pavilion at Alms-house on Blackwell's Island, six thousand dollars (\$6,000.00).
9. Of slating and tinning required for the one-story pavilion of Alms-house, Blackwell's Island, fifteen hundred dollars (\$1,500.00).
10. Of the mason work, iron work, carpenter work, and materials required in the alterations and additions to be made to engine-house, kitchen, and laundry at Lunatic Asylum, Blackwell's Island, five thousand dollars (\$5,000.00).
11. Of slating and tinning required for the alterations and additions to be made to engine-house, kitchen, and laundry at Lunatic Asylum on Blackwell's Island, fifteen hundred dollars (\$1,500.00).

The above several works will be required to be completed as follows, viz.:

1. The work and material required in the erection of a one-story quarantine pavilion on Randall's Island, within 175 working days after the date of the commencement thereof.
2. Of slating and tinning required for the one-story quarantine pavilion on Randall's Island, within 75 working days after the date of the commencement thereof.
3. Of the mason work and material required in the erection of the east wing for Insane Asylum on Ward's Island, within 300 working days after the date of the commencement thereof.
4. Of the cut stone and setting required in the erection of east wing for Insane Asylum on Ward's Island, within 300 working days after the date of the commencement thereof.
5. Of the carpenter work and materials required in the erection of the east wing for Insane Asylum on Ward's Island, within 300 working days after the date of the commencement thereof.
6. Of the iron and wire work required in the erection of east wing for Insane Asylum on Ward's Island, within 300 working days after the date of the commencement thereof.
7. Of the slating and tinning required in the erection of east wing for Insane Asylum on Ward's Island, within 100 working days after the date of the commencement thereof.

8. Of the work and material required in the erection of a one-story pavilion at Alms-house on Blackwell's Island, within 175 working days after the date of the commencement thereof.

9. Of slating and tinning required for the one-story pavilion at Alms-house, Blackwell's Island, within 75 working days after the date of the commencement thereof.

10. Of the mason work, iron work, carpenter work, and materials required in the alterations and additions to be made to engine-house, kitchen, and laundry at Lunatic Asylum, Blackwell's Island, within 100 working days after the date of the commencement thereof.

11. Of slating and tinning required for the alterations and additions to be made to engine-house, kitchen, and laundry at Lunatic Asylum on Blackwell's Island.

For information as to the amount and kind of work to be done, bidders are referred to the specifications, which are annexed to and form part of these proposals, and the plans, which can be seen at the office of said Department. The damages to be paid by the contractor for each day that the contract may be unfulfilled after the time specified for the completion thereof shall have expired, are, by a clause in the contract, fixed and liquidated at fifty dollars per day.

Should the person or persons to whom the contract is awarded neglect or refuse to accept the contract for forty-eight hours after written notice that the same has been awarded to him or their bid or estimate, or if, after acceptance, he or they should refuse or neglect to execute the contract and give proper security for forty-eight hours after notice that the contract is ready for execution, he or they will be considered as having abandoned it, and the contract will be readvertised and relet, and so on, until it is accepted and executed.

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. No bid or 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 otherwise, upon any obligation to the Corporation. 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 will 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 or persons 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 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 this 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 a surety in good faith and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York, after the award is made, and prior to the signing of the contract.

Bidders will state the price for doing either of the works 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 requisition on the Comptroller, issued in the manner specified in the contract.

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 form of the agreement, including specifications, and showing the manner of payment for the work, will be furnished at the office of the Department.

Dated New York, April 8, 1881.

JACOB HESS,

THOMAS S. BRENNAN,

TOWNSEND COX,

Commissioners of the Department of Public Charities and Correction.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE,  
NEW YORK, April 2, 1881.

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 Work-house, Blackwell's Island—Cyrus I. Holmes; aged 36 years. Committed February 22, for two months. Nothing known of his friends or relatives.

At Infant's Hospital, Randall's Island—Mary Reilly; aged 36 years. Nothing known of her friends or relatives.

At Homoeopathic Hospital, Ward's Island—Bridget Boyle; age 41 years; 5 feet 3 inches high; brown eyes and hair. Had on when admitted calico dress, striped skirt, garters. Nothing known of her friends or relatives.

At Branch Lunatic Asylum, Hart's Island—Ann Bradley; age 55 years; gray eyes; brown hair. Nothing known of her friends or relatives.

By Order,

G. F. BRITTON,

Secretary.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE.

## TO CONTRACTORS.

## PROPOSALS FOR ESTIMATES.

ESTIMATES FOR SLATING AND TINNING required for the alterations and additions to be made to the Retreat Building at the Lunatic Asylum on Blackwell's Island, will be received by the Board of Commissioners at the head of the Department of Public Charities and Correction at the office of said Department, No. 66 Third avenue, in the City of New York, until 9:30 o'clock A. M. of Friday, the 12th day of April, 1881, at which time and place the bids will be publicly opened by the head of said Department and read. The award of the contract, if awarded, will be made as soon as practicable after the opening of the bids.

Any person making an estimate of the work shall furnish 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 presentation, and a statement of the work to which it relates.

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 fifteen hundred dollars.

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; also that it is made without any connection with any other person making an estimate for

formance; 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 comple-

THOMAS COSTIGAN,  
Supervisor.

CARL JUSSEN,  
Secretary

**THOMAS COSTIGAN,**  
Supervisor

CARL JUSSEN,  
Secretary

## DEPARTMENT OF PUBLIC PARKS.

CITY OF NEW YORK,  
DEPARTMENT OF PUBLIC PARKS,  
36 UNION SQUARE,  
March 11, 1881.

NOTICE IS HEREBY GIVEN THAT A MAP or plan showing a revised system of streets and avenues in that portion of West Morrisania included within the Morrisania District, and bounded by the New York & Harlem and Spuyten Duyvil & Port Morris Railroads, One Hundred and Sixty-first street and Cromwell avenue, will be on exhibition at the office of the Topographical Engineer of the Department of Public Parks, at the Arsenal building in the Central Park, for two weeks from and after this date, for the purpose of allowing persons interested to examine the same and file their objections in writing before it is finally acted upon by the Department of Public Parks.

By order of the Department of Public Parks.

E. P. BARKER,  
Secretary.

## POLICE DEPARTMENT.

POLICE DEPARTMENT OF THE CITY OF NEW YORK,  
No. 300 MULBERRY STREET,  
NEW YORK, April 11, 1881.

PUBLIC NOTICE IS HEREBY GIVEN, THAT the following described property of this Department will be sold at public auction by Van Tassel & Kearney, auctioneers, at the stables of the Bureau of Street Cleaning, foot of East Seventh street, E. R., on Friday, April 22, 1881, at 10 o'clock A. M., viz:

Twenty-five Horses.  
Lot of Rope.  
Lot of Scrap Iron.

By order of the Board.

S. C. HAWLEY,  
Chief Clerk.

POLICE DEPARTMENT OF THE CITY OF NEW YORK,  
PROPERTY CLERK'S OFFICE,  
(Room No. 39), No. 300 MULBERRY STREET,  
NEW YORK, April 8, 1881.

OWNERS WANTED BY THE PROPERTY Clerk of the Police Department of the City of New York (Room No. 39), 300 Mulberry street, for the following property now in his custody without claimants: Revolvers, clothing (male and female), watches, bags, mineral water, shoes, cloth, blankets, trunks and contents, carpet, hand-carts, wire, tomatoes, Anis oil, lock and chain, lot silver-plated ware, etc.; also small amount of money taken from prisoners and found by Patrolmen of this Department.

C. A. ST. JOHN,  
Property Clerk.

POLICE DEPARTMENT OF THE CITY OF NEW YORK,  
PROPERTY CLERK'S OFFICE,  
Room No. 39, No. 300 MULBERRY STREET,  
NEW YORK, March 7, 1881.

OWNERS WANTED BY THE PROPERTY Clerk of the Police Department, City of New York, Room No. 39, 300 Mulberry street, for the following property now in his custody without claimants: Revolvers, sugar, soap, shoes, clothing (male and female), brooms, pails, trunks, bags and contents, harness, gold and silver watches, caps, blankets, cloth, cigars, tobacco, also small amount of money found and taken from prisoners by patrolmen of this Department.

C. A. ST. JOHN,  
Property Clerk.

## ASSESSMENT COMMISSION.

NOTICE IS HEREBY GIVEN, THAT A MEETING of the Commissioners under the act, chapter 550 of the Laws of 1880, entitled "An act relating to certain assessments for local improvements in the City of New York," passed June 9, 1880, will be held at their office, No. 27 Chambers street, on Tuesday, April 12, 1881, at 2 o'clock P. M.

EDWARD COOPER,  
JOHN KELLY,  
ALLAN CAMPBELL,  
GEORGE H. ANDREWS,  
DANIEL LORD, JR.,  
Commissioners under the Act.

JAMES J. MARTIN,  
Clerk.

THE COMMISSIONERS APPOINTED BY CHAPTER 550 of the Laws of 1880, to revise, vacate, or modify assessments for local improvements in the City of New York, give notice to all persons affected thereby that the notices required by the said act must be filed with the Comptroller of said city and a duplicate thereof with the Counsel to the Corporation, as follows:

First. As to all assessments confirmed subsequent to June 9, 1880, for local improvements theretofore completed, and as to any assessment for local improvements known as Morningside avenues, notices must be filed within two months after the dates upon which such assessments may be respectively confirmed.

Second. In cases in which proceedings or actions have been commenced to vacate or set aside any assessment confirmed prior to June 9, 1880, or any assessment confirmed subsequent to June 9, 1880, for a local improvement theretofore completed, notices must be filed on or before May 1, 1881.

The notice must specify the particular assessment complained of, the date of the confirmation of the same, the property affected thereby, and in a brief and concise manner the objections thereto, showing, or tending to show, that the assessment was unfair or unjust in respect to said real estate.

Dated, No. 27 CHAMBERS STREET, March 24, 1881.

EDWARD COOPER,  
JOHN KELLY,  
ALLAN CAMPBELL,  
GEORGE H. ANDREWS,  
DANIEL LORD, JR.,  
Commissioners under the Act.

JAMES J. MARTIN, Clerk.

## FINANCE DEPARTMENT.

WILLIAM KENNELLY, AUCTIONEER.

SALE OF THE FRANCHISE OF THE FULTON AND OTHER FERRIES FROM NEW YORK TO BROOKLYN, LONG ISLAND.

THE FRANCHISE TO RUN THE FOLLOWING Ferries, from the City of New York to the City of Brooklyn, along with a lease of the wharf property belonging to the Corporation of the City of New York, used or required for the purposes of such ferries, on both sides of the East river, will be sold to the highest bidder, at public auction, at the office of the Comptroller, on Thursday, April 14, 1881, for the term of five years from the first day of May, 1881, and on such terms and conditions as the Commissioners of the Sinking Fund shall hereafter determine and prescribe, to be published on or before March 31, 1881, as follows:

The Fulton Ferry.—From the foot of Fulton street, New York, to Fulton street, Brooklyn, L. I.  
The Wall Street Ferry.—From the foot of Wall street, New York, to Montague street, Brooklyn, L. I.  
The Catharine Ferry.—From the foot of Catharine street, New York, to Main street, Brooklyn, L. I.  
The South Ferry.—From the foot of Whitehall street, New York, to Atlantic avenue, Brooklyn, L. I.

The Hamilton Avenue Ferry.—From the foot of Whitehall street, New York, to Hamilton avenue, Brooklyn, L. I.

By order of the Commissioners of the Sinking Fund.  
ALLAN CAMPBELL,  
Comptroller.

CITY OF NEW YORK, FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, March 19, 1881.

The terms and conditions of sale were fixed by resolution of the Commissioners of the Sinking Fund, adopted April 6, 1881, as follows: The franchise of all the above-named ferries will be sold to the highest bidder at public auction, at a percentage rate on the total gross receipts thereof, to be fixed by the Commissioners of the Sinking Fund and announced at the sale, and also, at the same time, all the wharf property belonging to the Corporation of the City of New York, used or required for ferry purposes, at the landings of said ferries on both sides of the East river, hereinafter described, at an upset price for the yearly rent thereof, to be also fixed by the Commissioners of the Sinking Fund, and announced at the sale.

The franchise or right to run said ferries will be sold, along with the right to the use and occupation of said wharf property, as provided by chapter 498, Laws of 1880, for the term of five years from the first day of May, 1881, under one lease to the same purchaser, and upon the following

## CONDITIONS OF SALE.

The highest bidder or purchaser will be required to pay, at the time of sale, to the Comptroller, in addition to the fee of the auctioneer, the sum of twenty-five thousand dollars, which amount shall apply to the rent first becoming due, in case he executes a lease with the covenants therein, as prepared by the Counsel to the Corporation, otherwise to be forfeited to the city. He will be required also to furnish an agreement, or obligation, to be entered into at the time of the sale, with two good sureties, to this effect: that he will execute a bond with two sureties to be approved by the Comptroller, for the punctual payment of the rent quarter-yearly, and for the faithful performance of the covenants of the lease. No expense whatever is to be incurred by the Corporation for or in connection with the piers, bulkheads, or premises proposed to be leased along with the franchise of said ferries. He will be entitled, together with the Counsel to the Corporation, to the fixtures thereon, including ferry-houses, floats, bridges, racks, and other appendages necessary for ferry purposes, during the time of the lease.

The wharf property belonging to the Corporation to be leased along with the franchise of the ferries, consists of all those bulkheads, slips, and piers now used or required by the Union Ferry Company for ferry purposes, the surface of the piers adjoining the slips for landings being reserved, except so far as may have been required and is now occupied by fences or guards for protection behind the racks or piles, and as shown on maps filed in the office of the Comptroller, and in the Department of Docks, comprised under the following general description, namely:

1. All that certain wharf property consisting of bulkheads, slips, and adjacent piers Nos. 21 and 22, except the surface, now used and required by the Fulton Ferry for ferry purposes, at the foot of Fulton street, in the City of New York.

2. All that certain wharf property consisting of bulkheads, slips, and adjacent piers, except the surface, now used and required by the Fulton Ferry, at the foot of Fulton street, in the City of Brooklyn.

3. All that certain wharf property consisting of bulkheads, slips, and adjacent piers Nos. 34 and 35, except the surface, now used and required for the Catharine Ferry, at the foot of Catharine street, in the City of New York.

4. All that certain wharf property consisting of bulkheads, slips, and half the adjacent pier on the westerly side of the slip, except the surface, now used and required by the Catharine Ferry, at the foot of Main street, in the City of Brooklyn.

5. All that certain wharf property consisting of one-half the bulkhead and slip, and adjacent Pier No. 15, on the southerly side thereof, except the surface, now used and required by the Wall Street Ferry, at the foot of Wall street, in the City of New York.

6. All that certain wharf property consisting of bulkheads, slips, and Pier No. 2, northerly side, except the surface and short pier, southerly side, now used and required by the South and the Hamilton Avenue Ferries, at the foot of Whitehall street, in the City of New York.

The lessee or lessees will be required to dredge the ferry slips and dredge under the platforms to such depth as may be necessary, under the direction of the Department of Docks; and if necessary for the improvement of the water front of the city, as provided by law, the wharf property shall be given up for that purpose, as covenanted in the lease.

The lease shall contain covenants in conformity with the requirements of existing laws relative to ferries belonging to the City of New York, and that the lessee or lessees will conduct and manage such ferries, and each of them, according to the rules, regulations, ordinances, or by-laws as are now or may hereafter be made or passed by the Common Council and the Legislature of the State.

The lessee shall also contain a covenant requiring each ferry-boat to have attached to its engine a fire apparatus or force pump, with not less than four hundred feet of hose of the quality and dimensions used by the Fire Department of the City of New York, and to be used for the extinguishment of fires when required by the Chief Engineer or his assistants of the Fire Department of the City of New York, for which service the lessee shall receive \$20 per hour for each hour engaged, and no time to be counted less than one hour.

The rates of ferrage shall not exceed those now charged by the Union Ferry Company.

The right to reject any bid if deemed to be for the interests of the City of New York, is reserved by the Commissioners of the Sinking Fund.

By order of the Commissioners of the Sinking Fund.  
ALLAN CAMPBELL,  
Comptroller.

CITY OF NEW YORK, FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, April 8, 1881.

## INTEREST ON CITY STOCKS.

THE INTEREST ON THE BONDS AND STOCKS of the City and County of New York, due May 1, 1881, will be paid on Monday, May 2, 1881, by the Comptroller, at his office in the New Court-house.

The transfer-books will be closed from March 31, 1881, to May 2, 1881.

ALLAN CAMPBELL,  
Comptroller.

FINANCE DEPARTMENT—COMPTROLLER'S OFFICE,  
NEW YORK, March 23, 1881.

## WILLIAM KENNELLY, AUCTIONEER.

CORPORATION SALE OF LEASES OF MARKET CELLARS AND OTHER PREMISES AT PUBLIC AUCTION, TUESDAY, APRIL 12, 1881.

THE LEASES OF THE FOLLOWING DESCRIBED property, belonging to the Corporation of the City of New York, will be sold at public auction, to the highest bidder, at the office of the Comptroller, New County Court-house, on the terms and conditions hereinafter expressed, at 11 o'clock A. M. on Tuesday, April 12, 1881, viz:

LEASES FOR THE TERM OF THREE YEARS FROM MAY 1, 1881.

Centre Market.—Cellars Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11.  
Essex Market.—Cellars Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.  
Old Catharine Fish Market.  
Gouverneur Market.—Building and cellar.

LEASES FOR THE TERM OF ONE YEAR FROM MAY 1, 1881.

Franklin Market.—Cellars Nos. 1, 2, 3, 4, 5, and 6.  
Front part of first floor.  
Centre part of first floor.  
Balance of first floor.  
Second floor.

Building and lot No. 1146 Third avenue, corner of Sixty-seventh street.

Building and lot, south half of No. 1148 Third avenue.

Building and lot, north half of No. 1148 Third avenue.

Building and lot, south half of No. 1152 Third avenue.

Building and lot, north half of No. 1152 Third avenue.

Building and lot, south half of No. 1154 Third avenue.

Building and lot, north half of No. 1154 Third avenue.

Building and lot, south half of No. 1156 Third avenue.

Building and lot, north half of No. 1156 Third avenue.

Building and lot, No. 1158 Third avenue.

Building and lot, No. 1160 Third avenue, corner Sixty-eighth street.

Two upper floors of building No. 5 Duane street.

Building and lots Nos. 186 and 188 South Fifth avenue.

Vacant lot, northwest corner of One Hundred and Twenty-ninth street and Twelfth avenue.

—in accordance with the following

## TERMS AND CONDITIONS OF SALE.

Twenty per cent. on the yearly rent bid for each parcel, to be paid to the Collector of City Revenue at the time and place of sale, and the successful bidder will be required at the same time, to have an obligation executed by two sureties, to be approved by the Comptroller, for carrying into effect the terms of sale.

Twenty per cent., when paid, will be credited on the first quarter's rent; or the same will be forfeited, if the said successful bidder does not execute the lease and bond within fifteen days after the sale; and the Comptroller shall be authorized, at his option, to resell the premises bid off by any person failing to comply with the terms of sale; and the person so failing to comply shall be liable for any deficiency that may result from such resale.

No person shall be received as lessee or surety who is delinquent on any former lease from the Corporation. No bid will be accepted from any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as security or otherwise, upon any obligation to the Corporation, as provided by section 99 of the Charter of 1873.

The leases will contain the usual covenants and conditions, reserving to the Corporation the right to cancel the lease whenever the premises may be required for public purposes.

All repairs will be made at the expense of the lessees, and no deduction whatever will be allowed for damage by reason of any sickness or epidemic that may prevail in the city during the continuance of the lease.

The lessees will be required to give a bond for double the amount of the annual rent, with two sureties, to be approved by the Comptroller, conditioned for the payment of the rent quarterly, and the fulfillment on their part of the covenants of the lease.

By order of the Commissioners of the Sinking Fund.  
ALLAN CAMPBELL,  
Comptroller.

CITY OF NEW YORK, FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, March 19, 1881.

## NOTICE TO TAXPAYERS.

RELATING TO THE PAYMENT OF UNPAID TAXES, ASSESSMENTS, AND CROTON WATER RENTS.

THE COMPTROLLER OF THE CITY OF NEW York hereby gives notice to owners of real and personal estate in this city, that all unpaid taxes, assessments, and Croton water rents may now be paid with interest thereon at the rate of seven per cent. per annum, as provided by chapter 33 of the Laws of 1881, which is as follows:

## CHAPTER 33.

AN ACT relative to the collection of taxes and assessments, and of arrears of taxes and assessments, and Croton water rents, in the City of New York.

(Passed March 16, 1881; three-fifths being present.)

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. If any taxes of any year shall remain unpaid on the first day of November, after the assessment-rolls and the warrants to collect such taxes have been delivered to the Receiver of Taxes in the City of New York, it shall be the duty of said Receiver to give public notice, by advertisement for at least ten days in two of the daily newspapers, and in the CITY RECORD, printed and published in said city, respectively, that unless the same shall be paid to him at his office on or before the first day of December, in any such year, he will immediately thereafter proceed to collect such unpaid taxes, as provided in the following section of this act:

Section 2. If any such tax shall remain unpaid on the said first day of December, it shall be the duty of the said Receiver of Taxes in said city to charge, receive, and collect upon such tax so remaining unpaid on that day, in addition to the amount of such tax, one per centum on the amount thereof; and to charge, receive, and collect upon such tax so remaining unpaid on the first day of January thereafter, interest upon the amount thereof at the rate of seven per centum per annum, to be calculated from the day on which said assessment-rolls and warrants shall have been delivered to the said Receiver of Taxes to the date of payment.

The same rate of interest shall be so charged and collected upon any tax levied in the year eighteen hundred and eighty, remaining unpaid at the date of the passage of this act.

Section 3. All existing provisions of law which impose a charge and require the collection of interest at the rate of twelve per centum per annum upon arrears of taxes on real and personal estate within the City of New York upon arrears of assessments for local improvements and street openings in said city, and upon arrears of Croton water rents in said city, are hereby repealed; and in lieu of such charge of interest at the rate of twelve per centum per annum, there shall be charged and collected by the officer authorized to collect and receive any such arrears of taxes and assessments and Croton water rents, interest upon the amount thereof at the rate of seven per centum per annum, to be calculated for the same period as interest at the rate of twelve per centum per annum is now required by law to be calculated thereon. This provision shall apply to taxes, assessments, or Croton water rents remaining unpaid and due, for the non-payment of which the lands and tenements liable therefor shall be hereafter sold at public auction as now provided by law; provided, however, that nothing in this act shall be construed to affect the rights of purchasers at sales for taxes, assessments, or Croton water rents, heretofore made, or to authorize the redemption of lands and tenements from sales heretofore made for any lesser sums than the sums collectible for such redemption under the provisions of existing laws.

Section 4. It shall be the duty of the Comptroller of the City of New York to give public notice, by advertisement, for at least ten days, in the CITY RECORD, printed and published in said city, immediately after the confirmation of any assessment for a local improvement or street opening in said city, that the same has been confirmed specifying the title of such assessment and the date of its confirmation by the Board of Revision and Correction of Assessments in proceedings for local improvements, and by the Supreme Court in proceedings for street openings, and also the date of entry 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 Croton water rents, notifying all persons, owners of property affected by any such assessment, that, unless the amount assessed for benefit on any person or property shall be paid within sixty days after the date of said entry of any such assessment, interest shall thereafter be collected thereon as provided in the following section of this act, and all provisions of law or ordinance requiring any other or different notice of assessments and interest thereon are hereby repealed.

Section 5. 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.

Section 6. This act shall take effect immediately.

ALLAN CAMPBELL,  
Comptroller.

CITY OF NEW YORK—DEPARTMENT OF FINANCE,  
COMPTROLLER'S OFFICE, March 18, 1881.

DEPARTMENT OF FINANCE,  
BUREAU FOR COLLECTION OF ASSESSMENTS,  
AND OF ARREARS OF TAXES AND ASSESSMENTS, AND OF WATER RENTS,  
NEW COUNTY COURT-HOUSE, CITY HALL PARK,  
NEW YORK, February 1, 1881.

## NOTICE TO PROPERTY-HOLDERS.

PROPERTY-HOLDERS ARE HEREBY NOTIFIED that the following assessment list was received by the Collector of Assessments and Clerk of Arrears, January 29, 1881, for collection:

CONFIRMED JANUARY 25, 1881, AND ENTERED JANUARY 29, 1881, NAMELY:

153d street, opening, from the easterly line of the New Avenue lying between 8th and 9th avenues, to the Harlem river.

All payments made on the above assessment on or before March 30, 1881, will be exempt (according to law) from interest. After that date interest will be charged at the rate of seven (7) per cent. from the date of entry.

The above assessments are payable 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.

A. S. CADY,  
Collector of Assessments and Clerk of Arrears.

ORDER OF THE COMPTROLLER OF THE CITY OF NEW YORK, CONSOLIDATING CERTAIN BUREAUX IN THE FINANCE DEPARTMENT.

SECTION 3 OF CHAPTER 521 OF THE LAWS of 1880, requires that heads of departments shall reduce the aggregate expenses of their respective departments by a reduction of salaries, and confers upon them authority to consolidate bureaux and offices for that purpose, as follows, to wit:

"In making the reduction herein required, every head of department may abolish and consolidate offices and bureaux, and discharge subordinates in the same department."

The Comptroller of the City of New York, in pursuance of the duty imposed and the authority thus conferred upon him, hereby orders and directs that the following Bureaux in the Finance Department shall be consolidated, the consolidation thereof to take effect on the first day of January, 1881, viz:

First.—"The Bureau or the Collection of Assessments, and of Arrears of Taxes and Assessments, and of Water Rents," shall be consolidated as one bureau, and on and after January 1, 1881, shall be known as "The Bureau for the Collection of Assessments and of Arrears of Taxes and Assessments, and of Water Rents," and possess all the power conferred and perform all the duties imposed by law and ordinance upon both said bureaux, and the officers thereof, the chief officer of which consolidated bureau shall be called "Collector of Assessments and Clerk of Arrears."

Second.—The Bureau for the Collection of the Revenue accruing from rents, and interest on bonds and mortgages, revenue arising from the use or sale of property belonging to or managed by the city, and "The Bureau of Markets," shall be consolidated as one Bureau, and on and after January 1, 1881, shall be known as "The Bureau for the Collection of City Revenue and of Markets," and possess all the powers conferred and perform all the duties imposed by law and ordinance upon both said Bureaux, and the officers thereof; the chief officer of which said consolidated Bureau shall be called "Collector of City Revenue and Superintendent of Markets."

CITY OF NEW YORK, FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE, Dec. 31, 1880.

ALLAN CAMPBELL,  
Comptroller.

FINANCE DEPARTMENT—COMPTROLLER'S OFFICE,  
NEW YORK, January 22, 1880.

NOTICE TO OWNERS OF REAL ESTATE IN THE TWENTY-THIRD AND TWENTY-FOURTH WARDS OF THE CITY OF NEW YORK.

THE COMPTROLLER OF THE CITY OF NEW York hereby gives notice to owners of real estate in the Twenty-third and Twenty-fourth Wards, that pursuant to an act of the Legislature of the State of New York, entitled "An act to provide for the adjustment and payment of unpaid taxes due the county of Westchester by the towns of West Farms, Morrisania, and Kingsbridge, lately annexed to the city and county of New York," passed May 22, 1878, the unpaid taxes of said town have been adjusted and the amount determined as provided in said act, and that the accounts, including sales for taxes levied prior to the year 1874, by the Treasurer of the County of Westchester, and bid in on account of said towns, and also the unpaid taxes of the year 1873, known as Rejected Taxes, have been filed for collection in the Bureau of Arrears in the Finance Department of the City of New York.

Payments for the redemption of lands so sold for taxes by the Treasurer of the County of Westchester, and bid in on account of said towns, and payments also of said Rejected Taxes of the year 1873, must be made hereafter to the Clerk of Arrears of the City of New York.

N. B.—Interest at the rate of twelve per cent. per annum is due and payable on the amount of said sales for taxes and said rejected taxes.

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.

Grantors, grantees, suits in equity, insolvents' and Sheriffs' sales, in 61 volumes, full bound, price \$500 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.

## CORPORATION NOTICE.

ALL PERSONS HAVING CLAIMS FOR DAMAGES to property by reason of closing the Kingsbridge road are requested to present their claims, with their title deeds, at the earliest possible day, as the Board of Assessors are engaged in the consideration of all claims of damage by closing said road.

JOHN R. LYDEC  
EDWARD NORTH,  
DANIEL STANBURY,  
SAMUEL CONOVER,  
Board of Assessors.

OFFICE BOARD OF ASSESSORS,  
No. 114 CHURCH STREET,  
NEW YORK, April 1, 1881.