

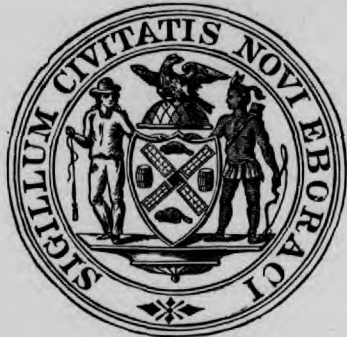
# THE CITY RECORD.

## OFFICIAL JOURNAL.

VOL. XI.

NEW YORK, FRIDAY, MARCH 30, 1883.

NUMBER 2,988.



### POLICE DEPARTMENT.

The Board of Police met on the 27th day of March, 1883.  
Present—Commissioners French, Mason and Matthews.

#### Leaves of Absence Granted.

- March 16. Patrolman Daniel P. Hackett, Ninth Precinct, one-half day.  
16. Doorman James Mee, Twenty-eighth Precinct, one-half day.  
16. Patrolman Edward S. Walling, Fourth Precinct, one-half day.  
17. " Charles H. McKenzie, Thirty-first Precinct, one-half day.  
17. " Samuel B. Fellows, Seventh Precinct, one-half day.  
19. " James Lynch, Fourteenth Precinct, one day.  
19. " Richard Ganley, First Precinct, one-half day.  
19. " George M. Richards, Twenty-second Precinct, one-half day.  
19. " William Roach, Fifth Precinct, one-half day.  
20. " William J. Miller, First Precinct, one-half day.  
21. " George W. McFaul, Eighteenth Precinct, one-half day.  
22. " James J. Ryan, Twenty-first Precinct, one day.  
22. " James Clinton, Sixth Precinct, one-half day.  
22. " James Cunyes, Sixteenth Precinct, one-half day.  
22. " John J. Herrick, Steamboat Squad, one-half day.  
23. " Peter Kenney, Eighteenth Precinct, one-half day.  
23. " Patrick Mulally, Eighteenth Precinct, one day.  
24. " James Doyle, Thirty-second Precinct, one-half day.  
24. " Michael Dugan, Ninth Precinct, one day.  
24. " Thomas F. Hayes, Twenty-seventh Precinct, one-half day.  
24. " John H. Goodchild, Seventh Precinct, one-half day.  
24. " Daniel M. Giloon, Tenth Precinct, one-half day.  
24. " William J. Sims, First Precinct, one day.  
24. " M. J. Hickey, Twenty-seventh Precinct, one-half day.  
24. " Samuel B. Fellows, Seventh Precinct, one-half day.  
26. " Charles H. Tate, Fifth Precinct, ten days.  
27. " James Coen, Ninth Precinct, three months.

#### Leaves of Absence Granted under Rule 564—Approved.

- March 15. Patrolman John J. Nolan, Fourth Precinct, one day.  
17. " Michael McGrade, Twenty-sixth Precinct, one-half day.  
17. " William Sinclair, Fifth District Court, one-half day.  
19. " George Archer, Twenty-seventh Precinct, two days.  
19. " Thomas V. Murphy, Twenty-fourth Precinct, one day.  
20. Doorman James Gaffrey, Mounted Squad, one day.  
20. Patrolman Daniel Dugan, Thirtieth Precinct, one-half day.  
21. " David W. Erskine, Twelfth Precinct, one-half day.  
21. " Martin Burns, Mounted Squad, one-half day.  
21. " John Guinan, Eighteenth Precinct, one and one-half days.  
22. " Lawrence Flannery, Twenty-fifth Precinct, one day.  
22. " Samuel Burden, Steamboat Squad, two and one-half days.  
22. " James McGrath, Sixteenth Precinct, one day.  
22. " John P. Kelly, Seventh Precinct, two days.  
22. " Abraham Minnerly, Twentieth Precinct, three days.  
24. Doorman Henry Burden, Eleventh Precinct, one-half day.

#### Mask Balls Allowed.

Mardi Grass Association, at Irving Hall. March 31.  
Ladies' Deborah Nursery and Protectory, at Terrace Garden. March 26.  
Collins Party, at 156 Sixth avenue. March 26.

Application of Patrolman Timothy Ryan, Seventh Precinct, for promotion to second-grade was referred to the Superintendent for report as to efficiency, etc.

The following applications for pensions were referred to the Trustees of the Police Pension Fund:

Marietta Banfield, widow of late Sergeant Francis J. Banfield.  
Margaret O'Brien, widow of late Patrolman Patrick O'Brien.  
Margaret Patterson, widow of late Patrolman John S. Patterson.  
Application of John D. Quincey, for permission to take copy of minutes and testimony in case of ex-Sergeant Michael H. Swift, was ordered on file.  
Communication from Philip Schilling, relative to nuisance in East One Hundred and Fourteenth street, was referred to the Superintendent.

Communication from ex-Patrolman James Stewart, relative to legal proceedings for the recovery of back sick pay, without his consent, was referred to the Counsel to the Corporation.

Communication from the Mayor, transmitting list of places where stale beer is sold, was referred to the Superintendent.

Communication from Margaret D. Fullam, relative to condition of sidewalk at Eleventh avenue and Thirty-fifth street, was referred to the Chief Clerk to answer.

Resolved, That copies of the following statement be forwarded to the Mayor and Counsel to the Corporation for their information, and to show the necessity for immediate legislation:

	Number days sick time.	Per cent. of sick to full time.	Amount paid for sick time.
December.....	2,852	3.41	\$3,776 37
January.....	3,402½	4.09	4,442 76
February.....	3,173½	4.23	10,432 35

On recommendation of Captain Berghold Twenty-seventh Precinct, it was Resolved, That the pistol permit heretofore granted to Michael Byrnes, be and is hereby revoked.

#### Rewards Granted, Subject to the Deduction under the Rule.

Detective Sergeants Heidelberg and Dolan, \$100, from Arnold, Constable & Co., for arrest of Charles W. Coburn.

Detective Sergeant John J. Dunn, \$75, from J. Pierrepont Edwards, H. B. M., Consul, for arrest of H. D. Kervis.

Patrolman William H. Roff, Thirty-first Precinct, \$25, from Lawrence Stenzhorn, for arrest of John Frank.

Resolved, That the following-named officers be cited for examination, with a view to promotion. Patrolman Philip Farley, Eighteenth Precinct.

Patrolman Norman Westervelt, Twenty-ninth Precinct.

#### Promotions to Second Grade.

- Patrolman James P. Foley, First Precinct.  
" Thomas Ahearn, Fourth Precinct.  
" James W. Jordan, Fourth Precinct.  
" James Fitzgerald, Fourth Precinct.  
" James J. Stephenson, Ninth Precinct.  
" John Duernberger, Ninth Precinct.  
" Charles A. Flay, Thirteenth Precinct.  
" James Dougherty, Fourteenth Precinct.  
" Frederick Mettel, Sixteenth Precinct.  
" Peter Gough, Eighteenth Precinct.  
" Thomas Meehan, Eighteenth Precinct.  
" Timothy Murray, Eighteenth Precinct.  
" William J. Armstrong, Twenty-third Precinct.  
" Henry McMullen, Thirty-first Precinct.  
" James Doyle, Thirty-second Precinct.

#### NEW YORK SUPREME COURT.

Hugh Gilgan  
agst.

The Board of Police.  
Referred to the Counsel to the Corporation.  
The like in cases of

Affidavit and order to show cause.

James A. Van Dyke, Edgar B. Van Buskirk, Thomas Boyle,  
Michael T. Joyce, James Ryan, by James Harris Ryan, executor.

Resolved, That the bill of John W. Naismith, \$110, for making and engraving medals, be and is hereby ordered to be paid by the Treasurer—all aye.

Resolved, That the report of arrests for the unlawful sale of intoxicating liquors by licensed liquor dealers, on Sunday, 18th instant, be placed on file, and a copy forwarded to the Board of Excise that the licenses of dealers who violate the law and desecrate the Christian Sabbath may be revoked, as the law directs.

Resolved, That in pursuance of a writ of mandamus from the Supreme Court, the Treasurer be and is hereby directed to pay to Philip Meany, or to Ecclesine & Tomlinson, his attorneys, the sum of \$240.65, for pay withheld from the said Meany on account of sick time.

On reading and filing the proposition of John Layden (through A. H. Purdy, his attorney), to waive and release all claim against the Mayor, Aldermen, etc., and the Police Department of the City of New York, for back pay, damages and otherwise, in consideration of being restored to membership on the police force; and, on reading and filing an opinion of the Counsel to the Corporation, dated March 22, 1883, recommending the acceptance of the same, it was

Resolved, That the proposition of John Layden be accepted, and consent is hereby given that an order of the Court be entered reinstating him in his position, providing that he executes such release and waiver in form to be approved by the Counsel to the Corporation, and also an agreement to discontinue any and all actions which he has brought against the said Board of Police, and against Stephen B. French, Sidney P. Nichols, Joel W. Mason and James Matthews; and also to release said Board and said French and others from all liability for costs, damages and expenses thereunder.

The President presented silver medals to Roundsman William B. Daeres, Twenty-first Precinct, Roundsman Patrick Reynolds, Nineteenth Precinct, Patrolman John O'Neil, No. 1, Eighteenth Precinct, and Patrolman George Nolan, Steamboat Squad, in pursuance of resolution adopted July 31, 1882.

Resolved, That the following transfers be ordered:

- Sergeant Charles W. Woodward, from Eighteenth Precinct to Seventh Precinct.  
Sergeant Richard F. Magan, from Seventh Precinct to Eighteenth Precinct.  
Roundsman Emmet Near, from Eighteenth Precinct to Nineteenth Precinct.  
Roundsman Patrick Reynolds, from Nineteenth Precinct to Sixth Precinct.  
Patrolman Edward J. Costa, from Twenty-ninth Precinct to Twenty-first Precinct.  
Patrolman James McCusker, from Twenty-first Precinct to Twenty-ninth Precinct.

#### Judgments—Fines Imposed.

- Patrolman James Mongan, First Precinct, one day's pay.  
" Christian Mercle, First Precinct, one day's pay.  
" Dennis J. Fogarty, Fifth Precinct, ten days' pay.  
" James Braik, Fifth Precinct, fifteen days' pay.  
Roundsman Alexander Clinchy, Sixth Precinct, two days' pay.  
Patrolman Bernard Myers, Seventh Precinct, two days' pay.  
" Hugh Gilgan, Eighth Precinct, five days' pay.  
" Philip Daab, Eighth Precinct, one day's pay.  
" John Baker, Tenth Precinct, two days' pay.  
" Peter J. Monahan, Fourteenth Precinct, one day's pay.  
" Thomas Bowes, Fourteenth Precinct, two days' pay.  
" John Molloy, Eighteenth Precinct, two days' pay.  
" Robert A. Chapman, Twenty-first Precinct, one day's pay.  
" Theodore M. Doty, Twenty-second Precinct, one day's pay.  
" Thomas Kelly, Twenty-ninth Precinct, three days' pay.  
" Thomas Kelly, Twenty-ninth Precinct, one day's pay.  
" Thomas Kelly, Twenty-ninth Precinct, one day's pay.  
" Thomas Kelly, Twenty-ninth Precinct, two days' pay.  
" Isaac Evans, Twenty-ninth Precinct, two days' pay.  
" Charles D. Eddy, Twenty-ninth Precinct, two days' pay.  
" William J. Foster, Twenty-ninth Precinct, ten days' pay.  
" Joseph A. Gardner, Thirty-first Precinct, two days' pay.  
" John T. McGuire, Sixth Precinct, thirty days' pay.  
" Bartholomew O'Brien, Eighth Precinct, one day's pay.  
" Michael J. McGinley, Eighth Precinct, one day's pay.  
" George R. Smith, Sixteenth Precinct, thirty days' pay.  
" Charles H. Boyle, Eighteenth Precinct, one day's pay.  
" Peter J. Tucker, Twenty-seventh Precinct, one day's pay.  
" Henry Gregg, Twenty-ninth Precinct, one day's pay.  
" Samuel L. Magrane, Twenty-ninth Precinct, one day's pay.  
" Samuel L. Magrane, Twenty-ninth Precinct, one day's pay.  
" Samuel L. Magrane, Twenty-ninth Precinct, one day's pay.  
" Gilbert L. Wright, Sixth Precinct, thirty days' pay.  
" John Baker, Tenth Precinct, ten days' pay.  
" James Kenney, Fourth Precinct five days' pay.  
" George W. Conklin, Twenty-ninth Precinct, twenty-five days' pay.

#### Complaint Dismissed.

Patrolman Louis Wolters, Twenty-second Precinct.  
Adjourned.

S. C. HAWLEY, Chief Clerk.

### APPROVED PAPERS.

Resolved, That permission be and is hereby given to butchers to drive cattle in the Eleventh avenue, from Sixtieth to Fortieth street, between the hours of 12 M. and 5 A. M. every morning; such permission to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, February 20, 1883.

Received from his Honor the Mayor, March 6, 1883, with his objections thereto.

In Board of Aldermen, March 20, 1883, taken up, reconsidered, as provided in section 13, chapter 335, Laws of 1873, and adopted, notwithstanding the objections of his Honor the Mayor, three-fourths of all the members elected voting in favor thereof.

Resolved, That two lamp-posts be erected and boulevard lamps placed and lighted in front of the Cornell Memorial Church, in Seventy-sixth street, between Second and Third avenues, under the direction of the Commissioner of Public Works.

Adopted by the Board of Aldermen, March 13, 1883.

Approved by the Mayor, March 20, 1883.



## NEW YORK AND BROOKLYN BRIDGE.

THE TRUSTEES OF THE NEW YORK AND BROOKLYN BRIDGE,  
OFFICE, NO. 21 WATER STREET,  
BROOKLYN, March 27, 1883.  
Hon. FRANKLIN EDSON,  
Mayor of the City of New York;  
Hon. SETH LOW,  
Mayor of the City of Brooklyn:

GENTLEMEN—I have the honor to inform you that the following work has been done during the last week upon the bridge, viz.:

20 under floor stays were put in place.  
3 under floor shear plates were put in place.  
200 tie-rods in intermediate truss.  
6,678 rivets were driven.  
All of the promenade plank are laid, and nearly all fastened, and the stairways are nearly all completed.  
All of the under floor stays for the main span are cut and made, and nearly all are in place. The engines have been taken from the land spans, and the final clearing up has begun.  
I am, yours respectfully,  
WM. C. KINGSLEY,  
Acting President.

### 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.  
FRANKLIN EDSON, Mayor; S. HASTINGS GRANT, Secretary and Chief Clerk.

#### Mayor's Marshal's Office.

No. 1 City Hall, 9 A. M. to 4 P. M.  
GEORGE A. McDERMOTT, First Marshal.

#### Permit Bureau Office.

No. 13½ City Hall, 9 A. M. to 4 P. M.  
HENRY WOLTMAN, Registrar.

#### COMMISSIONERS OF ACCOUNTS.

No. 1 County Court-house, 9 A. M. to 4 P. M.  
WM. PITT SHEARMAN, GEO. EDWIN HILL.

#### LEGISLATIVE DEPARTMENT.

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

#### City Library.

No. 12 City Hall, 10 A. M. to 4 P. M.

#### 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.

#### 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 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. DEVOR, Collector of City Revenue and Superintendent of Markets.

Bureau for the Collection of Taxes.  
First floor Brown-stone Building, City Hall Park.  
MARTIN T. McMAHON, Receiver of Taxes; ALFRED VREDENBURG, Deputy Receiver of Taxes.

#### LAW DEPARTMENT.

Office of the Counsel to the Corporation.  
Staatz Zeitung Building, third floor, 9 A. M. to 5 P. M.  
Saturdays, 9 A. M. to 4 P. M.  
GEORGE P. ANDREWS, 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; JOHN J. O'BRIEN, Chief Bureau of Elections.

#### DEPARTMENT OF CHARITIES AND CORRECTION.

Central Office.  
No. 66 Third avenue, corner Eleventh street, 8:30 A. M. to 5:30 P. M.  
H. H. PORTER, President; GEORGE F. BRITTON, Secretary.

#### FIRE DEPARTMENT.

Headquarters.  
Nos. 155 and 157 Mercer street.  
JOHN J. GORMAN, President; CARL JUSSEN, Secretary.  
Bureau of Chief of Department.  
ELI BATES, Chief of Department.  
Bureau of Inspector of Combustibles.  
PETER SEERY, Inspector of Combustibles.

#### Bureau of Fire Marshal.

GEORGE H. SHELDON, 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, 1 P. M.

#### Attorney to Department.

WM. L. FINDLEY, Nos. 155 and 157 Mercer street and No. 120 Broadway.

#### Fire Alarm Telegraph.

J. ELLIOT SMITH, Superintendent of Telegraph, Nos. 155 and 157 Mercer street.

#### Repair Shops.

Nos. 128 and 130 West Third street.  
JOHN McCABE, Chief of Battalion-in-Charge, 8 A. M. to 5 P. M.

#### Hospital Stables.

99th street, between 9th and 10th avenues (temporary).  
JAMES SHEA, 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.  
146th street and 3d avenue, 9 A. M. to 5 P. M.

#### DEPARTMENT OF DOCKS.

Nos. 117 and 119 Duane street, 9 A. M. to 4 P. M.  
WILLIAM LAMBEER, President; JOHN T. CUMING, Secretary.

DEPARTMENT OF TAXES AND ASSESSMENTS.  
Staatz Zeitung Building, Tryon Row, 9 A. M. to 4 P. M.  
THOMAS B. ASTEN, President; FLOYD T. SMITH, Secretary.

Office Bureau Collection of Arrears of Personal Taxes.  
Brown-stone Building, City Hall Park, 9 A. M. to 4 P. M.  
CHARLES S. BEARDSLEY, Attorney; WILLIAM COMBERFORD, Clerk.

#### DEPARTMENT OF STREET CLEANING.

51 Chambers street, Rooms 10, 11 and 12, 9 A. M. to 4 P. M.  
JAMES S. COLEMAN, Commissioner; M. J. MORRISON, Chief Clerk.

#### 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 Bond street and Bowery, 9 A. M. to 4 P. M.  
WILLIAM P. MITCHELL, President; JOSEPH S. MICHAELS, Chief Clerk.

#### SHERIFF'S OFFICE.

Nos. 3 and 4 New County Court-house, 9 A. M. to 4 P. M.  
ALEXANDER V. DAVIDSON, Sheriff; JOEL O. STEVENS, Under Sheriff; DAVID MCGONIGAL, Order Arrest Clerk.

#### REGISTER'S OFFICE.

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

### DEPARTMENT OF TAXES AND ASSESSMENTS.

DEPARTMENT OF TAXES AND ASSESSMENTS.  
STAATZ ZEITUNG BUILDING,  
NEW YORK, January 8, 1883.

IN COMPLIANCE WITH SECTION 9, CHAPTER 302, Laws of 1882, it is hereby advertised that the books of "The Annual Record of the Assessed Valuations of Real and Personal Estate" of the City and County of New York, for the year 1883, are now open for examination and correction from the second Monday of January, 1883, until the first day of May, 1883.

All persons believing themselves aggrieved must make application to the Commissioners of Taxes and Assessments, at this office, during the period said books are open, in order to obtain the relief provided by law.

Applications for correction of assessed valuations on personal estate must be made by the person assessed, to the said Commissioners, between the hours of 10 A. M. and 2 P. M. at this office during the same period.

THOMAS B. ASTEN,  
GEORGE D. VANDERPOEL,  
EDWARD C. DONNELLY,  
Commissioners of Taxes and Assessments

### THE CITY RECORD.

COPIES OF THE CITY RECORD CAN BE obtained at No. 2 City Hall (northwest corner, basement). Price three cents each.

#### JURORS.

#### NOTICE

IN RELATION TO JURORS FOR STATE COURTS.

OFFICE OF THE COMMISSIONER OF JURORS,  
NEW COUNTY COURT-HOUSE,  
NEW YORK, Sept. 15, 1881.

APPLICATIONS FOR EXEMPTIONS WILL BE heard here, from 10 to 3 daily, from all persons hitherto liable or recently serving who have become exempt, and all needed information will be given.

Those who have not answered as to their liability, or proved permanent exemption, will receive a "jury enrollment notice," requiring them to appear before me this year. Whether liable or not, such notices must be answered (in person, if possible, and at this office only) under severe penalties. If exempt, the party must bring proof of exemption; if liable, he must also answer in person, giving full and correct name, residence, etc., etc. No attention paid to letters.

Persons "enrolled" as liable must serve when called or pay their fines. No mere excuse will be allowed or interference permitted. The fines if unpaid will be entered as judgments upon the property of the delinquents.

All good citizens will aid the course of justice, and secure reliable and respectable juries, and equalize their duty by serving promptly when summoned, allowing their clerks or subordinates to serve, reporting to me any attempt at bribery or evasion, and suggesting names for enrollment. Persons between sixty and seventy years of age, summer absentees, persons temporarily ill, and United States and District Court jurors are not exempt.

Every man must attend to his own notice. It is a misdemeanor to give any jury paper to another to answer. It is also punishable by fine or imprisonment to give or receive any present or bribe, directly or indirectly, in relation to a jury service, or to withhold any paper or make any false statement, and every case will be fully prosecuted.

GEORGE CAULFIELD,  
Commissioner of Jurors,  
Room 17, New County Court-house.

### BOARD OF EDUCATION.

SEALED PROPOSALS WILL BE RECEIVED by the School Trustees of the Nineteenth Ward, at the Hall of the Board of Education, corner of Grand and Elm streets, until Wednesday, the 4th day of April, 1883, and until 9 o'clock A. M. on said day, for the erection of a new school-house on the southeast corner of Lexington avenue and Sixty-eighth street.

Plans and specifications may be seen, and blanks for proposals and all necessary information may be obtained at the office of the Superintendent of School Buildings, No. 146 Grand, corner of Elm street.

Proposals will be received only for the entire work and materials required for the erection of the building, and must be indorsed "Proposal for the Erection of a School-house on Lexington avenue, in the Nineteenth Ward."

The Trustees reserve the right to reject any or all of the proposals submitted.

The party submitting a proposal, and the parties proposing to become sureties, must each write his name and place of residence on said proposal.

Two responsible and approved sureties, residents of this city, are required in all cases.

No proposal will be considered from persons whose character and antecedent dealings with the Board of Education render their responsibility doubtful.

CHARLES L. HOLT,  
ISAAC P. CHAMBERS,  
JOSEPH KOCH,  
ABRAHAM DOWDNEY,  
C. E. SIMMONS, M. D.

Board of School Trustees, Nineteenth Ward.

Dated New York, March 20, 1883.

### DEPARTMENT OF PUBLIC PARKS.

DEPARTMENT OF PUBLIC PARKS,  
36 UNION SQUARE,  
NEW YORK, February 12, 1883.

NOTICE IS HEREBY GIVEN THAT A MAP OR plan showing a revised system of streets and avenues in the Highbridge District of the Twenty-third and Twenty-fourth Wards of the City of New York, will be on exhibition at the office of the Topographical Engineer, of the Department of Public Parks, at the Arsenal building, Central Park, from and after this date and until March 1, next, for the purpose of allowing persons interested to examine the same, and to file their objections thereto before said map or plan is finally acted upon by the Department of Public Parks.

By order,

E. P. BARKER,  
Secretary.

The time for allowing persons interested to examine the above-mentioned map or plan and file their objections thereto is extended to April 1, 1883.

By order,

E. P. BARKER,  
Secretary.

### GAS COMMISSION.

DEPARTMENT OF PUBLIC WORKS,  
COMMISSIONER'S OFFICE, NO. 31 CHAMBERS STREET,  
NEW YORK, March 24, 1883.

### PROPOSALS FOR ESTIMATES FOR LIGHTING THE PUBLIC LAMPS.

PROPOSALS FOR ESTIMATES FOR FURNISHING the Gas or other illuminating material for and Lighting, Extinguishing, Cleaning, Repairing, and Maintaining the Public Lamps (and supplying Gas, etc., for new lamps when required) on the Streets, Avenues, Piers, Parks, and places in the City of New York, for the period of one year, commencing May 1, 1883, and ending April 30, 1884, both days inclusive.

Estimates for the above will be received at the office of the Commissioner of Public Works, No. 31 Chambers street, in the City of New York, until 12 o'clock M. of Friday, April 6, 1883, at which place and time they will be publicly opened by said Commissioner and read.

Any person making an estimate for the above shall furnish the same in a sealed envelope, indorsed "Estimate for furnishing the illuminating material for, and lighting and extinguishing, cleaning, repairing, and maintaining the public lamps," and also with the name of the person making the same, and the date of its presentation.

Bidders are required to state in their estimates their names and places of residence; the names of all persons interested with them therein, and, if no other person be so interested, they shall distinctly state the fact, also, that it is made without any connection with any other person making any estimate for the same supplies and work; and that it is in all respects fair, and without collusion or fraud; and, also, that no member of the Common Council, head of a Department, Chief of a Bureau, Deputy thereof, or Clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof; which estimate must be verified by the oath, in writing, of the party making the same, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each estimate shall be accompanied by the consent, in writing, of two householders or freeholders of 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 or persons making the bid or estimate, they will, on its being so awarded, become bound as his or their sureties for its faithful performance; and that if he or they shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he or they would be entitled upon its completion, and that which the Corporation may be obliged to pay to the person to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work 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 security required for the completion of the contract, and stated in the proposals, over and above all his debts of every nature, and over and above his liabilities as bail, surety, and otherwise; that he has offered himself as a surety in good faith, and with an intention to execute the bond required by law.

Bidders are required to state in their estimates the district or several streets or parts of streets in which they propose to perform the requirements herein contained, and also the illuminating or candle-power of the gas they propose to furnish, when tested at a distance of not less than one mile from the place of manufacture, and bidders proposing to furnish any illuminating material other than illuminating or coal gas, must state distinctly what kind of material they propose to furnish, and the illuminating power of the light they propose to furnish.

Bidders are also required to state the price for which they will furnish the gas (of not less than sixteen-candle power by photometrical test, at a distance of not less than

one mile from the place of manufacture) or other illuminating material for each lamp, including the lighting, extinguishing, cleaning, repairing, reglazing, and painting lamp-posts and lanterns, and replacing the cocks, tubes, burners, cross heads, lamp irons, and lanterns thereto, for the period from May 1, 1883, to April 30, 1884, both days inclusive, stating the price, for the above named period of one year, for each lamp.

Bidders proposing to furnish electric lights must state the kind or system of light (whether the Voltaic Arc or Incandescent) they propose to furnish, and also whether the electric lamps are to be used on the ordinary lamp-posts of the city, or on special lamp-posts to be fitted up by the bidder without cost to the city for such lamp-posts or their fittings. If the light is to be by the Voltaic Arc, the bidder is to state the number of such lamps to be used for lighting the streets or district for which the bid is made and the diameter of the carbon electrodes to be used in such lamps.

Bidders are also required to state a price for which they will repair lamp-posts, including straightening and relighting, and for each new lamp fitted up, as follows:

For each lamp-post straightened, stating the price per post.

For each column relighted, stating the price per post.

For each lamp-post removed, stating the price per post.

For each lamp-post reset, stating the price per post.

For each new lamp fitted up, stating the price per post.

The bidders are required to write out the amount of their bids in their estimates, in addition to inserting the same in figures.

The number of public lamps to be contracted for is about 24,000.

The burners for illuminating gas are to be of a capacity to burn three cubic feet of gas per hour under a pressure of one inch, and in case the illuminating material shall be oil or naphtha, then the burners to be used for such illuminating material shall give a light (by photometrical test) equal to the light given by the gas-burners in use in the public lamps in the City of New York.

Should any alteration or any attachment be required to any portion of the lamps for which estimates are made in consequence of the use of illuminating material other than gas, then such alteration shall be done and such attachment placed on the lamps without expense to the city.

The number of hours the gas or naphtha lamps are to be kept burning during the contract is 4,000, and electric lamps are to be kept lighted 3,818 hours.

The amount of security required is \$60,000 on all contracts which will amount to \$100,000 or more, and on smaller contracts the security shall be sixty per cent. of the total amount of the bid.

No estimate will be received or considered unless accompanied by either a certified check upon one of the National Banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate Book, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk, and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same, within three days after the contract is awarded. If the successful bidder shall refuse or neglect within five days after notice that the contract has been awarded to him to execute the same, the amount of the deposit made by him shall be forfeited and retained by the City of New York as liquidated damages for such neglect or refusal; but, if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

The award of the contract will be made as soon as practicable after the opening of the bids.

Should the person or persons to whom the contract is so awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his bid or estimate, or if he accept, but does not execute the contract and give the proper security, it may be readvertised and relet as provided by law and ordinance.

Bidders are informed that no deviation from the specifications will be allowed, unless a written permission shall have been previously obtained from the Mayor, Comptroller, and Commissioner of Public Works.

The right is reserved to assign and designate to any bidder, whose bid shall be accepted, the number and location of the lamps to be lighted by such bidder, in any portion of the city for which estimates are received, and to increase or diminish such number.

The right is reserved to determine and designate, after the estimates are opened, what illuminating material shall be used in the public lamps, or any number of them, during the period before mentioned; also to decline any or all estimates if deemed for the interests of the Corporation, and no estimate will be accepted from or contract awarded to any person who is in arrears to the Corporation, upon debt or contract, or who is a defaulter, as security or otherwise, upon any obligation to the Corporation.

If the estimate of any bidder shall include any lamps with which the pipes or conductors of such bidder are not connected at the time of the making of the bid, and a contract for furnishing the illuminating material for and lighting, extinguishing, cleaning, repairing, and maintaining any such lamps shall be awarded to such bidder, in that case, thirty days from the date of the execution of such contract and such further time, not exceeding thirty days, as may be deemed reasonable by the Commissioner of Public Works, shall be allowed to such bidder in which to connect such pipes or conductors with such lamps.

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

Blank forms of estimates can be obtained on application at the office of the Commissioner of Public Works.

NEW YORK, March 24, 1883.

FRANKLIN EDSON,

Mayor

ALLAN CAMPBELL,

Comptroller.

HUBERT O. THOMPSON,

Commissioner of Public Works.

### DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE,  
NEW YORK, March 22, 1883.

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 Charity Hospital, Blackwell's Island—Bridget McDermott, aged 63 years; 5 feet 4 inches high; gray hair; brown eyes. Had on when admitted black skirt and cloak, silk hood.

At Workhouse, Blackwell's Island—Cornelius Carney, aged 42 years. Committed February 14, 1883.

At Homeopathic Hospital, Ward's Island—Margaret Collins; aged 72 years; 4 feet 4 inches high; blue eyes; gray hair. Had on when admitted black alpaca cloak, black dress, gaiters.

William Smith; aged 58 years; 5 feet 9 inches high; blue eyes; brown hair. Had on when admitted black coat, brown striped pants and vest, Derby hat.

James Logue; aged 64 years; 5 feet 8 inches high; blue eyes; brown hair. Had on when admitted black suit of clothes.

Joseph Lippus; aged 32 years; 5 feet 6 inches high; blue eyes; brown hair. Had on when admitted gray coat, blue overalls, blue flannel shirt.

Minnie Johnson; aged 30 years; 5 feet 4 inches high; blue eyes; brown hair. Had on when admitted brown dress, black shawl.



Elizabeth Mullen; aged 24 years; 5 feet 1 inch high; blue eyes; brown hair. Had on when admitted gray dress, brown water-proof cloak.  
James Rodgers; aged 64 years; 5 feet 8 inches high; blue eyes; brown hair. Had on when admitted black coat and vest, brown striped pants.  
At Hart's Island Hospital—Catharine Smith; aged 60 years.  
Nothing known of their friends or relatives.

By order.

G. F. BRITTON,  
Secretary.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE.

TO CONTRACTORS.

PROPOSALS FOR GROCERIES, LUMBER,  
ETC.

SEALED BIDS OR ESTIMATES FOR FURNISH-  
ing

GROCERIES.  
3,000 pounds Dairy Butter, sample on exhibition on Thursday, March 29, 1883.  
30,000 Eggs (fresh, and all to be candled).  
500 barrels Irish Potatoes, good quality and size, and to weigh 168 pounds net per barrel.  
100 " Carrots, Prime quality and in full size  
100 " Turnips, barrels.  
50 " Onions, barrels.  
2,500 pounds fine Coffee.  
500 " Cocoa.  
10,000 " Hominy.  
10,000 " Rice.  
50 barrels Oatmeal.  
50 boxes Laundry Starch.  
50 dozen Sea Foam.  
50 " Canned Tomatoes (3 pounds).  
12 " " Peas (2 pounds).  
12 " " Peas (3 pounds).  
5 " " Worcestershire Sauce (pints).  
3 " " Horse Radish.  
150 bags Coarse Meal.  
300 quintals prime quality Grand Bank Codfish, to average not less than five pounds each, to be delivered as required in boxes of four quintals each.

LUMBER, ETC.  
600 pieces Sheathing Boards, tongued and grooved.  
600 Pine Battens, 2 inches.  
700 Hemlock Boards.  
6 pieces Spruce, 4x6x23  
12 " 4x6x20  
8 " 4x6x25  
200 " 4x4x13  
2 " 3x9x27  
24 " 3x8x23  
70 " 1x1x12x12  
15 " 4x8x12  
6 " 6x6x16  
10 " 6x6x9  
25 " 3x8x15  
150 " 2x10x13  
100 " 1x1x9x13  
1,000 superficial feet Box Boards.  
200 Hemlock Joists.  
1,500 superficial feet Georgia Yellow Pine 1x4x3 1/2".  
500 pieces 6" Rabbeted Siding.  
500 pieces White Pine Ceiling Boards, narrow.  
700 lineal feet Spruce 2x3 1/2".  
2,500 lineal feet Furring Strips 1x2 1/2".  
100 pieces Spruce 3x4 1/2".  
1,000 superficial feet 1 1/4" Merchantable White Pine, dressed 1 side.  
1,000 superficial feet 3/4" Merchantable White Pine, dressed 2 sides.  
1,250 superficial feet 2x12" Clear White Pine, dressed 1 side.  
1,000 square feet 1" Oak.  
10,000 Lb. h.  
25 barrels Common Lime.  
6 kegs 10-penny Cut Nails.

—or any part thereof, will be received at the office of the Department of Public Charities and Correction, in the City of New York, until 9.30 o'clock A. M., of Friday, March 30, 1883. The person or persons making any bid or estimate shall furnish the same in a sealed envelope, indorsed "Bid or Estimate for Groceries, Lumber, etc.," and with his or their name or names, and the date of presentation, to the head of said Department, at the said office, on or before the day and hour above named, at which time and place the bids or estimates received will be publicly opened by the head of said Department, and read.

The Department of Public Charities and Correction reserves the right to decline any and all bids or estimates if deemed to be for the public interest, and to accept any bid or estimate as a whole, or for any one or more articles included therein. No bid or estimate will be accepted from, or a contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The award of the Contract will be made as soon as practicable after the opening of the bids.  
Delivery will be required to be made from time to time, at such times and in such quantities as may be directed by the said Department.

Any bidder for this contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom the contract may be awarded will be required to give security for the performance of the contract by his or their bond, with two sufficient sureties, in the penal amount of fifty (50) per cent. of the estimated amount of the contract.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; also that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, Head of a Department, Chief of a Bureau, Deputy thereof or Clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as his sureties for its faithful performance; and that if he shall omit or refuse to execute the same, they shall pay to the Corporation any difference between the sum to which he would be entitled on its completion, and that which the Corporation may be obliged to pay to the person 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 section 27 of

Chapter 8 of the Revised Ordinances of the City of New York, if the contract shall be awarded to the person or persons for whom he consents to become surety. The adequacy and sufficiency of the security offered to be approved by the Comptroller of the City of New York.

No bid or estimate will be considered unless accompanied by either a certified check upon one of the national banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be included in the sealed envelope containing the estimates, but must be handed to the officer, clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but, if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to him, or if he or they accept, but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it, and as in default to the Corporation; and the contract will be readvertised and relet as provided by law.

The quality of the articles, supplies, goods, wares, and merchandise must conform in every respect to the samples of the same respectively at the office of the said Department. Bidders are cautioned to examine the specifications for particulars of the articles, etc., required, before making their estimates.

Bidders will state the prices for each article, by which the bids will be tested.

Bidders will write out the amount of their estimate in addition to inserting the same in figures.

Payment will be made by a requisition on the Comptroller, issued on the completion of the contract or from time to time, as the Commissioners may determine.

Bidders are informed that no deviation from the specifications will be allowed, unless under the written instruction of the Commissioners of Public Charities and Correction.

The form of the agreement, including specifications, and showing the manner of payment, can be obtained at the office of the Department.

Dated New York, March 17, 1883.  
HENRY H. PORTER,  
THOMAS S. BRENNAN,  
JACOB HESS,  
Commissioners of the Department of Public Charities and Correction.

DEPARTMENT OF PUBLIC WORKS.

DEPARTMENT OF PUBLIC WORKS,  
31 CHAMBERS STREET, ROOM 2,  
NEW YORK, March 24, 1883.

PUBLIC NOTICE IS HEREBY GIVEN THAT A petition of the property owners, with maps and plans for changing the grade of One Hundred and Seventeenth street, between Tenth avenue and Morningside avenue west, is now pending before the Common Council.

All persons interested in the above change of grade, and having objections thereto, are requested to present the same in writing to the undersigned at his office on or before April 7, 1883.

The maps showing the present and proposed grades can be seen at Room 7, 31 Chambers street.

HUBERT O. THOMPSON,  
Commissioner of Public Works.

FIRE DEPARTMENT.

HEADQUARTERS  
FIRE DEPARTMENT, CITY OF NEW YORK,  
155 AND 157 MERCER STREET,  
NEW YORK, March 21, 1883.

TO CONTRACTORS.

SEALED PROPOSALS FOR FURNISHING THIS

Department with

TWO THOUSAND (2,000) FEET OF HOSE.

will be received by the Board of Commissioners at the head of the Fire Department, at the office of said Department, Nos. 155 and 157 Mercer street, in the City of New York, until 10 o'clock A. M., Wednesday, April 4, 1883, at which time and place they will be publicly opened by the head of said Department and read.

The hose to be of seamless patent improved carbolized steam fire engine rubber-lined hose, made of best Guf cotton and best Para rubber, Maltess Cross brand; to be not less than five (5) ply, with six (6) ply and capped ends; of three and one-quarter (3 1/4) inch internal diameter; in lengths of fifty (50) feet each, with couplings attached. Each and every length of the hose with the couplings attached is to be capable of resisting a pressure test of three hundred (300) pounds to the square inch without twisting or turning more than one revolution, or elongating more than thirty-six (36) inches, or increasing in exterior diameter more than one-fourth (1/4) of an inch at any point, and is to weigh not more than one hundred and twenty (120) pounds including the couplings.

The contractor will be required to give a guarantee that the hose with couplings attached which shall be delivered, and each and every length, part and parcel thereof, shall and will, well and sufficiently bear and stand for and during the full and term of three (3) years from the time the same shall be put in use, a pressure test of three hundred (300) pounds to the square inch, and the wear and tear of use by the Fire Department, its officers, agents, and servants; it being agreed that such wear and tear shall be understood to include all damage to the hose or couplings caused by being run over by vehicles or stepped upon by horses, and all other damage, except that which may be caused by fire or acids. And should any part, parcel, or length of hose or couplings which shall be delivered fail to well and sufficiently bear and stand, for and during the full and term of three years from the time the same shall be put in use, a pressure test of three hundred (300) pounds to the square inch, and such wear and tear of use by the Fire Department, its officers, agents, and servants, then, and in every such case, the same shall be replaced, length for length with hose, and piece for piece with couplings, by the contractor, upon the demand in writing and without expense to said Fire Department.

All of the hose is to be delivered at the Repair Shops of the Fire Department, Nos. 130 and 132 West Third street, on or before the thirtieth day after the execution of the contract.

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 twenty-five (\$25) dollars per day.

No estimate will be received or considered after the hour named.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the articles shall present 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 kind of hose to which it relates.

The Fire Department 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 a contract awarded to, any person who is in arrears to the

Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

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 of 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, in the sum of eight hundred dollars (\$800); 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 before the award is made and prior to the signing of the contract.

No estimate will be considered unless accompanied by either a certified check upon one of the National Banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of one hundred dollars (\$100). Such check or money must not be included in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but, if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to him, or if he or they accept, but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it, and as in default to the Corporation, and the contract will be readvertised and relet, as provided by law.

Bidders will write out the amount of their estimate, in addition to inserting the same in figures.

The form of the agreement and specifications, showing the manner of payment for the hose, may be seen and forms of proposals may be obtained at the office of the Department.

JOHN J. GORMAN,  
CORNELIUS VAN COTT,  
HENRY D. PURROY,  
Commissioners.

HEADQUARTERS  
FIRE DEPARTMENT, CITY OF NEW YORK,  
155 AND 157 MERCER STREET,  
NEW YORK, March 21, 1883.

TO CONTRACTORS.

SEALED PROPOSALS FOR FURNISHING THIS

Department with new boiler to Steam Fire Engine No. 12, and making repairs to said engine, will be received by the Board of Commissioners at the head of the Fire Department, at the office of said Department, Nos. 155 and 157 Mercer street, in the City of New York, until 10 o'clock A. M., Wednesday, April 4, at which time and place they will be publicly opened by the head of said Department and read.

The boiler to be in all respects as to form and construction exactly similar to that now on Engine No. 3 of this Department, being M. R. Clapp's Circulating Tubular Boiler, patent of 1878.

The engine to be delivered at the Repair Shops of the Fire Department in complete working order, with a guarantee that the material and workmanship are of the best character, and to replace, at the expense of the contractor, such parts, if any, as may fail, if such failure is properly attributable to defective material or inferior workmanship. Said engine shall have a full and complete trial of its working powers at New York, under the superintendence of a competent engineer.

For information as to the amount and kind of work to be done and time of delivery, bidders are referred to the specifications which form part of these proposals.

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 twenty-five (\$25) dollars per day.

No estimate will be received or considered after the hour named.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall present 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 Fire Department 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 a contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

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 of 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, in the sum of eight hundred dollars (\$800); 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 before the award is made and prior to the signing of the contract.

No estimate will be considered unless accompanied by either a certified check upon one of the National Banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of forty dollars (\$40). Such check or money must not be included in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk, and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York, as liquidated damages for such neglect or refusal; but, if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded, neglect or refuse to accept the contract within five days after written notice that the same has been awarded to him, or if he or they accept, but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it, and as in default to the Corporation, and the contract will be readvertised and relet, as provided by law.

Bidders will write out the amount of their estimate, in addition to inserting the same in figures.

The form of the agreement and specifications, and showing the manner of payment for the work, may be seen and forms of proposals may be obtained at the office of the Department.

JOHN J. GORMAN,  
CORNELIUS VAN COTT,  
HENRY D. PURROY,  
Commissioners.

HEADQUARTERS  
FIRE DEPARTMENT, CITY OF NEW YORK,  
155 AND 157 MERCER STREET,  
NEW YORK, September 23, 1881.

NOTICE IS HEREBY GIVEN THAT THE Board of Commissioners of this Department will meet daily, at 10 o'clock A. M., for the transaction of business.

By order of  
JOHN J. GORMAN, President.  
CORNELIUS VAN COTT,  
HENRY D. PURROY,  
Commissioners.

CARL JUSSER,  
Secretary.

SUPREME COURT.

In the matter of the application of the Mayor, Aldermen and Commonalty of the City of New York, relative to the opening of One Hundred and Forty-second street, from Eighth avenue to the Harlem river, in the City of New York.

PURSUANT TO THE STATUTES IN SUCH cases made and provided, the Department of Public Works, for and on behalf of the Mayor, Aldermen, and Commonalty of the City of New York, hereby gives notice that the Counsel to the Corporation will apply to the Supreme Court in the First Judicial District of the State of New York, at a Special Term thereof, to be held in the Chambers of said Court, at the County Court-house, in the City of New York, on Saturday, the twenty-first day of April, A. D. 1883, at 10.30 o'clock in the forenoon of that day, or as soon thereafter as counsel can be heard thereon, for the appointment of a Commissioner of Estimate and Assessment in the above proceeding, in the place and stead of Henry M. Garvin, deceased.

New York, March 28, 1883.  
GEORGE P. ANDREWS,  
Counsel to the Corporation,  
Tryon Row, New York.

In the matter of the application of the Department of Public Works for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to the opening of Eighty-fourth street, between Avenue B and bulkhead line, East river, in the City of New York, being the following described lots, pieces or parcels of land, viz:

PURSUANT TO THE STATUTES IN SUCH cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a Special Term of said Court, to be held at the Chambers thereof, in the County Court-house, in the City of New York, on Friday, the 20th day of April, 1883, at the opening of the Court on that day, or as soon thereafter as counsel can be heard thereon, for the appointment of Commissioners of Estimate and Assessment in the above entitled matter. The nature and extent of the improvement hereby intended is the acquisition of title, in the name and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, to all the lands and premises, with the buildings thereon and the appurtenances thereto belonging, required for the opening of Eighty-fourth street, between Avenue B and the bulkhead line, East river, in the City of New York, being the following described lots, pieces or parcels of land, viz:

Beginning at a point in the easterly line of Avenue B distant four hundred and sixty-eight feet and eight inches (468' 8") southerly from the southerly line of Eighty-sixth street; thence easterly and parallel with said street three hundred and eighty-seven feet five and one-quarter inches (387' 5 1/4") to the bulkhead line, East river; thence southerly along said bulkhead line sixty feet ten inches (60' 10") to the southerly line of Avenue B; thence westerly three hundred and seventy-seven (377' 0") feet to the easterly line of Avenue B; thence northerly along said line sixty (60' 0") feet to the point or place of beginning.

Said street to be sixty (60' 0") feet wide between the easterly line of Avenue B and bulkhead line, East river.

Dated New York, March 27, 1883.  
GEORGE P. ANDREWS,  
Counsel to the Corporation,  
Tryon Row, New York.

In the matter of the petition of the United States for the appointment of Commissioners pursuant to Chapter 147, of the Laws of the State of New York of the year 1876, as amended, etc.

WE, THE UNDERSIGNED, COMMISSIONERS of Estimate and Assessment in the above-entitled matter, hereby give notice to all persons or parties whose rights may be affected by the assessment herein, the abstract of which, together with the map caused to be made by us of the area of said assessment, has been deposited in the Clerk's office of the City and County of New York, and to all whom it may concern:



That any person or persons, who may consider themselves aggrieved by such assessment, shall and may be heard in opposition to the same on the thirty-first day of March, 1883, at twelve o'clock, noon, at the office of James D. Fish, in the Marine National Bank, No. 78 Wall street, in the City of New York.

Dated, March 17, 1883.

WILLIAM F. SMITH,  
WILLIAM R. GRACE,  
JAMES D. FISH,  
Commissioners.

THOMAS L. OGDEN, Attorney for Petitioner,  
41 Wall street, New York City.

In the Matter of the Petition of the United States for the Appointment of Commissioners, pursuant to Chapter 147 of the Laws of the State of New York, of the year 1876, as amended, etc.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment, in the above entitled matter, hereby give notice to the owner or owners, occupant or occupants of all houses and lots and improved or unimproved lands, and lands under water, affected thereby, and to all others whom it may concern, that our report of appraisal hereon, which was filed in the Office of the Clerk of the City and County of New York, on the third day of March, 1883, will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held in the new Court-house, at the City Hall, in the City of New York, on the first Monday of May, 1883 (being the 7th day of May, 1883), at 11 o'clock A. M., or as soon thereafter as counsel can be heard, and that our report of assessment herein will also then and there be made and presented to said Court, and that a motion will then and there be made to said Court that our said reports be confirmed, and for such other and further order as may be proper in the premises.

That the abstract of our said assessment, containing the names of the owners of the parcels of land affected thereby, so far as the same can be ascertained, the number and description of such parcels as they appear upon the map which we have caused to be made, showing the limits of the area of assessment laid out and determined upon by us; the names of the parties owning or in possession of the lands within the same, so far as the same can be ascertained, and the quantity of land belonging to such owner, and the quantity belonging to such unknown owners whose names cannot be ascertained, and the location of the same on such map, as nearly as we can ascertain the same, together with such map, the amount of assessments made against each owner or party in interest, and also all affidavits, estimates, and other documents which were used by us in making our said report of assessment, have been filed and deposited in the Clerk's Office of the City and County of New York, for the inspection of whomsoever it may concern, there to remain until the eleventh day of April, 1883.

That any person or party whose rights may be affected by said assessment, and who shall object to the same, or any part thereof, may, within ten days after the first publication of this notice, viz.: the sixth day of March, 1883, state his, her, or their objections to the same in writing to us, verified by his, her, or their affidavits, or the affidavits of other persons, and that such objections may be so stated to us at the office of James D. Fish, in the Marine National Bank, No. 78 Wall street, in the City of New York, if so desired.

That the limits of the area of said assessment which has been laid out and determined upon by us, are as follows: "All those lots, pieces, or parcels of land lying and being in the City of New York, and which, taken together, are bounded and described as follows, viz.:

"Beginning at a point in the bulkhead line on the westerly side of the Harlem river, where the same would be intersected by the prolongation eastwardly of a line drawn through the centre line of the block between Ninety-ninth and One Hundredth streets, thence running westerly along the centre line of the blocks between Ninety-ninth and One Hundredth streets, and crossing Avenue A and First Avenue on the prolongation of said centre line of the blocks, to a point which is intersected by a line drawn parallel to and one thousand feet westerly from the said westerly bulkhead line of the Harlem river, thence running in a general northerly direction parallel to and always distant one thousand feet westerly from the westerly bulkhead line of the Harlem river to the northerly line of One Hundred and Twenty-third street, thence still in a general northerly direction parallel to and always distant one thousand feet westerly from the westerly bulkhead line of the Harlem river to the westerly line of the proposed improvement of the Harlem river, and Spuyten Duyvil Creek to the Hudson river, thence in a northeasterly direction along the Hudson river to a point which would be intersected by a line drawn parallel to and distant one thousand feet easterly from the easterly line of the said proposed improvement, thence in a general southerly direction parallel to and always distant one thousand feet easterly from the easterly line of the said proposed improvement, to a point which would be intersected by the prolongation eastwardly of the aforesaid centre line of the block between Ninety-ninth and One Hundredth streets, thence westerly along the prolongation of said centre line of the block between Ninety-ninth and One Hundredth streets, to the westerly bulkhead line of the Harlem river at the point or place of beginning."

Dated New York, March 6, 1883.

WILLIAM F. SMITH,  
WILLIAM R. GRACE,  
JAMES D. FISH,  
Commissioners.

THOMAS L. OGDEN, Attorney for Petitioner,  
No. 41 Wall street, New York City.

In the matter of the Application of the Department of Public Works for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to the opening of One Hundred and Twentieth street from Eighth Avenue to Ninth Avenue, in the City of New York.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment in the above entitled matter, hereby give notice to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First.—That we have completed our estimate and assessment, and that all persons interested in these proceedings, or in any of the lands affected thereby, and who may be opposed to the same, do present their objections in writing, duly verified, to the Commissioners, at their office, No. 73 William street, third floor, in the said city, on or before the 13th day of March, 1883, and that we, the said Commissioners, will hear parties so objecting within the ten week-days next after the said 13th day of March, 1883, and for that purpose will be in attendance at our said office on each of said ten days, at 2 o'clock P. M.

Second.—That the abstract of the said estimate and assessment, together with our maps, and also all the affidavits, estimates, and other documents, which were used by us in making our report, have been deposited in the office of the Department of Public Works in the City of New York, there to remain until the 16th day of March, 1883.

Third.—That the limits embraced by the assessment aforesaid are as follows, to wit: All those lots, pieces or parcels of land, lying and being within the following described area: Beginning at a point in the easterly line or side of Ninth Avenue, distant 100 feet and 11 inches northerly from the intersection of the northerly line or side of One Hundred and Twentieth street with the easterly line or side of Ninth Avenue; running thence easterly through the centre of the blocks between One Hundred and Twentieth and One Hundred and Twenty-first streets to the westerly line or side of Eighth Avenue; thence southerly, along the westerly line or side of Eighth Avenue, to a point 100 feet and 11 inches southerly from the intersection of the southerly line or side of One Hundred and Twentieth street with the westerly line or side of Eighth Avenue; thence westerly, through

the centre of the blocks between One Hundred and Twentieth and One Hundred and Nineteenth streets, to the easterly line or side of Ninth Avenue; thence northerly, along the easterly line or side of Ninth Avenue, to the point or place of beginning, excepting therefrom all the lands within the lines of One Hundred and Twentieth street.

Fourth.—That our report herein will be presented to the Supreme Court of the State of New York, at a special term thereof, to be held in the County Court-house at the City Hall in the City of New York, on the 30th day of March, 1883, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, January 31, 1883.

GEORGE W. McLEAN,  
NATHANIEL JARVIS,  
FRANCIS BLESSING,  
Commissioners.

ARTHUR BERRY, Clerk.

In the matter of the application of the Department of Public Works for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to the opening of One Hundred and Forty-fourth street, from Seventh Avenue to New Avenue, west of Eighth Avenue, in the City of New York.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment in the above entitled matter, hereby give notice to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved land affected thereby, and to all others whom it may concern, to wit:

First.—That we have completed our estimate and assessment, and that all persons interested in these proceedings, or in any of the lands affected thereby, and who may be opposed to the same, do present their objections in writing, duly verified, to the Commissioners, at their office, No. 73 William street, third floor, in the said city, on or before the thirteenth day of March, 1883, and that we, the said Commissioners, will hear parties so objecting within the ten week-days next after the said thirteenth day of March, 1883, and for that purpose will be in attendance at our said office on each of said ten days, at two o'clock P. M.

Second.—That the abstract of the said estimate and assessment, together with our maps, and also all the affidavits, estimates and other documents which were used by us in making our report, have been deposited in the office of the Department of Public Works in the City of New York, there to remain until the sixteenth day of March, 1883.

Third.—That the limits embraced by the assessment aforesaid are as follows, to wit: All those lots, pieces or parcels of land lying and being within the following described area: Beginning at a point in the easterly line or side of New Avenue, distant 100 feet 6 1/2 inches northerly from the intersection of the northerly line or side of One Hundred and Forty-fourth street, with the easterly line or side of New Avenue; running thence easterly through the centre of the blocks between One Hundred and Forty-fourth and One Hundred and Forty-fifth streets, to the westerly line or side of Seventh Avenue; thence southerly along the westerly line or side of Seventh Avenue, to a point distant 99 feet and 11 inches southerly from the intersection of the southerly line or side of One Hundred and Forty-fourth street with the westerly line or side of Seventh Avenue; thence westerly through the centre of the blocks between One Hundred and Forty-fourth and One Hundred and Forty-third streets, to the easterly line or side of New Avenue; thence northerly, along the easterly line or side of New Avenue, to the point or place of beginning, excepting therefrom all the land within the lines of One Hundred and Forty-fourth street.

Fourth.—That our report herein will be presented to the Supreme Court of the State of New York, at a special term thereof, to be held in the County Court-house at the City Hall, in the City of New York, on the 30th day of March, 1883, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated, New York, January 31, 1883.

GEORGE W. McLEAN,  
CECIL CAMPBELL HIGGINS,  
CHARLES PRICE,  
Commissioners.

ARTHUR BERRY, Clerk.

In the matter of the application of the Department of Public Works for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to the opening of One Hundred and Twenty-ninth street, from Eighth Avenue to Avenue St. Nicholas, in the City of New York.

**WE, THE UNDERSIGNED COMMISSIONERS** of Estimate and Assessment in the above entitled matter, hereby give notice to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First.—That we have completed our estimate and assessment, and that all persons interested in these proceedings, or in any of the lands affected thereby, and who may be opposed to the same, do present their objections in writing, duly verified, to the Commissioners, at their office, No. 73 William street, third floor, in the said city, on or before the 13th day of March, 1883, and that we, the said Commissioners, will hear parties so objecting within the ten week-days next after the said 13th day of March, 1883, and for that purpose will be in attendance at our said office on each of said ten days, at 2 o'clock P. M.

Second.—That the abstract of the said estimate and assessment, together with our maps, and also all the affidavits, estimates and other documents which were used by us in making our report, have been deposited in the office of the Department of Public Works, in the City of New York, there to remain until the 16th day of March, 1883.

Third.—That the limits embraced by the assessment aforesaid are as follows, to wit: All those lots, pieces or parcels of land, lying and being within the following described area: Beginning at a point in the easterly line or side of Avenue St. Nicholas, distant 99 feet and 11 inches northerly from the intersection of the northerly line or side of One Hundred and Twenty-ninth street with the easterly line or side of Avenue St. Nicholas; thence easterly through the centre of the block between One Hundred and Twenty-ninth and One Hundred and Thirtieth streets, to the westerly line or side of Eighth Avenue; thence southerly and along the westerly line or side of Eighth Avenue, to a point distant 99 feet and 11 inches southerly from the intersection of the southerly line or side of One Hundred and Twenty-ninth street with the westerly line or side of Eighth Avenue; thence westerly through the centre of the block between One Hundred and Twenty-ninth and One Hundred and Twentieth streets, to the easterly line or side of Avenue St. Nicholas; thence northeasterly and northerly along the easterly line or side of Avenue St. Nicholas, to the point or place of beginning, excepting therefrom all the land within the lines of One Hundred and Twenty-ninth street.

Fourth.—That our report herein will be presented to the Supreme Court of the State of New York, at a special term thereof, to be held in the County Court-house at the City Hall in the City of New York, on the 30th day of March, 1883, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated, New York, January 31, 1883.

GEORGE W. McLEAN,  
DE WITT C. GRAHAM,  
CHARLES W. WEST,  
Commissioners.

ARTHUR BERRY, Clerk.

## FINANCE DEPARTMENT.

CITY OF NEW YORK,  
FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE,  
March 26, 1883.

### NOTICE TO PROPERTY-OWNERS.

**IN PURSUANCE OF SECTION 4 OF CHAPTER 33** of the Laws of 1881, the Comptroller of the City of New York hereby gives public notice to property-owners that the assessment list for the opening of Concord Avenue, from Denman place to Home street, was confirmed by the Supreme Court, on the 9th day of March, 1883, and entered on the 13th day of March, 1883, in the Record of Titles of Assessments, kept in the Bureau for the Collection of Assessments, and of Arrears of Taxes and Assessments, and of Water Rents.

Section 5 of the said act provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said record of titles of assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment, to charge, collect, and receive legal interest thereon at the rate of seven per centum per annum, to be calculated from the date of such entry to the date of payment."

The above assessments are payable to the Collector of Assessments and Clerk of Arrears, at the "Bureau for the Collection of Assessments, and of Arrears of Taxes and Assessments, and of Water Rents," from 9 A. M. until 2 P. M., and all payments made thereon, on or before May 25, 1883, will be exempt from interest as above provided, and after that date will be subject to a charge of interest at the rate of seven per cent. per annum from the date of entry in the record of titles of assessments in said Bureau.

ALLAN CAMPBELL,  
Comptroller.

CITY OF NEW YORK,  
FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE,  
March 26, 1883.

### NOTICE TO PROPERTY-OWNERS.

**IN PURSUANCE OF SECTION 4 OF CHAPTER 33** of the Laws of 1881, the Comptroller of the City of New York hereby gives public notice to property-owners that the assessment list for the acquisition of lands for Gansevoort Market, act May 7, 1880, was confirmed by the Supreme Court, on the 25th day of January, 1883, and entered on the 13th day of March, 1883, in the Record of Titles of Assessments, kept in the Bureau for the Collection of Assessments, and of Arrears of Taxes and Assessments and of Water Rents.

Section 5 of the said act provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said record of titles of assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment, to charge, collect, and receive legal interest thereon at the rate of seven per centum per annum, to be calculated from the date of such entry to the date of payment."

The above assessments are payable to the Collector of Assessments and Clerk of Arrears, at the "Bureau for the Collection of Assessments, and of Arrears of Taxes and Assessments and of Water Rents," from 9 A. M. until 2 P. M., and all payments made thereon, on or before May 25, 1883, will be exempt from interest as above provided, and after that date will be subject to a charge of interest at the rate of seven per cent. per annum from the date of entry in the Record of Titles of Assessments in said Bureau.

ALLAN CAMPBELL,  
Comptroller.

### INTEREST ON CITY STOCKS.

**THE INTEREST ON THE BONDS AND STOCKS** of the City and County of New York, due May 1, 1883, will be paid on that day, by the Comptroller, at his office in the New Court-house.

The Transfer books will be closed from March 31, to May 1, 1883.

ALLAN CAMPBELL,  
Comptroller.

FINANCE DEPARTMENT—COMPTROLLER'S OFFICE,  
March 24, 1883.

### D. M. SEAMAN, AUCTIONEER.

### SALE OF THIRTY-FOURTH STREET FERRY.

**A LEASE OF THE FRANCHISE OF THE FERRY** between Thirty-fourth street, East river, and Long Island City, along with the wharf property used for ferry purposes, belonging to the Corporation of the City of New York, at the foot of said street, will be sold at public auction to the highest bidder, at the Comptroller's office, at 12 o'clock noon, on Thursday, April 5, 1883, by order of the Commissioners of the Sinking Fund, under a resolution adopted March 19, 1883, as provided by chapter 498, Laws of 1880.

### TERMS AND CONDITIONS.

The lease of the franchise or right to operate said ferry along with the said wharf property, will be offered for sale at the time and place above mentioned, on a lease for the term of five years from the first day of May, 1883, at a minimum yearly rental or upset price of \$6,000 for the franchise thereof, along with the said wharf property, payable quarterly, the said lease to contain all such covenants and conditions as are required by law and ordinances of the Common Council and are prescribed by resolutions of the Sinking Fund, relative to the leasing of ferries and wharf property, upon a form of lease prepared by the Counsel to the Corporation, and filed in the Comptroller's office; provided, also, that the ferrage of foot passengers over said ferry shall not exceed three cents each, and that the rates of ferrage for trucks, carriages, and vehicles of all kinds, and for horses, cattle, and other animals, shall not exceed, during the term of said lease, those heretofore and now charged at said ferry; and that sworn returns of the receipts and expenses of the ferry shall be made by the lessee to the Comptroller when required by him, and that the books of accounts shall be subject to his examination.

The highest bidder will be required to pay the auctioneer's fee, and deposit with the Comptroller at the time of sale the sum of \$1,500, which sum shall apply to the rent first falling due, if the lease is executed, and shall be forfeited to the City if the purchaser shall fail or refuse to execute the lease when notified and required by the Comptroller, provided also that satisfactory security shall be furnished for the faithful performance of the covenants thereof.

The right to reject any bid is reserved, if deemed for the interests of the City.

ALLAN CAMPBELL,  
Comptroller.

CITY OF NEW YORK, FINANCE DEPARTMENT,  
March 22, 1883.

CITY OF NEW YORK,  
FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE,  
March 8, 1883.

### NOTICE TO PROPERTY-OWNERS.

**IN PURSUANCE OF SECTION 4 OF CHAPTER 33** of the Laws of 1881, the Comptroller of the City of New York hereby gives public notice to property-owners that the following lists of assessments for local improvements in said city were confirmed by the "Board of Revision and Correction of Assessments," on the 3d day of March, 1883, and on the same date, were entered in the Record of Titles of Assessments kept in

the "Bureau for the Collection of Assessments, and of Arrears of Taxes and Assessments, and of Water Rents," viz.:

Eighth Avenue regulating, grading, etc., from One Hundred and Twenty-eighth street to Harlem river.  
One Hundred and Second street regulating, grading, etc., from Fifth Avenue to Harlem river.  
One Hundred and Third street regulating, grading, etc., from First to Fifth Avenue, etc.

Section 5 of the said act provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said Record of Titles of Assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment, to charge, collect, and receive legal interest thereon, at the rate of seven per centum per annum, to be calculated from the date of such entry to the date of payment."

The above assessments are payable to the Collector of Assessments and Clerk of Arrears, at the "Bureau for the Collection of Assessments, and of Arrears of Taxes and Assessments, and of Water Rents," from 9 A. M. until 2 P. M., and all payments made thereon, on or before May 7, 1883, will be exempt from interest as above provided, and after that date will be subject to a charge of interest at the rate of seven per cent. per annum from the date of entry in the Record of Titles of Assessments in said Bureau.

ALLAN CAMPBELL,  
Comptroller.

CITY OF NEW YORK,  
FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE,  
February 7, 1883.

### NOTICE TO PROPERTY-OWNERS.

**IN PURSUANCE OF SECTION 4 OF CHAPTER 33** of the Laws of 1881, the Comptroller of the City of New York hereby gives public notice to property-owners that the following lists of assessments for local improvements in said city were confirmed by the "Board of Revision and Correction of Assessments," on the 5th day of February, 1883, and on the same date, were entered in the Record of Titles of Assessments kept in the "Bureau for the Collection of Assessments, and of Arrears of Taxes and Assessments, and of Water Rents," viz.:

Front street sewer, between Broome and Delancey streets, etc.

Section 5 of the said act provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said record of titles of assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment, to charge, collect, and receive legal interest thereon at the rate of seven per centum per annum, to be calculated from the date of such entry to the date of payment."

The above assessments are payable to the Collector of Assessments and Clerk of Arrears, at the "Bureau for the Collection of Assessments, and of Arrears of Taxes and Assessments, and of Water Rents," from 9 A. M. until 2 P. M., and all payments made thereon, on or before April 8, 1883, will be exempt from interest as above provided, and after that date will be subject to a charge of interest at the rate of seven per cent. per annum from the date of entry in the Record of Titles of Assessments in said Bureau.

ALLAN CAMPBELL,  
Comptroller.

CITY OF NEW YORK—FINANCE DEPARTMENT,  
BUREAU FOR COLLECTION OF ASSESSMENTS, AND OF ARREARS OF TAXES AND ASSESSMENTS, AND OF CROTON WATER RENTS,  
OFFICE OF THE COLLECTOR OF ASSESSMENTS AND CLERK OF ARREARS,  
November 15, 1882.

**NOTICE OF THE SALE OF LANDS AND TENEMENTS** for unpaid taxes of 1877, 1878, and 1879, and Croton-water rents of 1876, 1877, and 1878, under the direction of Allan Campbell, Comptroller of the City of New York.

The undersigned hereby gives public notice, pursuant to the provisions of the act entitled "An act for the collection of taxes, assessments, and Croton water rents in the City of New York, and to amend the several acts in relation thereto," passed April 8, 1871.

That the respective owners of all land, and tenements in the City of New York on which taxes have been laid and confirmed situated in the Wards Nos. 1 to 24 inclusive for the years 1877, 1878, and 1879, and now remaining due and unpaid; and also the respective owners of all lands and tenements in the City of New York, situated in the wards aforesaid, on which the regular Croton water rents have been laid for the years 1876, 1877, and 1878, and are now remaining due and unpaid, are required to pay the said taxes and Croton water rent so remaining due and unpaid to the Collector of Assessments and Clerk of Arrears, at his office, in the Department of Finance, in the new Court-house, with the interest thereon at the rate of 7 per cent. per annum as provided by chapter 33 of the Laws of 1881, from the time when the same became due to the time of payment, together with the charges of this notice and advertisement, and if default shall be made in such payment, such lands and tenements will be sold at public auction, at the new Court-house, in the City Hall Park, in the City of New York, on Monday, March 5, 1883, at 12 o'clock, noon, for the lowest term of years at which any person shall offer to take the same in consideration of advancing the amount of tax or Croton water rent, as the case may be, so due and unpaid, and the interest thereon, as aforesaid, to the time of sale, together with the charges of this notice and advertisement and all other costs and charges accrued thereon, and that such sale will be continued from time to time until all the lands and tenements so advertised for sale shall be sold.

Notice is hereby further given that a detailed statement of the taxes and the Croton water rents, the ownership of the property on which taxes and Croton water rents remain unpaid, is published in a pamphlet, and that copies of the said pamphlet are deposited in the office of the Collector of Assessments and Clerk of Arrears, and will be delivered to any person applying for the same.

A. S. CADY,  
Collector of Assessments and Clerk of Arrears.

### POSTPONEMENT.

The above sale is postponed by the Comptroller, as provided by sections 5 and 6 of chapter 381, Laws of 1871, until Monday, May 7, 1883, at the same hour and place.

ALLAN CAMPBELL,  
Comptroller.

FINANCE DEPARTMENT—COMPTROLLER'S OFFICE,  
New York, March 3, 1883.

### 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 1887, prepared under the direction of the Commissioners of Records.

Grantors, grantees, suits in equity, insolvents' and Sheriffs' sales, in 61 volumes, full bound, price, \$100 00  
The same, in 25 volumes, half bound, ..... 50 00  
Complete sets, folded, ready for binding, ..... 15 00  
Records of Judgments, 25 volumes, bound, ..... 10 00  
Orders should be addressed to "Mr. Stephen Angell, Comptroller's Office, New County Court-house."  
ALLAN CAMPBELL,  
Comptroller.



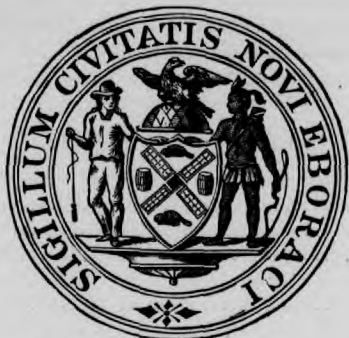
# THE CITY RECORD.

## OFFICIAL JOURNAL.

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NEW YORK, FRIDAY, MARCH 30, 1883.

SUPPLEMENT.



### DEPARTMENT OF PUBLIC WORKS.

#### Report for the Quarter ending December 31, 1882.

DEPARTMENT OF PUBLIC WORKS,  
COMMISSIONER'S OFFICE, NO. 31 CHAMBERS STREET,  
NEW YORK, March 15, 1883.

Hon. FRANKLIN EDSON, Mayor :

SIR—In accordance with section 27 of the Charter, I have the honor to submit the following report of the transactions of the Department of Public Works for the three months ending December 31, 1882, together with a review of the operations of the Department 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.....	\$721,663 83
On account of Assessment Fund, for street improvements.....	521,447 74
On account of Funded Debt, for improvement and extension of water supply.....	187,209 27
On account of Special Fund, for restoring pavements over street openings.....	9,330 78
Total.....	\$1,439,651 62

#### Summary Statements of Contracts entered into during the Quarter.

3 paving contracts, estimated cost.....	\$44,704 20
12 sewer contracts, estimated cost.....	84,571 82
8 regulating and grading contracts, estimated cost.....	104,121 39
4 gas contracts, estimated cost.....	30,000 00
2 miscellaneous contracts, estimated cost.....	42,164 40
12 contracts under \$1,000 each, estimated cost.....	4,418 28
41 contracts, total estimated cost.....	\$309,980 09

#### Contracts Completed during the Quarter.

23 paving contracts, actual cost.....	\$355,517 27
10 repaving contracts, actual cost.....	146,457 15
13 sewer contracts, actual cost.....	97,519 14
13 regulating and grading contracts, actual cost.....	90,957 03
2 contracts for laying water pipes, actual cost.....	21,565 76
3 contracts for furnishing water pipes, actual cost.....	171,792 64
2 miscellaneous contracts, actual cost.....	9,878 00
18 contracts under \$1,000 each, actual cost.....	6,455 10
84 contracts, total actual cost.....	\$900,142 09

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

The natural flow of the Croton river was sufficient during the entire quarter to supply the Aqueduct to its full capacity, and no water had to be drawn from the storage reservoirs, which are filled to high-water mark.

The improvements at the outlets of Lakes Mahopac and Kirk are completed, giving these lakes the character and availability of storage reservoirs.

The rainfall in the Croton basin and in the valley of the Bronx river for three months was as follows :

	OCTOBER.	NOVEMBER.	DECEMBER.	TOTAL.
	Inches.	Inches.	Inches.	Inches.
At Boyd's Corners Reservoir.....	3.33	1.66	2.68	7.67
At South East Reservoir.....	2.82	1.49	2.15	6.46
At Kensico on the Bronx.....	1.89	2.01	2.06	5.96

The surveys and the searches of titles for the land required for the proposed new storage reservoir on the east branch of the Croton river have been continued.

Satisfactory progress has been made on the four contracts for building different sections of the conduit line from Kensico on the Bronx river to the city, and on the contract for the storage reservoir at Kensico. The aggregate quantities of work done are as follows :

#### On the conduit line—

- 1,673 tons of pipe delivered.
- 7,386 lineal feet of 48-inch pipe laid.
- 1,673 cubic yards rock excavated.
- 11,706 cubic yards earth excavated.
- 32,757 cubic yards embankment built.
- 1,037 cubic yards masonry built.
- 710 cubic yards dry stone wall built.
- 42,300 feet B. M. timber furnished.
- 23,810 pounds wrought iron furnished.

#### On the reservoir at Kensico—

- 40 cubic yards rock excavated.
- 1,200 cubic yards earth excavated.
- 8,700 cubic yards embankment built.
- 1,600 cubic yards masonry built.
- 800 lineal feet fence walls built.
- 1,270 cubic yards dry stone wall built.

On the 28th of October a contract was made for building a dam at the outlet of the Rye ponds, at an estimated expense of \$35,914 ; but, in consequence of the near approach of the winter season, the beginning of the work was postponed until the coming spring.

During October and November, up to the advent of severe frost, considerable progress was made in the work of reinforcing the aqueduct, and the embankments and retaining walls which support and protect it where it passes over low ground.

The very severe rainstorms which occurred toward the end of September did great damage to the embankments by washes and slides, causing a large amount of extra repairs. The reinforcement of the masonry of the aqueduct was carried on under great difficulties, on account of numerous leaks from cracks or fissures in the sides and arch of the structure. In several places where the aqueduct and embankments have not yet been reinforced serious leaks have been developed within a month, showing the urgent necessity of continuing and completing the improvement and strengthening of the structure as rapidly as possible.

During the quarter 19,978 lineal feet of pipes were laid and 55 fire-hydrants set in extending and improving the distribution of water.

The high-service pumping engines at Ninety-eighth street and Ninth avenue have pumped an average of 7,568,000 gallons of water per day to an average height of sixty feet, at a cost of \$4.69 per 1,000,000 gallons.

The old engines at the high-service works at High Bridge have pumped an average of 4,275,000 gallons per day to a height of one hundred feet, at a cost of \$12.09 per 1,000,000 gallons. The average consumption of water from the high service, therefore, amounts to 11,843,000 gallons per day.

During the quarter 217 additional water-meters were placed in various buildings, making a total of 6,817 meters placed and in use at the close of the year.

In another part of this report a brief account is given of the tests made during the quarter to ascertain the consumption and waste of water in private residences by means of water-meters and by a gauge indicating the pressure and flow of water in service pipes.

Out of 2,708 house drains or sewer connections examined between the hours of midnight and 6 A. M. there were 309 in which water was found running to waste into the sewers at the rate of from one-half to five gallons per minute.

The inspectors also made 1,983 house inspections, detecting and stopping 427 leaks in plumbing and water fixtures.

#### BUREAU OF WATER PURVEYOR.

##### Pavements.

The repairs on pavements throughout the city were continued with the full force until November 20, when severe frost put a stop to paving work, and the repair gangs were disbanded. The average force for October and November was 470 pavers, rammers and laborers, and 90 carts. The repairs extended over 679 separate locations, and 23 permits were issued for repairs made at the expense of the applicants.

Repaving contracts were completed during the quarter on the following streets :

- Tenth avenue, between Forty-eighth and Fifty-ninth streets.
- Eleventh avenue, between Forty-sixth and Fifty-seventh streets.
- Twenty-fifth street, between Sixth and Eleventh avenues.
- Thirty-fifth street, between Eighth and Tenth avenues.
- City Hall place, between Chambers and Pearl streets.
- William street, between New Chambers and Pearl streets.
- North William street, between Frankfort and Chatham streets.
- Rose street, between Frankfort and New Chambers streets.
- Vandewater street, between Frankfort and Pearl streets.

Covering a total of 51,569 square yards of repavement.

In the upper part of the city pavements on new streets were completed as follows :

- Fourth avenue, between Seventy-second and Ninety-sixth streets.
- Fifth avenue, between One Hundred and Tenth and One Hundred and Twenty-fourth streets.
- Lexington avenue, between Ninety-third and Ninety-fourth streets.
- Lexington avenue, between One Hundred and Fourth and One Hundred and Thirty-first streets.
- Nineteenth street, between Tenth and Thirteenth avenues.
- Twenty-sixth street, near the East river.
- Forty-fourth street, between Eleventh and Twelfth avenues.
- Forty-fifth street, between Eleventh and Twelfth avenues.
- Sixty-eighth street, between avenue A and First avenue.
- Seventieth street, between Second and Third avenues.
- Seventieth street, between Boulevard and Eleventh avenue.
- Eighty-fourth street, between Eighth and Tenth avenues.
- Ninety-ninth street, between Third avenue and Exterior street.
- One Hundred and Fourth street, between First and Second avenues.
- One Hundred and Fifth street, between Third and Fourth avenues.
- One Hundred and Ninth street, between Third and Fourth avenues.
- One Hundred and Eleventh street, between First and Second avenues.
- One Hundred and Twelfth street, at intersection of Fourth avenue.
- One Hundred and Fourteenth street, between Second and Pleasant avenues.
- One Hundred and Eighteenth street, between Third and Fourth avenues.
- One Hundred and Twenty-third street, between First and Second avenues.

Embracing 136,099 square yards of new pavements.

##### Repairs of Pipes, Stop cocks, etc.

An average force of 70 mechanics and laborers and 8 carts was employed on repairs to water-pipes, stop-cocks and fire hydrants, and the work for the quarter included :

- 429 repairs of defects in pipes and stop-cocks.
- 708 repairs of fire hydrants.
- Substituting 38 new fire hydrants for old ones.
- Placing 28 additional fire hydrants.
- Shutting off 135 water connections or taps on account of leaks in service pipes.

##### Public Drinking Hydrants.

Repairs were made on 52 drinking hydrants ; 3 new drinking hydrants were erected in place of old ones, and one additional drinking hydrant was placed.



## BUREAU OF SEWERS.

Twelve contracts for new sewers were entered into during the quarter, and thirteen contracts were completed. The aggregate quantities of new sewerage work for the three months are:

- 11,559 lineal feet of sewers built.
- 994 lineal feet of culverts built.
- 31 receiving-basins built.

The following work was done in repairing and cleaning sewers:

- 871 lineal feet of sewers rebuilt.
- 40 lineal feet of culverts rebuilt.
- 105 lineal feet of spur-pipe laid.
- 36 receiving-basins repaired.
- 182 manholes repaired.
- 2 new manholes built.
- 10 new granite basin heads furnished and set.
- 7 new basin covers, 82 manhole covers, and 56 manhole frames furnished and set.
- 130 manhole heads reset.
- 579 receiving-basins and culverts cleaned.
- 7,575 lineal feet of sewers cleaned.
- 1,442 cart-loads of deposits removed from sewers and basins.

For sanitary reasons the winter season has to be selected for the prosecution of some of the work of reconstructing old sewers, or replacing them by new ones, as the public health would be endangered by disturbing them and the surrounding subsoil in warm weather, because they are saturated with the sewage and house drainage of many years.

The subject of sewerage and drainage is more fully treated in the review of the operations of the Department for the past year, which is included in this report.

## BUREAU OF STREET IMPROVEMENTS.

Work was in progress during the quarter on twenty-six contracts for regulating, grading, curbing, guttering and flagging streets; eight new contracts were entered into; and thirteen contracts were completed.

The aggregate quantities of work done under these contracts during the three months are as follows:

- 17,557 cubic yards earth excavated.
- 26,336 cubic yards rock excavated.
- 96,349 cubic yards filling placed in embankments.
- 21,377 lineal feet curb-stone set.
- 990 lineal feet gutter-stone laid.
- 102,621 square feet flagging laid.
- 3,228 lineal feet picket fence built.
- 4,680 cubic yards stone wall built.
- 284 cubic yards concrete laid on Gansevoort market.
- 850 square yards pavement laid on Gansevoort market.

This Bureau also has charge of the grading and improvement of the ground to be added to the Farmers' market at Gansevoort and West streets. The legal proceedings for acquiring the land owned by private parties, and set aside for market purposes by an act of the Legislature, have not yet been completed, but that portion of the ground which is already owned by the city is being leveled, and will be paved and fully prepared for public use next spring.

## BUREAU OF STREETS AND ROADS.

The heavy rain storms which occurred in the last week of September did great damage to some of the macadam roadways and to the country roads and unpaved streets in the upper part of the city, which are under the care of this Bureau.

The following materials were used in maintaining and repairing the 26½ miles of macadam roads:

- 615 cubic yards of gravel and coarse sand.
- 217 cubic yards of broken trap rock.
- 21 cubic yards of Telford foundation stone.
- 70 cubic yards of loam.

In scraping and cleaning these roads 126 cart-loads of dirt were removed.

The following materials were used in repairs on country roads and unpaved streets:

- 1,270 cubic yards of broken stone.
- 193 cubic yards of gravel.
- 74 cubic yards of sand.

1,300 cubic yards of earth and clay.

1,620 cubic feet of building stone (on culverts.)

Crosswalks of heavy blue stone were laid on One Hundred and Twenty-fifth street, across Sixth and Seventh avenues, for the better accommodation of the large pedestrian travel at these points.

## THE BUREAU OF LAMPS AND GAS.

During the quarter 217 new gas-lamps were erected and lighted, 30 old lamps were relighted, and 60 lamps were discontinued in the public streets, avenues, parks and places. On the 31st of December, 1882, there were 23,745 gas-lamps and 128 electric lights in use.

## BUREAU OF REPAIRS AND SUPPLIES.

The principal items of repairs to public buildings and offices for the three months are as follows:

- Repairing the engine, boilers and heating apparatus in the New Court-house.
- Repairing the furnace, flues and chimneys in the Brown-stone Court-house.
- Placing a new steam pump in the County Jail, and repairing the heating apparatus.
- Painting ceilings and walls in the Fifth District Court-house.
- Laying new flooring in the passageways of Washington Market.
- Making extensive repairs on the roof, roof trusses, windows, flues and chimneys in Centre Market.

Rebuilding a portion of the roof of Centre Market, and plastering the ceilings.

Placing a new steam radiator and additional steam pipes in the Ninth Regiment Armory.

Placing a fire escape of balconies and ladders on the Eleventh Regiment Armory.

In addition to other smaller repairs, the heating apparatus in all the buildings under the charge of the Department was overhauled and put in order for the winter.

The new offices of the Department of Taxes and Assessments, on the second floor of the "Staats Zeitung" building, were fitted up and provided with the necessary office furniture.

Toward the close of the quarter the Department was very seriously embarrassed in consequence of the inadequacy of the appropriation for "Supplies for and cleaning Public Offices." In order to enable it to furnish fuel and other necessary supplies in barely sufficient quantities to prevent serious interruption of public business, a portion of the men and women employed in cleaning and keeping in order the various offices, court rooms, etc., had to be discharged or suspended.

The Fulton Market building is practically finished, excepting only some flooring, outer doors, windows and window guards on the South street front, which are now being put in. A contract has been made for laying new flagging on the sidewalks surrounding the building.

The new Jefferson Market building is about two-thirds completed. By resolution of the Common Council the time for its completion has been extended to the 15th of April next. As the present contract for the erection of this building leaves a considerable balance in the appropriation, this

balance will be used to add a second story on the Greenwich avenue front, for which plans and specifications are now being prepared.

The nine public baths were towed to their winter station in Gowanus Bay at the close of the bathing season. The attendance at these baths for the season is given in another part of this report.

## BUREAU OF INCUMBRANCES.

This Bureau received during the quarter 527 complaints of obstructions on streets and sidewalks, and issued and served notices for their removal. In 114 cases where the notices were disregarded, the articles constituting the obstructions were seized and removed to the Corporation Yard, and \$27.75 was received for redemption of such articles. The Bureau also removed 681 cart loads of stone, dirt and other refuse material from streets, and issued 1,348 permits to place building materials on streets, 106 miscellaneous permits, 72 notices to repair defective sidewalks, and 3 notices to repair defective vault covers.

## BUREAU OF WATER REGISTER.

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

For Water Rents .....	\$272,099 97
For penalties on water rents .....	7,255 20
For permits to tap water pipes .....	2,471 50
Total .....	\$281,826 67

## OTHER REVENUES.

The Department also collected during the quarter and paid into the City Treasury the following amounts.

For vault permits .....	\$17,671 41
For sewer permits .....	6,205 66
For restoration of pavements over excavations .....	6,889 00
For expenses of furnishing and setting meters .....	1,823 20
For materials sold at public auction .....	304 50
For redemption of street obstructions .....	27 75
Total .....	\$32,921 52

## REVIEW OF THE OPERATIONS OF THE DEPARTMENT FOR THE YEAR 1882.

## Summary of Expenditures.

On Appropriation Account of 1882 .....	\$2,360,120 77
On Assessment Fund .....	1,418,986 59
On Funded Debt Account .....	999,998 30
On Revenue Bonds, for expenses of meters .....	11,092 71
On Special Fund for Restoring Pavements over Street Openings .....	27,014 78
Liabilities, including all outstanding accounts against Appropriations of 1882 .....	165,157 62
Total .....	\$4,982,370 77

## Expenditures for the past Twelve Years.

For the Year 1871 .....	\$8,727,085 97
" 1872 .....	5,826,113 67
" 1873 .....	7,754,454 88
" 1874 .....	7,534,590 22
" 1875 .....	5,929,814 49
" 1876 .....	4,374,860 73
" 1877 .....	3,113,789 43
" 1878 .....	2,826,718 47
" 1879 .....	2,340,763 57
" 1880 .....	3,033,457 64
" 1881 .....	3,653,522 85
" 1882 (as above) .....	4,982,370 77

## CONTRACTS ENTERED INTO FOR THE PAST FOUR YEARS.

## Pavement Contracts.

1879—23 contracts, estimated cost .....	\$397,909 00
1880—25 " " .....	352,621 00
1881—43 " " .....	567,555 00
1882—82 " " .....	967,724 00

## Regulating and Grading Contracts.

1879—7 contracts, estimated cost .....	\$79,520 00
1880—16 " " .....	123,633 00
1881—25 " " .....	212,553 00
1882—42 " " .....	383,757 00

## Sewer Contracts.

1879—27 contracts, estimated cost .....	\$279,923 00
1880—35 " " .....	179,685 00
1881—54 " " .....	460,072 00
1882—39 " " .....	295,078 00

## Miscellaneous Contracts.

1879—26 contracts, estimated cost .....	\$373,337 00
1880—21 " " .....	682,164 00
1881—27 " " .....	922,383 00
1882—63 " " .....	875,741 00

## Recapitulation.

1879—83 contracts, estimated cost .....	\$1,130,689 00
1880—97 " " .....	1,338,103 00
1881—148 " " .....	2,163,063 00
1882—226 " " .....	2,522,300 00

## Contracts Completed During the Year 1882.

83 pavement contracts, actual cost .....	\$1,035,544 00
41 regulating and grading contracts, actual cost .....	311,317 00
54 sewer contracts, actual cost .....	565,923 00
60 miscellaneous contracts, actual cost .....	460,130 00
238 contracts, actual cost .....	\$2,372,914 00

The above statements show at a brief glance the large and constant increase in the amount of work done by the Department, especially in laying new pavements, constructing sewers, and grading, curbing, and flagging new streets, improvements which are made at the request of property owners, for their benefit and at their expense.



## THE WATER SUPPLY.

*Sources of Supply.*

The meteorological record of the Croton water-shed for 1882, presents a strong contrast with that of the two preceding years, not only in the aggregate quantity of rainfall, but also in its distribution over the respective years.

In 1880, the rainfall was only 38 52-100 inches—two inches less than in any preceding year since the introduction of Croton water, and constant heavy drafts had to be made on the storage reservoirs and lakes, from the middle of May to the end of the year, to keep the aqueduct supplied to its full capacity.

In 1881, the rainfall was 46 33-100 inches, being five inches more than the average for the past sixteen years, but the water supply was in much more perilous condition, in consequence of the unprecedented drought which prevailed during the summer and autumn.

The rainfall for the past year was 55 20-100 inches, being 3 43-100 inches more than the largest rainfall in any of the preceding sixteen years, and nearly fourteen inches more than the average for that period. It was not only plentiful in the aggregate for the whole year, but was so evenly distributed over the different seasons that there were only sixty-nine days when water had to be drawn from the storage reservoirs to make up the full supply for the aqueduct.

The experience of 1880 and 1881 has demonstrated the necessity of additional reservoir capacity to store the surplus rainfall in sufficient quantity to supply not only the deficiencies of droughts, which may occur in any single year, but to carry over a large reserve to succeeding years. It is one of the strongest features of the plan for a new aqueduct, submitted by me to your predecessor a year ago, that it meets the necessity of ample storage capacity in the most practicable and economical manner by the proposed construction of a dam and reservoir, near the mouth of the Croton, of thirty-two thousand million gallons capacity, receiving the drainage of the entire Croton water-shed. The existing and proposed storage reservoirs, on the tributaries and branches of the Croton river, drain only a limited area of the entire water-shed, and the surplus rainfall on the other portion goes to waste over the Croton dam into the Hudson river. However, the two reservoirs already in use on the west branch and the middle branch of the Croton, the lakes and ponds, and the proposed new reservoir on the east branch, are useful and necessary adjuncts to the present and future water supply.

For two reasons, the work of constructing a new reservoir on the east branch of the Croton could not yet be begun. First—The surveys of the various parcels of land required, and the searches of the titles to the lands, which require much labor and a still greater amount of time, are not quite completed. Secondly—The expenditure to which the Department is now limited in the acquisition of lands and water-rights and the construction of works to secure additional water, is almost entirely absorbed by the works in progress to bring in the water of the Bronx river.

*The Bronx River Works.*

Four contracts have been in progress for building the conduit line from the reservoir at Kensico to the city, on which the following quantities of work were done :

11,529 tons of pipe delivered.  
36,280 lineal feet 48-inch pipe laid.  
3,039 " 36-inch pipe laid.  
14,988 cubic yards rock excavated.  
50,052 " earth excavated.  
128,357 " embankment built.  
2,583 " masonry built.  
3,924 " dry stone wall built.  
178,000 feet B. M. timber furnished.  
67,000 lbs. wrought iron furnished.  
On the contract for building the reservoir at Kensico, the following work was done :

1,400 cubic yards rock excavated.  
22,600 " earth excavated.  
48,800 " embankment built.  
8,514 " masonry built.  
3,000 " dry stone wall built.  
20,900 " lineal feet fence walls built.  
665 lbs. wrought iron furnished.  
Twenty-four parcels of land, aggregating 351 67-100 acres, were acquired by legal proceedings, at a total cost of \$79,052.72, being an average of \$225 per acre.

The last of the legal proceedings for acquiring lands and water-rights required for the Bronx river supply are now in progress.

*The Aqueduct.*

The work done during the past year in reinforcing the weaker portions of the aqueduct embraces the following items :

3,930 lineal feet of top arch strengthened.  
1,995 " retaining wall built.  
1,074 " culverts built.  
35,457 cubic yards earth excavated.  
25,322 " material placed on embankments.  
2,470 " rock excavated and quarried.  
4,757 " brick and stone masonry built.  
11,066 lineal feet fences built.

The ordinary work of maintenance and repairs was very much increased by the damage done on embankments and culverts by the extraordinary rain storms in the latter part of September.

Though no serious breaks have occurred in the structure during the past year, the severe strain of carrying water to within a few inches of its roof constantly develops new fissures and leaks in those parts which are built on open ground or on embankments, and where the plan of improvement and reinforcement has not yet been applied. This work will, therefore, be continued as rapidly as the means granted to the Department in the annual appropriation will admit.

*Distributing System.*

In extending the water service into new streets in the upper part of the city and in improving the distribution of water in the lower part of the city, the following quantities of pipes were laid :

2,500 lineal feet of 36-inch pipe.  
1,757 lineal feet of 20-inch pipe.  
42,026 lineal feet of 12-inch pipe.  
56,783 lineal feet of 6-inch pipe.  
415 lineal feet of 4-inch pipe.  
Total, 103,481 lineal feet, or 19 6-10 miles of pipes.  
448 additional fire hydrants and 133 stop-cocks were set.  
The distributing system now embraces 531 6-10 miles of pipes, 5,613 stop-cocks and 6,944 fire hydrants.

The high-service works at High Bridge and at Ninety-eighth street and Ninth avenue furnished an average daily supply of 11,843,000 gallons of water during the year to buildings which are on an elevation of sixty feet or more above mean tide. Of this the new works at Ninety-eighth street furnish an average of 7,568,000 gallons, and those at High Bridge an average of 4,275,000 gallons. As this high-service supply is nearly one-eighth of the entire water supply of the city, it shows that abundant pressure of water is the occasion of more lavish use of it, because it is certain, beyond dispute, that much less than one-eighth of the population and business of the city is located in the high-service districts. The benefit of the high-service supply should be made conditional on the use of a water-meter in every building where it is furnished, so that waste of water may be discovered and checked.

Numberless complaints are received by the Department from people who have been accustomed in years past to have the water running to the top floor of their houses, that it is no longer delivered higher than the second, and in some cases the first or parlor floor.

The answer to all such complaints is that, in the present condition of the water supply, those who receive water on the second floor at any time of the day or night are comparatively well supplied ; that further decrease in the head or pressure of water will be the inevitable consequence of the growth of the city in buildings and population and the extension of the water service to new streets, and that water can only be had on the upper floors of buildings above the level at which it is now delivered by the use of pumps. All the means at the command of the Department have been and are employed with the utmost energy and vigilance to stop leaks and waste in order to keep up sufficient pressure in the distributing pipes to supply all parts of the city with reasonable efficiency ; but, even with greatly enlarged powers and appropriations for that purpose, the amount of water which can be saved from waste will not be equal to the additional demands made upon the supply from day to day. It is much to be regretted that the Board of Estimate and Apportionment has not granted the increase demanded by the circumstances and asked by the Department for the appropriation for "Repairs and Renewals of Pipes, Stop-cocks, etc.," from which the entire distributing system has to be maintained, including the supervision of the water-meters, the inspection of plumbing arrangements in buildings, and all the various measures and devices for detecting and preventing waste.

There are several elements which tend to largely increase the cost of maintaining the distribution of water and the pipes and structures connected with it.

The first and most important is the necessity of extending the various measures for suppressing waste. In 1875 the population of the city was 1,046,000 ; and to-day it is certainly not less than 1,250,000, and probably nearer 1,350,000. In the same time commerce and manufactures have increased in much greater proportion. New and hitherto unknown demands are made upon the water service. Among these I will mention, merely for illustration, the elevated railroads, using 800,000 gallons of water per day, and the steam companies, which have only begun their operations, using 180,000 gallons per day. Yet, we are limited to the same quantity of supply which we had in 1875 and earlier, and we cannot obtain more for several years to come. The measures which have enabled the Department to keep up a fair distribution of the supply to all consumers are :

1st. The abrogation in 1877 of the contract or license system in supplying water to shipping and for building operations.

2d. The examination of plumbing arrangements in buildings, to detect leaks and waste, and the inspection of house-drains at night.

3d. The use of water-meters, which have been increased in number from 260 in 1877, to 6,817 at the close of last year.

These measures began with the places and establishments where the consumption and waste of water was greatest—the docks, gas-works, breweries, malt-houses, railroads, hotels, factories, large stables, etc. As the work is extended to the smaller and more numerous business places it becomes more laborious and expensive in proportion to the results which can, and which must be attained, if every consumer is to have a reasonable supply.

The other elements which increase the cost of maintaining the distributing system are :

An average rise of fifteen per cent. within the past two years in the cost of labor, materials and supplies.

The addition of from fifteen to twenty miles of pipes, with stop-cocks and hydrants each year.

The rapid corrosion of pipes and fixtures along the water front, where salt water penetrates the loose soil. These pipes are so reduced that they are unsafe, and are liable to leaks and breaks, which may cause the loss of large quantities of water.

The number of additional water-meters placed during the year is 1,524, making, as above stated, a total of 6,817 meters in use at the close of the year. The average quantity of water supplied each day through the meters on which readings have so far been taken is as follows :

	Meters.	Gallons.
Hotels.....	330	1,680,200
Breweries and malt-houses.....	282	1,305,800
Charitable institutions.....	86	403,300
Docks.....	106	1,290,000
Railroads.....	180	1,157,500
Stables.....	1,223	913,500
Factories.....	320	949,800
Gas works.....	37	688,400
Office buildings.....	1,655	1,537,800
Apartment houses.....	79	200,400
Miscellaneous.....	2,166	3,461,300
Total.....	6,465	13,648,000

The tests, referred to in a preceding part of this report, to ascertain the consumption or waste of water in private houses, were made in Forty-seventh and Forty-ninth streets, between Fifth and Madison avenues, which are exclusively occupied by private residences. A six-inch meter was first placed on the service main in each of the two blocks, to measure the aggregate quantity of water consumed. During the first ten days the average daily consumption in the forty-five houses located in these two blocks was 26,130 gallons per day. Meters were then placed on the house connections in Forty-seventh street, and in both streets the pressure and flow of water in the house connections or service pipes was tested at different hours of the day and night with a gauge or indicator. The occupants of the houses where water was found to be used excessively, or absolutely wasted through leakage or by letting it run from faucets over night, were notified to repair their plumbing and stop waste. The amount of water used was thus gradually reduced, so that during the last ten days of December an average of 20,107 gallons per day was used in the two blocks—a reduction of over 23 per cent.

## STREET PAVEMENTS.

In the report of the Water Purveyor, Document E, hereto annexed, will be found a complete list of the forty-three streets, or parts of streets, which have been repaved, and of the fifty-one new streets in the upper part of the city on which the first pavements have been laid during the past year. The repavements cover.....196,561 square yards, and 10 1-10 miles of streets. The new pavements cover.....219,451 " " 9 9-10 "

Being a total of.....416,012 " " 20 " "—exceeding the amount of pavements laid in 1881 by 91,062 square yards.

The area of new pavements laid for 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 "
In 1881.....	324,950 "
In 1882.....	416,012 "



The present extent of paved streets in the city, exclusive of the Twenty-third and Twenty-fourth Wards, is:

Granite and trap-block pavements .....	268	miles.
Cobble stone pavements .....	55½	"
Macadam " .....	26½	"
Asphalt " .....	½	"
Total .....	350½	miles.

The repavement of streets provided for by the Act of 1875, authorizing an expenditure not exceeding \$500,000 per annum, was begun in 1877 with an appropriation of \$200,000.

The amount so appropriated and expended upon the work to the close of last year is \$1,900,000, and the area of new pavements laid is 1,063,460 square yards, replacing twenty-one miles of wooden pavements, thirty miles of cobble pavements, four and three-quarters miles of concrete pavements, and about seventeen miles of the old style square-block pavements. The remaining sixty miles of cobble pavements, and about an equal extent of the old square-block pavements, which are little better than cobble stone, cannot be too rapidly replaced to accommodate the enormous increase of street traffic, and to preserve the public health. At the present rate of progress it will require ten years to accomplish this work.

The maintenance of street surfaces in a smooth and firm condition becomes more difficult from year to year in consequence of the unprecedented increase of various kinds of structures and conduits under the pavements.

There are now under the streets south of Harlem river (exclusive of house connections)—

486 miles of water-pipes (exclusive of 45 miles of pipes in the Twenty-third and Twenty-fourth Wards).

391 miles of sewers.

824 miles of gas-pipes (exclusive of 82 miles of pipes in the Twenty-third and Twenty-fourth Wards).

14½ miles of steam-pipes.

15 miles of electric wires.

1¼ miles of tubes for telegraph wires.

¾ miles of pneumatic tubes.

The work of laying steam-pipes and electric conductors is only fairly begun. One of the steam companies, authorized to lay pipes in the streets of the city, has not yet commenced operations. A new gas company has recently received the privilege of laying pipes. The thousands of miles of telegraph wires in the city will undoubtedly soon be placed under the pavements. Thus the evils referred to will be constantly extended and multiplied. The authority conferred on the Department in regard to the supervision of these works is exercised with the utmost energy and vigilance, to limit interference with public travel, to protect public and private property and convenience, and to secure the speedy and proper restoration of the streets; but with all the efforts which can be made in that direction, considerable obstruction to public travel, interference with individual convenience, and occasional roughness of street pavements, after they are relaid, are unavoidable. Considering that the two steam companies now in operation have within the past eighteen months laid over 14 miles of pipes in the narrow and crowded streets south of Chambers street, any person having experience in this class of work will admit that this Department has not been unsuccessful in restraining the evils and annoyances incident to the work, especially in securing the prompt and proper restoration of the pavements.

As stated in previous reports and in several communications addressed to your predecessor, the companies are required to maintain the pavements over their trenches for one year, and leave them in perfect condition at the end of that period; and they will be required to relay them as often as necessary to secure that result.

It is proper to state here that the Department is in no manner responsible for the recent eruptions in steam-pipes, and explosions of gas, which were caused by defects in construction over which the Department has no control. However, I have informed the steam companies that they will not be allowed to lay any more steam-pipes until they give satisfactory evidence and assurance of their ability and willingness to construct and lay their pipes and fixtures in a manner that such accidents will not again occur.

It becomes a matter for serious consideration whether it would not be best to change the entire system of underground structures by constructing a tunnel under each street, or at least under streets where these structures are most numerous, large enough to contain the sewers, water-pipes, gas-pipes, steam-pipes, electric wires, telegraph wires and other conduits or arrangements which may hereafter be devised and needed for public convenience, with sufficient room to afford free access to all of them for the purpose of placing and repairing them; and with branch pipes or other openings to buildings to contain house-drains, gas, water, steam, telegraph, and other connections. In this manner the continual opening of street surfaces and all the accompanying evils, annoyances, and expenditures would be avoided. Such tunnels could also be made available for underground passenger and freight transportation. Adding together the moneys now expended by the city for the construction and maintenance of sewers and water-pipes, and by the private corporations for the various kinds of underground conduits, it would seem that such tunnels, though expensive at first cost, would prove economical and profitable in the end.

A brief suggestion of the advisability of such a plan was made in your inaugural message, and I renew it here in the hope that it may be worked out to a practicable shape by some of the engineering talent of the country.

#### SEWERAGE AND DRAINAGE.

In the course of the year, work was in progress on 72 contracts for building sewers, 39 new contracts were made, and 54 contracts were completed. Under these contracts 40,443 lineal feet of sewers, 2,578 lineal feet of culverts, and 98 receiving-basins were built. The sewerage system of the city, exclusive of the Twenty-third and Twenty-fourth Wards, where the sewers are under the charge of the Department of Public Parks, now embraces 391 22-100 miles of sewers, and 4,692 receiving-basins.

The large collective sewer in West street, from Spring street to West Eleventh street, which receives the house and surface drainage of an area of 641 acres, lying between Broadway and the Hudson river, and discharges it into the tide-water by a single outlet at the foot of Clarkson street, was completed early last spring. It has produced a very marked improvement in the sanitary condition of the entire district, especially along the water-front, in doing away with the numerous outlets which formerly discharged into nearly every slip between the docks, polluting the water and the atmosphere, and through which water, sewage, and sewer gas was frequently forced far back into the streets and houses by storms and tides.

The Department is prepared to extend this system of collective or intercepting sewers along the water-front, discharging into the tidal currents by a few large and properly constructed outlets, as soon and as rapidly as the Department of Docks progresses with the proposed widening of the streets and the construction of permanent bulkheads along the North and East rivers.

The deep sewer completed in December, 1881, in Fifth avenue, from Fifty-fifth to Fifty-ninth street, has also effected a great sanitary improvement in the district surrounding it, composed of most valuable property, and covered by handsome and costly residences. The original surface of this district was low, swampy ground, traversed by natural water courses. The sewer was built at sufficient depth to receive and carry off all the subsoil drainage, and in course of time, when the soil over it has been fully drained and dried out, the benefit of this improvement will be fully realized. In this and in other sections of the city which have been filled in over low ground, the old sewers, built prior to 1870, were built without reference to the subsoil drainage, being above the original and natural surface of the soil. Some of these sewers have settled in the loose filling, and in many instances the house drains have become disconnected from them, and discharge the sewage into the soil. Wherever such cases are discovered, the owners of the houses are notified and advised to make the necessary repairs.

The evils heretofore experienced in the vicinity of Grand and Thompson streets, where the soil, filled in over what was formerly the Lispenard meadows, has settled several feet, carrying the old sewer with it, will be remedied by the construction of the new sewer in Thompson street, between Broome and Grand streets, and in Grand street, between Thompson and Wooster streets, now in progress and nearly completed.

A similar case has been remedied by building a new sewer in Twentieth street, between Irving place and Fourth avenue, in place of an old private drain, which is little better than a cesspool. The new sewer is deep enough to carry off the subsoil water met in its construction, and the residents along its line will greatly improve the sanitary condition of their houses by connecting their house drains with it.

Details as to the progress made in extending sewerage into new streets in the upper part of the city will be found in the report of the Engineer in charge of Sewers, Document G, hereto annexed.

The general repairs and the cleaning of sewers, culverts, and basins during the year, performed by experienced workmen employed by the Department, embrace the following items:

601 lineal feet of new sewer built.
3,653 lineal feet of sewers rebuilt.
1,556 lineal feet of sewers repaired.
324 lineal feet of culverts rebuilt.
379 lineal feet of spur-pipe laid.
37 receiving-basins rebuilt.
182 receiving-basins repaired.
156 new basin heads put on.
16 new manholes built.
5 manholes rebuilt.
756 manholes repaired.
207 new basin-covers put on.
271 new manhole heads and 560 new manhole covers put on.
376 lineal feet new curb-stones set.
280 square feet new crosswalks laid.
54 lineal feet of box drain built.
300 cubic feet of stone wall built.
13,788 cubic yards earth excavated.
2,480 receiving-basins and culverts cleaned.
47,446 lineal feet of sewers cleaned.
7,075 cart loads of sewer deposits removed.

Perforated manhole-covers are substituted for the old air tight covers as rapidly as the appropriation for Repairing and Cleaning Sewers admits, in order to extend the benefits of sewer ventilation by that method. The recent regulation adopted by the Board of Health, requiring that a trap be placed in each house drain, shuts off ventilation by means of air shafts in buildings, and increases the necessity for perforated manhole covers where they are not yet applied. About one-half of the manholes, of which there are over 20,500 in the city, are now supplied with them.

#### REGULATING AND GRADING STREETS AND OTHER STREET IMPROVEMENTS.

The following regulating and grading works were completed during the year:

Avenue B, between Eighty-sixth and Eighty-seventh streets.
Fourth avenue, between Ninety-sixth and One Hundred and Second streets.
Ninth avenue, between Eighty-first and One Hundred and Tenth streets.
Seventy-first street, between the Boulevard and Eleventh avenue.
Seventy-third street, between Third avenue and the East river.
Seventy-fifth street, between Tenth avenue and Riverside Drive.
Eighty-first street, between the Boulevard and Riverside Drive.
Eighty-second street, between Avenues A and B.
Eighty-seventh street, between Tenth avenue and the Boulevard.
Ninety-third street, between the Boulevard and West End avenue.
Ninety-fourth street, between Eighth avenue and the Boulevard.
Ninety-eighth street, between Second and Fourth avenues.
One Hundred and First street, between Second and Third avenues.
One Hundred and First street, between Ninth and New avenues.
One Hundred and Fifth street, between Third and Fifth avenues.
One Hundred and Sixth street, between Madison and Fifth avenues.
One Hundred and Twelfth street, between Sixth and Seventh avenues.
One Hundred and Thirteenth street, between Fourth and Fifth avenues.
One Hundred and Fifteenth street, between the Boulevard and Riverside Drive.
One Hundred and Fifteenth street, between Tenth and Morningside avenues.
One Hundred and Sixteenth street, between Tenth and Morningside avenues.
One Hundred and Seventeenth street, between Fifth and Sixth avenues.
One Hundred and Eighteenth street, between Sixth and Seventh avenues.
One Hundred and Nineteenth street, between Sixth and Seventh avenues.
One Hundred and Twenty-fifth street, between the Boulevard and Manhattan street.
One Hundred and Twenty-ninth street, between Sixth and Seventh avenues.
One Hundred and Fifty-second street, between Ninth and St. Nicholas avenues.
One Hundred and Fifty-third street, between Ninth and St. Nicholas avenues.
One Hundred and Fifty-third street, between Tenth avenue and the Boulevard.
One Hundred and Fifty-ninth street, between Tenth and Eleventh avenues.

The aggregate length of the streets thus made available for buildings and improvement of private property, as well as for local travel, is 4½ miles.

Fifteen separate contracts for curbing and flagging sidewalks, and sixteen contracts for fencing vacant lots were also completed.

The aggregate quantities of work done upon the various grading, curbing, flagging and fencing contracts during the year are as follows:

53,765 cubic yard earth excavated.
70,001 cubic yards rock excavated.
323,526 cubic yards filling placed in embankment.
67,464 lineal feet curb-stone set.
3,820 lineal feet gutter-stone set.
279,946 square feet flagging laid.
4,509 lineal feet of picket fence built.
5,200 cubic yards stone masonry built.

A very important improvement now in progress, and which calls for special reference in this report, is the regulating and grading of the avenues and streets bounding the Morningside Park, from One Hundred and Tenth to One Hundred and Twenty-third street, between Ninth and Tenth avenues. Some work was done upon the avenues on the westerly and easterly side of the park as early as July, 1872, under special laws, in part by day's work, and part by special contracts. After it had progressed for some time a question was raised as to legal authority to proceed with the improvements in that manner, and, to set aside the doubts upon the matter, an ordinance was passed by the Common Council April 16, 1875, directing the Commissioner of Public Works to complete the grading, curbing, and flagging of these avenues and streets by day's work, or by special contract. In course of time the fact became recognized and appreciated, that these streets and avenues, in consequence of their connection with the park, and the proposed improvements on the park area, and of the peculiar topography of the ground, required special and different treatment from the ordinary streets and avenues of the city, and the work was again suspended to await the action of the Department of Public Parks, in devising and adopting plans for the improvement of the park. In 1880 the Legis-



lature passed an act (chap. 565, Laws of 1880) requiring the Department of Public Parks to adopt, and file in this Department, a definite plan for the improvement of the park and its approaches, in connection with the improvement of the streets and avenues bounding it.

A partial plan was filed in September, 1881, and in April, 1882, a definite conclusion was reached as to the improvement of the Morning side avenue, west, and the retaining wall and approaches connected therewith. The act of 1880 required that, upon the adoption of definite plans, the Department of Public Works and the Department of Public Parks should proceed jointly and simultaneously, as far as possible, with their respective works.

The contract and specifications for grading Morningside avenue, west, and building the retaining wall to support it, were prepared and the work advertised and let to the lowest bidder. The contract was made June 26, 1882, since which time the work has actively and rapidly progressed. At the close of the year the Department of Public Parks had not yet begun its part of the work. At the beginning of spring this Department will be prepared to proceed with the grading of One Hundred and Twenty-third street, the northerly boundary of the park, and with the unfinished portions of the easterly avenue.

These improvements have been anxiously awaited and urgently demanded by the owners of the surrounding property, who will be assessed proportionately for the cost of the same. They will give permanent and special character, adapted to the topographical features of the ground, to a district which has remained undeveloped on account of the delay in the construction of the park and the surrounding streets, and which embraces some of the most attractive sites for handsome residences.

#### Macadam Roadways.

By the construction of the roadway of Fifth avenue, from One Hundred and Tenth street to One Hundred and Twentieth street, One Hundred and Twentieth street, from Fifth avenue to Mount Morris avenue, and Mount Morris avenue to One Hundred and Twenty-fourth street during the past year, the area and extent of macadam roadways in the upper part of the city, between Fifty-ninth street and the Harlem river, has been increased to twenty-six and a half miles. The system of maintenance and repairs of these roadways differs greatly from that of stone pavements, involving constant sprinkling, rolling, and scraping, and frequent renewal of the surface material. The cleaning of the roads is inseparable from this work and an essential part of the maintenance; it is therefore done by this Department, out of the annual maintenance appropriation, relieving the Street Cleaning Department of any labor or expense in connection therewith. Owing to the greater smoothness and elasticity as compared with stone pavements, these roads are frequented by a much greater amount of heavy business traffic than they are intended to bear or should be subjected to. The wheels of heavily loaded wagons and trucks, with the narrow tires generally used on stone pavements, cut up the road surface of gravel and small broken stone too rapidly, so that the roads must either lose their superior advantages for light wagon traffic and pleasure driving, or become too expensive in repairs and maintenance. It is impracticable to exclude any class of vehicles from them, as is done with the Central Park drives, and the evil of having nearly all the local freight traffic in the upper part of the city passing over them, often diverging considerable distances from the shortest route for that purpose, must be borne, and will naturally increase with the growth of population and business in that section of the city. This is especially the case on Fifth avenue, from Fifty-ninth to Ninety-second street, which for that reason cannot be kept in as good condition as some of the other macadam roads. This avenue will be entirely resurfaced next season, from Fifty-ninth street northward, as far as the means at the disposal of the Department will permit.

In the construction of these roads the customary crosswalks of bridge-stone at street intersections, for the accommodation of pedestrian travel, were omitted, because, in order to properly answer their special purpose, these crosswalks must be somewhat higher than the road surface, and thus become objectionable for rapid driving over the roads. As it is impossible, however, to maintain the crossings at all times dry and clean for pedestrian travel without such stone crosswalks, I have come to the conclusion to lay them at intersections where pedestrian travel is exceptionally frequent.

Notwithstanding the difficulties above mentioned, the roads have generally been kept in very good condition for the past year, especially those leading from the Central Park drives to the Harlem river, and to Washington Heights, which are most extensively used for pleasure driving.

#### Country Roadways and Unpaved Streets.

The growth of population and public travel in the northern part of the city, where in many localities the old country roads and the streets which have been graded but not yet paved, form the only means of communication, calls for greater care and labor to keep them in proper condition for public travel. This demand has been fully met by the Department, the damages caused by rain storms and ordinary wear being promptly repaired, and the more important thoroughfares, such as Kingsbridge road, Fort Washington depot road, Inwood road, McComb's dam road, etc., being kept in condition equal to the best suburban or country roadways.

The total length of country roadways is eight miles, and of streets which have been graded but not paved, forty-three miles.

#### Acquiring Title to New Streets.

There are about 19 miles of streets on the map of the city (exclusive of the Twenty-third and Twenty-fourth Wards), to which the city has not yet acquired title for public use; principally between Fifty-ninth and One Hundred and Fifty-fifth streets. The authority to commence legal proceedings to acquire such title is vested in the Department of Public Works. Prior to the passage of chapter 579, Laws of 1880, the Commissioners of Estimate and Assessment appointed by the Supreme Court in these various proceedings had authority to employ a City Surveyor to furnish them the requisite rule maps and the damage and benefit maps, showing each lot or parcel of land affected thereby.

The services of surveyors in these cases were paid according to a certain schedule of fees, and included in the assessments on property benefited.

These charges often amounted to very large sums—in at least one case as high as \$80,000.

The act referred to requires this Department to furnish all such surveyor's services through its regularly employed Engineers, without expense or assessment on the property affected, and I have assigned this duty to the Engineer in charge of Sewers, Mr. Stevenson Towle, and his assistants.

During the extreme depression in real estate values, and the financial embarrassments of real estate owners, which followed the crisis of 1873, and continued until a few years ago, there was no demand for the legal opening of new streets. But with the present revival of business prosperity the demand for such street openings is all the greater for the complete standstill which lasted for a number of years. In compliance with the wishes of the property owners on the lines of the respective streets I have during the past year requested the Counsel to the Corporation to commence proceedings for opening the following streets:

- One Hundred and Twentieth street, between Eighth and Ninth avenues.
- One Hundred and Thirty-fourth street, between Eighth and St. Nicholas avenues.
- One Hundred and Thirty-fifth street, between Eighth and St. Nicholas avenues.
- One Hundred and Thirty-eighth street, between the Boulevard and Tenth avenue.
- One Hundred and Twenty-seventh street, between Eighth and St. Nicholas avenues.
- One Hundred and Twenty-eighth street, between Eighth and St. Nicholas avenues.
- One Hundred and Twenty-ninth street, between Eighth and St. Nicholas avenues.
- One Hundred and Forty-fourth street, between Seventh avenue and New avenue, west of Eighth avenue.

Diagonal street, from Tenth avenue at One Hundred and Thirty-eighth street to St. Nicholas avenue. One Hundred and Thirty-ninth street, from the Boulevard four hundred and twenty-five feet westerly.

- One Hundred and Third street, between Eighth avenue and Riverside avenue.
- One Hundred and Forty-third street, between the Boulevard and Tenth avenue.
- One Hundred and Fifty-fourth street, between Tenth and St. Nicholas avenue.

The Department has furnished the rule maps for these proceedings, and the damage and benefit maps representing 27,000 City lots have been furnished for various street openings.

From the foregoing it will be seen that this is a work of considerable magnitude, which severely taxes the available force of engineers and draughtsmen, and will require the employment of additional services if the demand for street openings increases in the ratio of the past two years.

#### LIGHTING THE CITY.

The rapid growth of the city called for a greater increase in the number of public lamps to light the streets, avenues, roads, parks, and public places than in former years.

During the year 860 additional gas lamps and 105 electric lamps were erected and lighted. As each electric lamp on an average is equal to or displaces seven gas lamps, the actual increase is equal to 1,595 gas lamps. For the preceding five years the average increase was 605 lamps per annum. The total number of lamps now in use is 23,745 gas lamps and 128 electric lights, lighting 422½ miles of streets, avenues, and roads, 1½ miles of piers, 1½ miles of bridges, and 61 acres of public parks.

The several gas companies laid during the year 25½ miles of gas-mains; the total length of gas-mains now laid in the city limits is 906 9-10 miles, of which 824 2-10 miles are on Manhattan Island, and 82 7-10 miles in the Twenty-third and Twenty-fourth Wards.

By the erection and lighting of lamps on Riverdale avenue in the Twenty-fourth Ward the city now possesses a line of street lamps on one continuous thoroughfare of 16½ miles in length, extending from South Ferry through Whitehall street, Broadway, the Boulevard, Kingsbridge Road, and Riverdale avenue to the City of Yonkers, where it is continued about 2½ miles further on Riverdale and Warburton avenues.

The extent to which the electric light has been introduced and is now in use in the city is shown by the following:

The United States Electric Illuminating Company has 166½ miles of wire conductors on poles, and supplies 553 arc lights on 31 circuits, from 5 stations.

The Brush Electric Illuminating Company has 150 miles of wire conductors on poles, and supplies 1,113 arc lights on 17 circuits, from 2 stations.

The Edison Electric Illuminating Company has 15 miles of conductors underground, and supplies 3,050 incandescent lights from one station.

On the 26th of December, last, the Gas Commission, consisting of the Mayor, the Comptroller, and the Commissioner of Public Works, granted to the "Equitable Gas Light Company" the privilege of laying gas pipes in the streets of the city, under certain conditions and restrictions, carefully drawn and considered so as to protect the public interests. The principal conditions are:

That the company shall light the public lamps along its mains at a price not exceeding \$12 per annum for each lamp, and supply gas for public buildings at \$1.50 per 1,000 cubic feet, and to its other consumers at \$1.75 per 1,000 cubic feet.

That it shall pay into the City Treasury twenty cents for each lineal foot of gas-mains laid, and shall lay its mains as ordered by the city authorities in any of the streets to an extent not exceeding an expenditure of \$20,000 per annum.

Minute and stringent provisions are also made for the protection of public travel, the pavements and the city's underground structures in opening the streets for laying the gas-mains.

In view of the fact that the city now has to pay \$17.50 per annum for lighting public lamps, and the public \$2.25 per 1,000 cubic feet, for gas in the part of the city lying south of Seventy-ninth street, and higher prices north of that street, it will be seen that the conditions will prove pecuniarily beneficial to the city and the public at large.

#### PUBLIC BUILDINGS.

The public buildings under the care of the Department are as follows:

##### Court and Municipal Buildings.

- The City Hall.
- The New Court-house.
- The Brown-stone Court-house.
- The Hall of Records.
- The Third District Court-house (Jefferson Market).
- The Seventh District Court-house, in Fifty-seventh street, near Third avenue.
- The Fifth District Court-house, No. 154 Clinton street.
- The Third District Police Court-house, No. 69 Essex street.
- The City Arsenal, at White and Elm streets.
- The County Jail, in Ludlow street.

##### Market Buildings.

- |                    |                         |
|--------------------|-------------------------|
| Washington Market. | West Washington Market. |
| Fulton Market.     | Catharine Market.       |
| Jefferson Market.  | Centre Market.          |
| Clinton Market.    | Essex Market.           |
| Tompkins Market.   | Union Market.           |

##### Miscellaneous Buildings.

- Franklin Market; rented for business purposes.
- No. 49 Beekman street; occupied by the Corporation Attorney.
- No. 5 Duane street; used for storage by Public Administrator.
- Nos. 61 and 63 Chatham street; rented for business purposes.
- The Dog Pound, foot of East Sixteenth street.

In addition to the above the Department has the care of twenty-one buildings or parts of buildings, which are rented by the city for Civil and Police Courts, for armories of the State Militia, and for various public offices.

The alterations and improvements for the Armory of the Sixty-ninth Regiment, in Tompkins Market building, and for the Armory of the Fifth Regiment, in Essex Market building, were completed early in the year.

Extensive alterations and improvements were made in the Brown-stone Court-house, including new closets and urinals, a steam pump with water connections, partitions, railings, etc.

In the New Court-house an additional room was inclosed from the space occupied by the rotunda and the corridors, for the use of the Commissioners of Accounts.

In the building occupied by this Department a large fire-proof vault was built under the sidewalk, for the storage of maps, records, and documents.

The second floor of the Staats Zeitung building was fitted up for offices for the Department of Taxes and Assessments.

These items are specially mentioned, as distinguished from the ordinary and miscellaneous repairs on all the buildings under the charge of the Department.

The construction of the South street front and the central portion of the new Fulton Market building was practically completed at the close of the year, and in a few weeks the entire building will be occupied and the temporary sheds and stands surrounding it can be removed, when the full benefit of this useful improvement will be realized.

The total cost of this building, occupying the entire block bounded by Fulton, Front, Beekman and South streets will be \$180,000, which compares favorably with similar work done under private enterprise and control.

The rebuilding of Jefferson Market, under the appropriation of \$70,000 for that purpose, is not yet completed. The plans have been changed by adding a second story on the Greenwich avenue front.

The erection of these two buildings removes two of the dilapidated and disgraceful heaps or jumbles of sheds which had been too long tolerated and used as public markets, and with the appropriation of \$100,000, made for this year (1883), a portion of the present Washington Market will be similarly replaced.

#### SUPPLIES FOR AND CLEANING PUBLIC OFFICES.

Under this head the Department is required to furnish fuel, office furniture and supplies and law books to all the City and County Courts; to the Executive, Legislative, Finance and Law Departments; to the Departments of Taxes and Assessments and Public Works; to the County Clerk, District Attorney, Surrogate, Commissioner of Jurors, Commissioners of Accounts, Assessment Commission, etc., etc., and the janitors and cleaners to keep the buildings and offices in proper condition. In this work, the Department employs nine janitors, three elevator attendants,



four watchmen, eight steam engineers, eight firemen, twenty-two male cleaners and laborers, and eighty-four female cleaners. Within the past two years considerable enlargements and additions have been made to public offices, to accommodate the increase in public business. Three passenger elevators have been put in operation, requiring steam power and attendance. The prices of fuel and of all classes of supplies have considerably increased. The wages of labor have been advanced. For a number of years past the appropriations for this branch of the duties and business of the Department have been kept so low that worn-out office furniture and carpets, which would not be used in any respectably and economically-conducted private office, had to remain, because there were no means to renew them. Year after year small available balances of other appropriations had to be transferred to the account to cover deficiencies and meet necessities which could not be put off.

The appropriation for 1881 was..... \$93,500 00  
To which was added by transfers..... 21,729 48

Making a total of..... \$115,229 48

The appropriation for 1882 was..... \$93,000 00  
To which was added by transfers..... 22,447 40

Making a total of..... \$115,447 40

With these appropriations, the barest necessities were supplied, and a steady deterioration in the condition of office furniture from ordinary wear and want of means for renewals was unavoidable.

The two items of wages of janitors, engineers, firemen, cleaners, etc., and of fuel for the year 1882 amounted to \$99,355, leaving \$16,092.40 for all other classes of supplies, and for furniture and law books.

In my departmental estimate for 1883 I asked the sum of \$125,000 for this appropriation, giving in detail the reasons for its necessity. The Board of Estimate and Apportionment allowed \$100,000 in the final estimate, which will be barely sufficient for wages of employees and for fuel, leaving no provision whatever for other items.

The requisitions made upon the Department for the first seventeen days of the year for these other items—furniture, carpets, law books and general supplies—amount to \$10,922.

Unless these necessities are relieved by transfers to the appropriation from sources which I cannot now foresee, as the other appropriations for this Department will be fully needed for their respective purposes, the public service must severely suffer from the inability to provide articles necessary for the proper transaction of public business.

#### PUBLIC BATHS.

The bathing season was opened on the first of June with eight baths, and during the month of June an additional bath was completed and located at the pier foot of Lighthouse street, North river. The baths were closed on or about the 16th of October, and towed to their winter station in Gowanus bay.

The attendance for the season was as follows:

LOCATION OF BATH.	MALES.	FEMALES.	TOTAL.
Gouverneur street, East river.....	277,692	95,848	374,540
Fifth street, East river.....	271,351	88,509	359,860
Nineteenth street, East river.....	273,172	100,000	373,172
Thirty-seventh street, East river.....	195,832	88,242	284,074
One Hundred and Twelfth street, East river.....	125,004	48,225	173,229
Bethune street, North river.....	176,430	43,874	220,304
Fifty-first street, North river.....	157,794	54,804	212,598
Battery, North river.....	226,810	59,853	286,663
Lighthouse street, North river.....	152,762	74,497	227,259
	1,866,847	692,021	2,558,868

#### STREET OBSTRUCTIONS.

As in all other branches, the labor and duties of the Department in preventing and removing obstructions and encroachments on streets and sidewalks are increasing from year to year. The following is a brief summary of this work for the past year:

3,315 complaints of obstruction received and notices issued for their removal.

955 seizures made on non-compliance with notices.

4,972 cart loads of refuse material removed from streets.

6,823 permits issued to place building material on streets.

696 miscellaneous permits issued.

352 notices issued to repair defective sidewalks.

5 notices issued to repair defective vault covers.

While a noticeable and continuous improvement has taken place within the past few years, in regard to the removal of objectionable encroachments on streets and sidewalks, it is not claimed that

we have reached or even approached the conditions which are desirable in respect to this matter. This is due to a variety of causes.

The habit of occupying portions of the public roadways and sidewalks with signs, show cases, merchandise, vendors' stalls and stands, poles, wagons, and in other ways too numerous to mention, has been indulged and tolerated for so many years, and is so deeply rooted, that in most cases it has come to be looked upon as a proprietary right, and its eradication is a matter of great difficulty.

Notwithstanding recent decisions of the courts, interpreting the laws in reference to the matter, there is great diversity of opinion as to individual and public rights regarding the use and occupation of the public highways, not only among the public, but also in the different branches of the municipal government.

The Common Council continues to grant general and special privileges in large numbers for the partial occupation of streets and sidewalks for private benefit or use.

The concentration of the vast commerce carried on in this city in so small a space of territory makes it impossible to move, receive and ship the immense volumes of merchandise without partial and temporary obstruction of sidewalks and streets.

The appropriations placed at the disposal of the Department for preventing and removing obstructions and encroachments on the streets for the past two years and for the current year, 1883, are as follows: For 1881, \$6,000; for 1882, \$8,000; for 1883, \$8,000. It cannot be expected that with these means the Department should be able to cope with this widespread and persistent evil to the extent of keeping about 400 miles of streets and sidewalks clear of obstructions, or to do more than it has actually accomplished, a fair and constant improvement in the condition of the public highways as regards obstructions.

The class of obstructions most difficult to deal with are those which are easily movable, such as vehicles, merchandise, portable show cases, signs and stands. Frequent patrolling of all the streets would be the only means to prevent the constant recurrence and repetition of offences of this character, even at places where seizures have been made by the officers of this Department. It is evident that such patrolling is beyond the means of the Department, which has to rely on the co-operation of the police force to repress in some degree obstructions of this kind.

The thousands of places where building materials are put on the streets, a privilege which is specially recognized in the Charter, are also very troublesome and offensive, because the builders seldom fail to exceed the limits of their permits, to litter the streets with materials, and to leave piles of rubbish upon finishing their work. In these cases, also, the law and conditions of the permits can only be enforced through the active co-operation of the police force.

#### REVENUE.

The Department collected and paid into the City Treasury during the year:

Water rents.....	\$1,622,986 75
Penalties on water rents.....	13,872 00
For tapping water pipes.....	10,324 50

Total collections from water service.....	\$1,647,183 25
For permits for sewer connections.....	25,209 12
“ “ for street vaults.....	96,077 08
“ restoring pavements over excavations.....	29,404 50
“ furnishing and setting water meters.....	32,454 28
“ materials sold at auction.....	940 45
“ redemption of street obstructions.....	143 50
“ sewer-pipe furnished to contractors.....	22 75
“ work and materials furnished by the Department.....	77 82

Total revenue..... \$1,831,518 75

This is an increase in the collections of revenue from water service over the collections for 1881 of.....	\$136,391 41
And in the total revenue.....	146,561 78

In closing this report I would refer again, in general terms, as I have done in detail in several parts of the report relating to particular works, to the great increase in the business of the Department.

This increase is the natural consequence of the growth of the city in population, buildings, commerce, manufactures, and general business prosperity. There is a constantly growing demand by property owners for new pavements, sewers, the grading of new streets, and other works which are paid by assessments on these owners. Other works which are paid for by the city at large, the extension of the water service, street lights, repavements, reconstruction of defective sewerage, and the general maintenance of the various public works, should keep pace with this progress, or private enterprise will be discouraged and obstructed.

The increased business of the Department has been conducted without any additions to the regular force and expenditure for general supervision and administration, though the strain upon the resources of the Department is often severe.

Very respectfully,

HUBERT O. THOMPSON, Commissioner of Public Works.

#### Document "A."

Showing Titles of Appropriations; Requisitions drawn in Fourth Quarter of 1882 on Liabilities of 1881; Balances of 1881 on December 31, 1882; Appropriations, including Transfers of 1882; Requisitions First Nine Months of 1882; Requisitions Fourth Quarter of 1882; Total Requisitions of 1882; Balances December 31, 1882; and the Titles and Conditions of the Trust and Special Accounts.

TITLES OF APPROPRIATIONS.	Requisitions drawn Fourth Quarter 1882 on 1881.	Balances of 1881 on December 31, 1882.	Appropriations including Transfers of 1882.	Requisitions First Nine Months of 1882.	Requisitions Fourth Quarter of 1882.	Total Requisitions on 1882.	Balances on December 31, 1882.
Aqueduct—Repairs, Maintenance, and Strengthening.....			\$246,750 00	\$179,506 29	\$64,116 40	\$243,622 69	\$3,127 31
Aqueduct—Repairs, Maintenance, and Strengthening—Salaries.....			22,300 00	16,276 54	5,965 51	22,242 05	57 95
Boulevard, Roads, and Avenues, Maintenance of.....			70,000 00	49,580 18	18,940 72	68,520 90	1,479 10
Bridges across Fourth Avenue at Ninety-seventh Street.....			2,000 00	1,400 00	940 00	2,340 00	54 00
Contingencies—Department of Public Works.....			6,000 00				6,000 00
Expenses of Surveying, Laying-out, etc.....			4,000 00	2,032 61	1,934 06	3,966 67	933 33
Flagging Sidewalks and Fencing Vacant Lots, etc.....			3,143 78	2,435 28	2,435 28	2,435 28	708 50
Foot Bridge across Fourth Avenue at Forty-first Street.....			\$0 50	1,500 00	1,015 56	443 15	41 29
Forty-second Street Reservoir—Removal of Pipes.....		3,528 86	3,000 00				3,000 00
Free Floating Baths.....			12,515 00	9,486 68	1,848 68	11,335 36	1,179 64
Free Floating Baths—Salaries.....			16,985 00	14,681 50	2,004 50	16,760 00	219 00
Fulton Market—Alterations and Repairs.....			100,000 00	37,036 25	30,115 50	67,151 75	32,848 25
Jefferson Market—Alterations and Rebuilding.....			70,000 00	1,928 94	11,956 83	13,885 77	56,114 23
Lamps and Gas and Electric Lighting.....			563,108 00	371,633 72	143,814 25	515,447 97	47,660 03
Lamps and Gas and Electric Lighting—Salaries.....			5,892 00	4,390 44	1,498 98	5,889 42	2 58
Laying Croton Pipes.....	\$2,834 43	6,929 70	235,627 00	156,352 44	60,089 36	216,441 80	19,185 20
Laying Croton Pipes—Salaries.....			13,623 00	10,298 97	3,264 49	13,563 46	59 54
Public Buildings—Construction and Repairs.....		412 84	53,000 00	30,469 54	16,730 48	47,200 02	5,799 98
Public Drinking Hydrants.....			7,000 00	4,333 81	2,419 87	6,753 68	246 32
Removing Obstructions in Streets and Avenues.....			5,504 00	3,740 05	1,759 65	5,499 70	4 30
Removing Obstructions in Streets and Avenues—Salaries.....			2,496 00	2,268 00	228 00	2,496 00	
Repairing and Renewal of Pipes, Stop-cocks, etc.....			139,000 00	93,937 45	35,075 61	129,013 06	986 94
Repairing and Renewal of Pipes, Stop-cocks, etc.—Salaries.....			47,707 00	37,402 02	10,035 98	47,498 00	209 00
Repairs and Renewal of Pavements and Regrading.....	285 00	120 59	195,000 00	129,350 23	63,159 19	192,509 42	2,400 58
Repairs and Renewal of Pavements and Regrading—Salaries.....			5,000 00	3,657 50	1,342 50	5,000 00	
Repaving Streets and Avenues.....	6,996 93	1,090 51	339,900 00	183,400 42	129,806 78	313,257 20	26,642 80
Repaving Streets and Avenues—Salaries.....			10,100 00	7,475 00	9,922 49	9,922 49	177 51
Roads, Streets and Avenues, etc., Maintenance, etc.....			30,000 00	18,176 56	11,605 57	29,782 13	137 87
Salaries—Department of Public Works.....			83,721 84	62,814 93	20,760 80	83,575 73	146 11
Sewers—Repairing and Cleaning.....		103 06	117,000 00	84,750 35	27,647 36	112,403 71	4,596 29
Sewers—Repairing and Cleaning—Salaries.....			13,500 00	10,547 29	2,951 89	13,499 18	82
Sewerage System—Salaries.....			13,000 00	9,355 82	3,644 69	12,998 51	1 49
Street Improvements—For Surveying, etc.....			1,500 00	329 26	970 00	1,299 26	200 74
Supplies for and Cleaning Public Offices.....			91,347 40	65,351 94	22,875 12	88,227 06	3,110 34
Supplies for and Cleaning Public Offices—Salaries.....		51 02	24,100 00	18,017 95	6,055 83	24,073 78	26 22
Surveys, Maps, etc., for Street Openings.....			3,600 00	518 26	1,831 31	2,340 57	1,250 43
Supplying Water to Shipping and for Building, etc.....			9,000 00	6,680 00	2,318 00	8,998 00	2 00
Test of Appliances for Suppressing Waste, etc.....			5,000 00	2,190 00	2,810 00	5,000 00	
Water Supply or the Twenty-fourth Ward.....			10,000 00	5,363 67	1,346 70	6,710 37	3,289 63
Wells and Pumps—Repairing and Cleaning.....	248 38	1 02	500 00	144 99	235 99	380 98	119 02
Gansevoort Market (special).....			7,402 59		7,402 59	7,402 59	
Totals.....	\$10,364 74	\$12,238 70	\$2,582,222 61	\$1,638,456 44	\$721,663 83	\$2,360,120 27	\$222,134 34

MEM.—Requisitions drawn Fourth Quarter, 1882, on Liabilities of 1880: Laying Croton Pipes, \$888.03.



TITLES OF TRUST ACCOUNTS.	Balance from 1881 and Receipts First Nine Months 1882.	Receipts Fourth Quarter 1882.	Requisitions drawn First Nine Months 1882.	Requisitions drawn Fourth Quarter 1882.	Total Requisitions on 1882.	Amounts available on January 1, 1883
Croton Water Fund.....	.....	.....	\$812,789 13	\$187,200 27	\$999,988 30	.....
Street Improvements above Fifty-ninth street.....	.....	.....	4,516 00	18,996 80	23,512 80	.....
Street Improvement Fund.....	.....	.....	881,022 85	502,450 94	1,383,473 79	.....
Meter Stock (sec. 5, chap. 213, Laws 1871, and sec. 73, chap. 335, Laws 1873).....	.....	.....	11,062 71	.....	11,062 71	.....
Restoring and Repaving—Special Fund, Department of Public Works.....	\$25,211 04	\$6,889 00	17,684 00	9,330 78	27,014 78	\$5,085 26

Statement of Bookkeeper, Department of Public Works, showing all Revenues of the City, received through the Department of Public Works, during the First Nine Months of 1882; during the Fourth Quarter, 1882, and the Total for the Year 1882.

SOURCE OF REVENUE.	FIRST NINE MONTHS 1882.	FOURTH QUARTER, 1882.	TOTAL FOR 1882.	SOURCE OF REVENUE.	FIRST NINE MONTHS 1882.	FOURTH QUARTER, 1882.	TOTAL FOR 1882.
Water Rents.....	\$1,350,886 78	\$272,099 97	\$1,622,986 75	Vitrified Stoneware Pipe sold.....	\$22 75	.....	\$22 75
Water Penalties.....	6,616 80	7,255 20	13,872 00	Total.....	\$1,463,623 98	\$306,035 99	\$1,769,659 97
Pipe Tapping.....	7,853 00	2,471 50	10,324 50	Meter Stock Department—Special Fund.....	\$30,631 08	\$1,823 20	\$32,454 28
Sewer Permits.....	19,003 46	6,205 66	25,209 12				
Vault Permits.....	78,405 67	17,671 41	96,077 08				
Redemption and Sale of Street Obstructions.....	115 75	27 75	143 50				
Sales at Corporation Yards.....	641 95	304 50	946 45				
Work and Material furnished by City.....	77 82	.....	77 82				

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

### Document "B."

A Detailed Statement of Expenditures by the Department of Public Works for which Requisitions were drawn upon the Comptroller, during the Quarter ending December 31, 1882.

#### \* APPROPRIATIONS.

##### Aqueduct—Repairs, Maintenance, and Strengthening—

Bluestone.....	\$3,652 00
Brick.....	933 50
Building stone.....	2,675 00
Cast-iron pipe.....	50 00
Cement, etc.....	136 70
Cleaning vault.....	36 00
Coal.....	9,507 25
Coping stone.....	200 00
Derricks.....	255 00
Drain-pipe.....	55 00
Freight and cartage.....	563 00
Grass seed, etc.....	20 80
Iron wire.....	21 14
Manure.....	150 00
Office supplies.....	176 45
Oil.....	847 80
Pay-roll.....	38,729 25
Pig lead.....	421 61
Rent of office.....	162 50
Repairing gas-pipe.....	661 02
" gates.....	470 50
" keeper's house.....	247 25
" machinery.....	48 49
" pump.....	479 09
" tools.....	1,257 31
" wagon.....	50 00
Resetting flagging.....	783 90
Sand.....	538 60
Tallow, etc.....	57 31
Taxes.....	34 79
Traveling expenses.....	895 14
Total.....	\$64,116 40

##### Boulevard, Roads and Avenues, Maintenance of—

Bridge stone.....	\$937 50
Coal.....	24 00
Gravel.....	900 00
Horsekeeping.....	103 50
Horse supplies.....	84 00
Paint.....	52 90
Pay-rolls.....	16,429 35
Repairing harness.....	17 90
" sprinklers.....	58 80
Wheels, axles, etc.....	338 77
Total.....	\$18,946 72

##### Contingencies—Department of Public Works—

Auctioneer's commission.....	\$30 45
Incidental expenses.....	633 20
Traveling expenses.....	370 41
Total.....	\$1,034 06

##### Fulton Market—Alterations and Repairs—

Alterations, etc.....	\$28,800 00
Architect fees.....	757 50
Pay-rolls.....	308 00
Surveying.....	250 00
Total.....	\$30,115 50

##### Flagging Sidewalks and Fencing Vacant Lots—

Bellevue Hospital.....	\$194 15
Union Market.....	54 00
Pay-rolls.....	195 00
Total.....	\$443 15

##### Free Floating Baths—

Horse hire.....	\$130 92
Removing baths.....	50 00
Supplies.....	145 91
Towing baths.....	470 00
Traveling expenses.....	111 85
Wharfage.....	940 00
Total.....	\$1,848 68

##### Gansevoort Market—

Pay-rolls.....	\$143 50
Regulating, grading, etc.....	7,259 09
Total.....	\$7,402 59

##### Jefferson Market—Alterations and Rebuilding—

Building sheds.....	\$148 83
Alterations, etc.....	11,250 00
Pay-rolls.....	308 00
Surveying.....	250 00
Total.....	\$11,956 83

##### Lamps and Gas and Electric Lighting—

Building foundation.....	\$35 00
Cluster lamp.....	77 50
Columns.....	160 00
Gas examinations.....	312 00
Granite bases.....	160 00
Lamps.....	2,700 00
Lamp globes.....	450 00
" irons.....	207 50
" posts.....	1,312 50
Lettering globes.....	48 51
Office supplies.....	7 79
Pay-rolls.....	450 00
Putting in gas-pipe.....	175 40
Rent of Photometer rooms.....	240 00
Repairing lamp tops.....	90 00
" meter.....	54 50
Traveling expenses.....	125 00
Lighting Armory, Battery E.....	59 50
" " " K.....	13 82
" " " Seventh Regiment.....	887 77
" " " Eighth Regiment.....	242 50
" " " Ninth Regiment.....	296 63
" " " Eleventh Regiment.....	123 02
" " " Twelfth Regiment.....	138 43
" " " Twenty-second Regiment.....	226 45
" " " Sixty-ninth Regiment.....	175 00
" " " Seventy-first Regiment.....	193 56
Bath, Battery.....	17 08
" Bethune street.....	18 38
" Gouverneur street.....	14 14
" Laight street.....	10 15
" Fifth street.....	15 04
" Nineteenth street.....	15 23
" Thirty-seventh street.....	13 76
" Fifty-first street.....	11 80
" One Hundred and Twelfth street.....	22 96
Brown-stone Building.....	63 36
City Hall.....	372 75
County Jail.....	470 57
Court, 1st District Civil.....	70 00
" 2d.....	14 88
" 4th.....	15 22
" 5th.....	32 72
" 6th.....	6 13
" 8th.....	5 60
" 9th.....	2 93
" 1st District Police.....	173 43
" 2d.....	76 47
" 3d.....	78 76
" 4th.....	69 83
" 5th.....	20 02
" Special Sessions.....	18 00
Court-house, 3d District.....	216 31
" New.....	993 64
Department of Public Works.....	188 82
Engine-house, High Bridge.....	113 62
" Ninety-eighth street.....	197 78
Market, Catharine.....	44 97
" Centre.....	276 33
" Clinton.....	167 30
" Essex.....	79 44
" Fulton.....	443 10
" Tompkins.....	278 25
" Union.....	10 67
" Washington.....	405 47
Office, Assessment Commission.....	4 55
" Corporation Attorney.....	67 54
" Receiver of Taxes.....	313 60
Photometrical Rooms.....	22 97
Rivington Street Yard.....	1 93
South Gatehouse.....	121 27
Streets, Brush Electric Illuminating Co.....	4,256 70
" U. S. Illuminating Co.....	4,387 60
" Central Gas-light Co.....	14,888 12
" Harlem.....	25,349 94
" Manhattan.....	28,908 09
" Metropolitan.....	20,382 70
" New York.....	15,277 46
" N. Y. Mutual.....	3,376 80
" Northern.....	9,764 41
" Yonkers.....	2,770 00
Total.....	\$143,814 25

##### Laying Croton Pipes—

Cast-iron pipe.....	\$33,821 80
Coke.....	35 00
Hydrants and waste-cocks.....	1,400 00
Laying pipe, Jerome avenue, J. Everard.....	3,424 63
" Madison avenue, F. Thilemann, Jr.....	1,347 50
" St. Nicholas avenue, J. Cornwell, Jr.....	2,134 38
" Ninth avenue, etc., F. Thilemann, Jr.....	504 50
" Twenty-second street, J. Everard.....	7,143 66
" Sixty-first street, F. Thilemann, Jr.....	995 70
" Eighty-first street, F. Thilemann, Jr.....	876 50
" Ninety-seventh street, F. Thilemann, Jr.....	408 25
" One Hundred and Forty-second street, F. Thilemann, Jr.....	496 85
" One Hundred and Forty-eighth street, etc., F. Thilemann, Jr.....	177 10
Pay-rolls.....	3,641 50
Repairing gas-pipes.....	86 78
Stop-cocks, etc.....	2,621 00



Laying Croton Pipes—	
Stop-cock boxes and covers.....	\$890 10
Traveling expenses.....	84 11
Total.....	\$60,089 36
Laying Croton Pipes for 1881—	
Laying pipe in Maiden Lane, etc.....	\$2,758 08
Seventy-ninth street, etc.....	76 35
Total.....	\$2,834 43
Laying Croton Pipes for 1880—	
Laying pipe in Elm and Washington streets.....	\$382 04
Ninth avenue, etc.....	505 99
Total.....	\$888 03
Public Buildings, Construction and Repairs—	
Armory, Second Battery.....	\$199 15
“ Ninth Regiment.....	27 43
“ Eleventh Regiment.....	304 24
“ Twelfth Regiment.....	818 00
“ Twenty-second Regiment.....	130 66
“ Sixty-ninth Regiment.....	19 82
“ Seventy-first Regiment.....	90 46
Brown-stone Building.....	2,207 29
Bureau Repairs and Supplies.....	152 81
City Hall.....	404 49
City Prison.....	22 70
County Jail.....	853 63
Court, 1st District Civil.....	48 79
“ 5th “.....	487 78
“ 9th “.....	8 60
Court, 1st District Police.....	27 90
“ 3d “.....	18 27
“ 4th “.....	9 65
“ 5th “.....	195 41
Court-house, 3d District.....	340 08
“ 7th “.....	214 52
“ New.....	1,274 62
Department of Taxes and Assessments.....	3,700 41
Hall of Records.....	756 11
Market, Centre.....	620 04
“ Clinton.....	847 37
“ Essex.....	528 28
“ Franklin.....	26 28
“ Fulton.....	13 93
“ Tompkins.....	271 10
“ Washington.....	207 04
No. 31 Chambers street.....	913 41
Office of Corporation Counsel.....	412 71
Pay-rolls.....	577 50
Total.....	\$16,730 48
Public Drinking Hydrants—	
Putting in and repairing hydrants.....	\$2,419 87
Removing Obstructions in Streets and Avenues—	
Pay-rolls.....	\$830 00
Traveling expenses.....	62 50
Trucking and labor.....	867 15
Total.....	\$1,759 65
Repairing and Renewal of Pipes, Stop-cocks, etc.—	
Coal.....	\$56 25
Hydrants.....	587 25
Oil.....	63 13
Pay-roll.....	33,147 20
Pig lead.....	501 40
Repairing hydrants.....	375 00
Supplies.....	31 60
Tapping cock boxes, etc.....	291 93
Traveling expenses.....	21 85
Total.....	\$35,075 61
Repairs and Renewal of Pavements and Regrading—	
Excavating rock.....	\$451 00
Filling.....	237 50
Horsekeeping.....	109 75
Laying crosswalks.....	228 00
Pay-rolls.....	54,223 77
Repairing pavement.....	2,287 17
“ tools.....	784 80
Resetting curb.....	37 20
Sand.....	4,800 00
Total.....	\$63,159 19
Repairs and Renewal of Pavements, etc., for 1881—	
Paving Thirty-ninth street.....	\$285 00
Repaving Streets and Avenues—	
City Hall Place, etc., W. A. Cumming.....	\$5,176 69
Morris street, Wm. Kelly.....	1,411 47
North William street, W. A. Cumming.....	1,684 13
Rose street, W. A. Cumming.....	3,073 97
Vandewater street, W. A. Cumming.....	2,271 71
Fourth street, J. G. Smith.....	19,458 64
Thirteenth street, J. G. Smith.....	310 44
Twenty-fifth street, M. Shannon.....	22,004 85
Thirty-fifth street, P. H. Fitzgerald.....	5,869 84
Thirty-sixth and Forty-fourth streets, W. A. Cumming.....	5,039 84
Tenth avenue, L. W. Johnson.....	40,305 67
Eleventh avenue, Wm. Kelly.....	23,199 53
Total.....	\$129,806 78
Repaving Streets and Avenues for 1881—	
Ann, Frankfort, etc., streets, W. A. Cumming.....	\$964 14
Pike and Rutgers streets, D. S. Arnett.....	1,097 48
Seventh street, D. McGrath.....	672 58
Eleventh street, M. Shannon.....	649 64
One Hundred and Twenty-second and One Hundred and Twenty-ninth streets, Thomas Murray.....	1,132 82
Tenth avenue, J. G. Smith.....	913 41
Eleventh avenue, L. W. Johnson.....	1,566 86
Total.....	\$6,996 93

Roads, Streets and Avenues Unpaved, Maintenance and Sprinkling—	
Broken stone.....	\$760 00
Filling.....	1,290 00
Horsekeeping.....	99 00
Pay-rolls.....	7,428 98
Repairing tools.....	174 70
Stone chips.....	1,840 00
Tools.....	92 89
Total.....	\$11,685 57
Sewers Repairing and Cleaning—	
Basin heads, etc.....	\$600 00
Brick and cement.....	73 75
Correcting maps.....	160 00
Horse-hire.....	234 00
Horsekeeping.....	99 00
Laying gas-mains.....	42 88
Lumber.....	38 00
Manhole heads and covers.....	3,006 55
Pay-rolls.....	10,897 25
Repairing basins.....	750 06
“ culverts.....	140 10
“ sewers.....	11,040 15
Sewer grating.....	12 65
Supplies.....	176 03
Traveling expenses.....	376 94
Total.....	\$27,647 36
Street Improvements, for Surveying, Monumenting, and Numbering Streets—	
Correcting maps.....	\$211 00
Pay-rolls.....	759 00
Total.....	\$970 00
Supplies for and Cleaning Public Offices—	
Armory, 7th Regiment.....	\$325 00
“ 8th “.....	43 25
“ 9th “.....	294 75
“ 11th “.....	358 07
“ 12th “.....	147 50
“ 22d “.....	101 70
“ 60th “.....	131 50
“ 71st “.....	174 50
Brown-stone Building.....	509 53
Bureau Repairs and Supplies.....	1,067 79
City Hall.....	845 37
Court, 1st District Civil.....	79 45
“ 2d “.....	78 75
“ 4th “.....	22 00
“ 5th “.....	179 25
“ 6th “.....	166 00
“ 7th “.....	11 00
“ 8th “.....	91 50
“ 9th “.....	71 55
“ 10th “.....	46 50
“ 1st District Police.....	86 00
“ 3d “.....	116 45
“ 5th “.....	110 00
“ 6th “.....	22 00
“ Common Pleas.....	7 90
“ General Sessions.....	20 00
“ Special Sessions.....	86 05
Court-house, New.....	2,708 65
“ 3d District.....	181 24
“ 7th “.....	180 00
Department of Finance.....	87 00
“ Public Works.....	508 68
“ Taxes and Assessments.....	42 75
Gansevoort Street Yard.....	5 75
No. 49 Beekman street.....	44 00
Office of Board of Aldermen.....	2 50
“ Board of Police Justices.....	127 00
“ Commissioners of Accounts.....	7 00
“ Corporation Counsel.....	84 80
“ Corporation Attorney.....	64 75
“ District Attorney.....	64 93
“ Mayor.....	4 00
“ Public Administrator.....	31 00
“ Surrogate.....	75 00
Pay-rolls.....	13,374 71
Rivington Street Yard.....	28 00
Total.....	\$22,875 12
Surveys, Maps, etc., for Street Openings—	
Pay-rolls.....	\$1,831 31
Test of Appliances for Suppressing Waste of Croton Water—	
Indicators, etc.....	\$900 00
Pay-rolls.....	489 60
Setting meters.....	1,420 40
Total.....	\$2,810 00
Water Supply for the Twenty-fourth Ward—	
Pay-rolls.....	\$514 50
Supplying water.....	832 20
Total.....	\$1,346 70
Wells and Pumps—Repairing and Cleaning—	
Repairing pumps.....	\$235 99
Wells and Pumps—Repairing and Cleaning, 1881—	
Repairing pump.....	\$248 38
RECAPITULATION OF APPROPRIATIONS.	
Aqueduct—Repairs, Maintenance and Strengthening.....	\$64,116 40
Aqueduct—Repairs, Maintenance and Strengthening—Salaries.....	5,965 51
Boulevard, Roads and Avenues, Maintenance of.....	18,946 72
Boulevard, Roads and Avenues, Maintenance of—Salaries.....	946 00
Contingencies—Department of Public Works.....	1,034 06
Fulton Market—Alterations and Repairs.....	30,115 50
Flagging Sidewalks and Fencing Vacant Lots.....	443 15
Free Floating Baths.....	1,848 68
Free Floating Baths—Salaries.....	2,084 50
Gansevoort Market.....	7,402 59
Jefferson Market—Alteration and Rebuilding.....	11,956 83
Lamps and Gas and Electric Lighting.....	143,814 25
Lamps and Gas and Electric Lighting—Salaries.....	1,498 98
Laying Croton-pipes.....	60,089 36
Laying Croton-pipes—Salaries.....	3,264 49
Laying Croton-pipes, for 1881.....	2,834 43
Laying Croton-pipes, for 1880.....	888 03
Public Buildings—Construction and Repairs.....	16,730 48
Public Drinking Hydrants.....	2,419 87
Removing Obstructions in Streets and Avenues.....	1,759 65
Removing Obstructions in Streets and Avenues—Salaries.....	228 00



Repairing and Renewal of Pipes, Stop-cocks, etc.	\$35,075 61
Repairing and Renewal of Pipes, Stop-cocks, etc.—Salaries	10,035 98
Repairs and Renewal of Pavements, and Regrading	63,159 19
Repairs and Renewal of Pavements, and Regrading—Salaries	1,342 50
Repairs and Renewal of Pavements, and Regrading, for 1881	285 00
Repaving Streets and Avenues	129,806 78
Repaving Streets and Avenues—Salaries	2,447 49
Repaving Streets and Avenues, for 1881	6,996 93
Roads, Streets and Avenues, Unpaved—Maintenance and Sprinkling	11,685 57
Salaries—Department of Public Works	20,760 80
Sewers—Repairing and Cleaning	27,647 36
Sewers—Repairing and Cleaning—Salaries	2,951 89
Sewerage System—Salaries	3,642 69
Street Improvements—For Surveying, Monumenting and Numbering, etc.	970 00
Supplies for and Cleaning Public Offices	22,875 12
Supplies for and Cleaning Public Offices—Salaries	6,055 83
Surveys, Maps, etc., for Street Openings	1,831 31
Supplying Water to Shipping, etc.—Salaries	2,318 00
Test of Appliances for Suppressing Waste, etc.	2,810 00
Water Supply for the Twenty-fourth Ward	1,346 70
Wells and Pumps—Repairing and Cleaning	235 99
Wells and Pumps—Repairing and Cleaning, for 1881	248 38
Total	\$732,916 60

## FUNDS AND TRUST ACCOUNTS.

## CROTON WATER FUND.

Cast-iron pipe	\$5,987 33
Cement	208 52
Coal and wood	304 00
Commissioners' fees	13,140 00
Drill supplies	1,628 05
Land	1,376 00
Laying conduit pipes	94,216 32
Legal services	13,043 90
Lumber	176 00
Pay-rolls	35,925 13
Printing testimony	441 74
Rent of mill seat	300 00
Rent of offices	287 50
Repairing engine	707 95
“ machinery	752 55
“ tools	53 78
“ wagon	134 43
Reservoir, Bronx river	17,112 77
Stenographing	101 00
Supplies	299 58
Traveling expenses	1,012 72
Total	\$187,209 27

## RESTORING AND REPAVING.

Cement	\$36 25
Pay-rolls	289 03
Restoring pavement, etc.	8,168 00
Sand	237 50
Trap-rock	600 00
Total	\$9,330 78

## STREET IMPROVEMENT FUND.

Basins—	
Fifth avenue, opposite One Hundred and Second street	\$32 50
Tenth avenue, northwest and southwest corners of One Hundred and Seventh street	418 70
Beach street, corner of West Broadway	215 20
Chestnut street, southwest corner of Madison street	216 40
Twenty-third street, northeast corner of Avenue A	266 10
Sixty-fourth street, southeast corner of First avenue	220 75
Eighty-sixth street, northeast corner of Madison avenue	248 40
One Hundred and Fifty-third street, northwest corner of Ninth avenue	318 37
Total	\$1,936 42
Fencing—	
Avenue A, east side, between Ninety-second and Ninety-third streets	\$34 86
Fourth avenue, southeast corner of One Hundred and Eighteenth street	50 11
Fourth avenue, southwest corner of One Hundred and Twenty-fourth street	91 84
Fourth avenue, between One Hundred and Fourth and One Hundred and Fifth streets	36 72
Sixth avenue, west side, between One Hundred and Twenty-second and One Hundred and Twenty-third streets	229 26
Between Eighth and Ninth avenues and between Seventy-first and Seventy-second streets	328 95
Eighty-third street, between Eighth avenue and Boulevard	666 27
One Hundred and Fourth street, north side, between Fourth and Madison avenues	59 40
Total	\$1,497 41
Flagging—	
Eightieth street, south side, between Madison and Fifth avenues	\$374 08
One Hundred and Nineteenth street, between Second and Third avenues	447 93
Total	\$822 01
Filling—	
Between Eighth and Ninth avenues and between One Hundred and Forty-third and One Hundred and Fifty-fifth streets	\$4,712 40
Paving—	
Lexington avenue, between Eighty-sixth and Ninety-third streets	\$621 90
Lexington avenue, between One Hundred and Fourth and One Hundred and Third streets	40,097 45
Madison avenue, between One Hundred and Twenty-fifth and One Hundred and Twenty-third streets	763 74
West End avenue, between Sixty-fifth and Sixty-sixth streets	1,112 48
West End avenue, between Seventy-sixth and Eighty-ninth streets	2,256 63
Fourth avenue, between Seventy-second and Ninety-sixth streets	86,027 11
Fourth avenue, between One Hundred and Twenty-fourth and One Hundred and Twenty-third streets	1,613 50
Fifth avenue, between One Hundred and Tenth and One Hundred and Twentieth streets	18,738 45
Nineteenth street, between Tenth and Thirteenth avenues	6,966 53
East Twenty-sixth street, between present pavement and 170 feet east	2,078 46
Forty-fourth street, between Eleventh and Twelfth avenues	7,571 56
Forty-fifth street, between Tenth and Eleventh avenues	5,300 92
Fifty-fifth street, between Sixth and Seventh avenues	270 10
Seventieth street, between Second and Third avenues	4,564 34
Seventieth street, between Eleventh avenue and Boulevard	6,556 35
Seventy-second street, between First avenue and Avenue A	1,037 14
Seventy-fifth street, between Third and Fourth avenues	265 96
Seventy-fifth street, between West End avenue and Boulevard	3,439 33
Eighty-fourth street, between Eighth and Tenth avenues	9,035 75
Eighty-seventh street, between First avenue and Avenue A	3,856 32
Ninety-fourth street, between Ninth and Tenth avenues	1,443 68
Ninety-ninth street, between Third avenue and Exterior street	11,819 27
One Hundred and Second street, between Third and Lexington avenues	2,761 08

Paving—	
One Hundred and Third street, between Second and Lexington avenues	\$5,980 73
One Hundred and Fourth street, between First and Second avenues	3,749 96
One Hundred and Fifth street, between Third and Fourth avenues	4,330 31
One Hundred and Ninth street, between Third and Fourth avenues	4,836 82
One Hundred and Eleventh street, between First and Second avenues	3,776 96
One Hundred and Twelfth street, between Fourth and Madison avenues	2,781 31
One Hundred and Twelfth street, at intersection of Fourth avenue	1,318 82
One Hundred and Fourteenth street, between First and Second avenues	4,783 03
One Hundred and Fourteenth street, between First and Pleasant avenues	4,601 65
One Hundred and Eighteenth street, between Third and Fourth avenues	4,898 12
One Hundred and Twenty-third street, between First and Pleasant avenues	3,477 21
One Hundred and Twenty-third street, between First and Second avenues	4,093 17
Total	\$266,826 14

Regulating, Grading, etc.—	
Lexington avenue, between Ninety-sixth and Ninety-seventh streets	\$752 02
First avenue, between Ninety-second and One Hundred and Ninth streets	10,543 70
Fourth avenue, between Ninety-sixth and One Hundred and Second streets	377 75
Ninth avenue, between Eighty-first and One Hundred and Tenth streets	6,865 53
Seventieth street, between Eighth and Tenth avenues	387 50
Eighty-first street, between Boulevard and Riverside drive	170 00
Eighty-second street, between Avenues A and B	1,029 31
Eighty-fifth street, between Ninth and Tenth avenues	1,058 05
Eighty-seventh street, between Eighth and Tenth avenues	5,239 06
Eighty-eighth street, between Tenth avenue and Riverside drive	5,586 00
Eighty-ninth street, between Eighth and Tenth avenues	3,710 00
Ninety-fourth street, between Eighth avenue and Boulevard	528 50
Ninety-seventh street, between Eighth avenue and Boulevard	532 50
Ninety-eighth street, between Third and Fourth avenues	230 00
Ninety-eighth street, between Eighth avenue and Boulevard	488 75
One Hundred and Fifth street, between Fourth and Fifth avenues	3,701 75
One Hundred and Twelfth street, between Sixth and Seventh avenues	3,963 40
One Hundred and Thirteenth street, between Fifth and Eighth avenues	4,199 30
One Hundred and Fifteenth street, between Boulevard and Riverside drive	4,655 78
One Hundred and Fifteenth street, between Tenth and Morningside avenues	3,493 32
One Hundred and Sixteenth street, between Tenth and Morningside avenues	5,309 64
One Hundred and Eighteenth street, between Sixth and Seventh avenues	4,100 13
One Hundred and Nineteenth street, between Sixth and Seventh avenues	2,483 91
One Hundred and Twenty-first street, between Sixth and Seventh avenues	205 00
One Hundred and Twenty-fifth street, between Marshall street and Boulevard	6,862 73
One Hundred and Thirty-seventh street, between Fifth and Seventh avenues	1,097 60
One Hundred and Fifty-third street, between Seventh and New avenues	1,064 00
One Hundred and Fifty-seventh street, between Tenth avenue and Kingsbridge road	74 78
One Hundred and Fifty-ninth street, between Tenth and Eleventh avenues	2,438 80
One Hundred and Seventy-fifth street, between Tenth avenue and Kingsbridge road	6,048 70
Total	\$87,197 51

Sewers—	
Lexington avenue, between Eighty-first and Eighty-second streets	\$63 60
Park avenue, between Thirty-fifth and Thirty-sixth streets	25 20
Riverside avenue, between Seventy-sixth and Ninety-second streets	6,978 30
Riverside avenue, between Ninety-second and One Hundred and Sixth streets	5,479 74
Riverside avenue, between One Hundred and Sixth and One Hundred and Eleventh streets	6,034 07
Riverside and Twelfth avenues, between One Hundred and Twenty-second and Manhattan streets	4,174 56
West End avenue, between Seventy-sixth and Eighty-ninth streets	2,653 74
West End avenue, between Ninety-first and Ninety-sixth streets	5,012 00
West End avenue, between Ninety-sixth and One Hundred and Fifth streets	1,430 80
First avenue, between Twenty-first and Twenty-fourth streets	179 10
Fourth avenue, between Eighty-second and Eighty-third streets	64 50
Fifth avenue, between Fifty-fifth and Fifty-ninth streets	189 68
Sixth avenue, between Fifty-third and Fifty-fourth streets	1,512 55
Eleventh avenue, between Thirty-fifth and Thirty-sixth streets	857 51
Cherry street, between Corleas and Jackson streets	162 60
Thompson street, between Canal and Broome streets	3,339 00
Twenty-third street, between Tenth and Eleventh avenues	205 20
Twenty-fourth, Twenty-fifth, and Twenty-sixth streets, between Eleventh and Thirteenth avenues	17,115 84
Sixty-eighth street, between Eighth avenue and Boulevard	286 80
Seventieth street, between Avenue A and East river	4,449 84
Seventy-first street, between Avenue A and East river	1,780 98
Seventy-second street, between Avenue A and First avenue	1,191 86
Seventy-second street, between Eighth and Ninth avenues	5,357 72
Seventy-third street, between First and Third avenues	1,448 48
Seventy-eighth street, between Tenth avenue and Boulevard	3,536 59
Eighty-second street, between Eighth and Tenth avenues	6,795 44
Ninety-second street, between First and Second avenues	4,395 77
Ninety-fourth street, between Ninth and Tenth avenues	2,390 20
One Hundred and Fifteenth street, between Fifth and Sixth avenues	5,451 15
One Hundred and Sixteenth street, between Eighth and New avenues	1,305 30
One Hundred and Nineteenth street, between Sixth avenue and summit, east	133 80
One Hundred and Twentieth street, between Fifth and Sixth avenues	4,101 71
One Hundred and Twenty-third street, between Fourth and Madison avenues	25 50
One Hundred and Fifty-third street, between Tenth and St. Nicholas avenues	166 80
Total	\$98,295 93

## STREET IMPROVEMENTS ABOVE FIFTY-NINTH STREET.

Morningside Avenue, West—	
Pay-rolls	\$1,284 00
Regulating, grading, etc.	17,712 80
Total	\$18,996 80

## RECAPITULATION OF FUNDS AND TRUST ACCOUNTS.

Croton Water Fund	\$187,209 27
Restoring and Repaving	9,330 78
Street Improvement Fund—	
Basins	\$1,936 42
Fencing	1,497 41
Flagging	822 01
Filling	4,712 40
Paving	266,826 14
Regulating, Grading, etc.	87,197 51
Sewers	98,295 93
Pay-rolls, Inspectors, paving	3,101 00
Pay-rolls, Inspectors, regulating, grading, etc.	6,528 00
Pay-rolls, Inspectors, sewers	8,872 00
Pay-rolls, Engineers, etc., sewers	9,649 54
Surveyors' Fees	13,012 58
Street Improvements above Fifty-ninth street	502,450 94
Total	\$717,987 79

## GENERAL SUMMARY.

Appropriations	\$732,916 60
Funds and Trust Accounts	717,987 79
Grand total	\$1,450,904 39



## Document "C."

Contracts Made during the Three Months ending December 31, 1882.

DATE.	NATURE AND LOCATION OF WORK.	CONTRACTORS.	SURETIES.	AMOUNT.
<b>1882.</b>				
<i>Sewer Contracts.</i>				
Oct. 2	Sewer in One Hundred and Twenty-sixth street, between Ninth avenue and Avenue St. Nicholas....	Michael Egan, 1525 First ave.....	Charles Jones, 257 Alexander ave.. James J. Jones, 224 E. 85th street...	\$2,120 00
" 18	Sewer in Eleventh avenue, east side, between Thirty-fifth and Thirty-sixth streets.....	B. F. Brady, 918 Seventh ave.....	John McKim, 326 E. 58th street...	930 00
" 25	Sewer in Tenth avenue, east side, between One Hundred and Fourteenth and One Hundred and Sixteenth streets, with branch in One Hundred and Sixteenth street.....	Patrick Mulholland, 140 E. 84th st.....	Patrick Sheehy, 251 E. 83d street.... Thomas Regan, 858 Third avenue....	6,025 00
" 25	Sewers—Alterations and improvements to—in Thompson street, between Canal and Broome streets, and in Grand street, between Thompson and Wooster streets..	Patrick Mulholland, 140 E. 84th st.....	Patrick Sheehy, 251 E. 83d street.... Thomas Regan, 858 Third avenue....	14,542 58
" 28	Completing unfinished outlet sewer in One Hundred and Fifty-eighth street, from Hudson river to and through road and Public Drive and One Hundred and Fifty-seventh streets.....	John Slattery, 788 Fourth avenue..	Denis McGrath, 35 E. 104th street... John Davidson, 116 E. 56th street...	39,571 88
" 31	Sewer in Avenue A, between Ninety-second street and Harlem river..	John McKim & Son, 326 E. 58th street...	James Williams, 442 E. 57th street... Maurice B. Flynn, 242 E. 12th street...	2,754 50
Nov. 1	Sewer in Tenth avenue, east side, between One Hundred and Twenty-eighth and One Hundred and Thirtieth streets.....	J. D. Nutt & P. Kearns, 34 John street.....	John D. Crimmins, 403 E. 68th street... Wm. Hullivan, 341 W. 53d street...	2,755 55
" 2	Sewer in Second avenue, west side, between First and Second streets..	Bernard Maloney, 23 E. 116th street...	James Williams, 442 E. 57th street... Michael Finn, 2 Sutton place.....	954 25
" 27	Sewer in Tenth avenue, east side, between One Hundred and Sixteenth and One Hundred and Eighteenth streets.....	Patrick Reilly, 249 E. 56th street...	James Williams, 442 E. 57th street... Michael Finn, 2 Sutton place.....	3,350 00
Dec. 14	Sewer in Thompson street, between West Third and West Fourth streets.....	Cornelius Smith, 10th avenue, between 69th and 70th sts...	C. C. Ellis, 442 Ninth avenue... John Nesbit, 213 Lexington ave.. Thomas Regan, 858 Third avenue....	1,183 00
" 15	Sewer in Seventy-third street, between First avenue and Avenue A	J. D. Miner, 225 W. 42d street...	Michael Finn, 2 Sutton place..... James Williams, 442 E. 57th street...	7,214 06
Nov. 27	Receiving-basins in First avenue, between Ninety-ninth and One Hundred and Ninth streets.....	Patrick Reilly, 249 E. 56th street...	Michael Finn, 2 Sutton place.....	3,171 00
				\$84,571 82
<i>Regulating and Grading, etc., Contracts.</i>				
Oct. 3	Regulating and grading One Hundred and Sixteenth street, from the west curb of Eighth avenue to the east curb of Ninth avenue, and setting curb-stones and flagging sidewalk therein.....	Thomas E. Crimmins, 203 E. 61st street...	Thomas Crimmins, 252 E. 60th street... John D. Crimmins, 40 E. 66th street....	\$9,777 40
" 12	Regulating and grading One Hundred and Eighteenth street, from the west curb of Fourth avenue to the east curb of Sixth avenue..	Michael Finn, 2 Sutton place.....	Timothy Donovan, 423 W. 47th street.. James Reilly, 410 E. 115th street...	29,952 30
" 13	Regulating and grading Eighth street, from the west curb of the Boulevard to the east line of Riverside avenue.....	John Brady, 288 South 2d street, Brooklyn.....	Wm. H. Adams, 351 Second avenue.. James B. Candler, 235 E. 33d street....	5,331 09
" 23	Regulating and grading One Hundred and Twelfth street, from the west curb of Seventh avenue to the east curb of Eighth avenue, etc.....	John Brady, 288 South 2d street, Brooklyn.....	Wm. H. Adams, 351 Second avenue.. James B. Candler, 235 E. 33d street....	13,857 40
Nov. 2	Regulating and grading Fourth avenue, from the north curb of One Hundred and Thirty-third to the south curb of One Hundred and Thirty-fifth street....	James H. Perkins, Flushing, N. Y.....	Alex. J. Howell, 336 W. 19th street... W. H. McDougall, 5 Cortlandt street...	3,854 50
Dec. 26	Regulating and grading One Hundred and Seventeenth street, from the west curb of Fourth to the east curb of Fifth avenue, etc.,	Patrick Farley, 164 E. 63d street...	Terence Farley, 165 E. 61st street... John I. Farley, 165 E. 61st street....	35,778 00
Oct. 19	Setting curb-stones and flagging sidewalks, 4 feet wide, on both sides of One Hundred and Twenty-second street, from west curb of Seventh to the east curb of Eighth avenue.....	James H. Perkins, Flushing, N. Y.....	Alex. J. Howell, 336 W. 19th street... W. H. McDougall, 5 Cortlandt street...	2,868 30
Dec. 30	Flagging sidewalks on east side of Fifth avenue, from Seventy-second to Eighty-sixth street.....	John S. Masterson, 127th st. and 7th ave.	Edward C. Sheehy, 411 E. 88th street... Matthew Baird, 306 E. 57th street....	2,702 40
				\$104,121 39
<i>Paving Contract.</i>				
Nov. 17	Paving, with trap and granite block pavement, Eighty-second street, from Ninth avenue to the Boulevard.....	A. J. Howell, 336 W. 19th street...	W. A. Ferguson, 336 W. 19th street... Robert Ferguson, 371 W. 32d street...	\$8,821 20
				\$35,883 00
<i>Repaving under Chap. 476, Laws 1875.</i>				
Aug. 15	Paving Eleventh avenue, from Forty-sixth to Fifty-second street, with granite blocks.....	Wm. Kelly, 609 W. 47th street...	James Fitzpatrick, 529 W. 42d street... Henry Kelly, 422 W. 42d street...	\$25,308 00
Oct. 13	Paving Eleventh avenue, from Forty-second to Forty-sixth street, with granite blocks.....	Wm. Kelly, 609 W. 47th street...	T. F. Flanagan, 460 W. 43d street... B. F. Finley, 516 W. 42d street...	10,575 00
				\$35,883 00
<i>Gas Contracts.</i>				
Dec. 9	Furnishing illuminating gas for lighting public buildings, offices, etc.,	Harlem Gas-light Co.,	Robert W. Rodman, 322 E. 12th street... George G. Lake, 861 Fifth avenue....	\$2,000 00
" 13	Furnishing illuminating gas for lighting public buildings, offices, etc.,	Metropolitan Gas-light Co.,	R. H. Arkenburgh, 10 New Bowery.... O. Zolkoff, 1547 Broadway.....	5,500 00
" 12	Furnishing illuminating gas for lighting public buildings, offices, etc.,	Manhattan Gas-light Co.,	Percy R. Pyne, 25 E. 22d street... Samuel Sloane, 21 W. 17th street...	11,000 00
" 11	Furnishing illuminating gas for lighting public buildings, offices, etc.,	New York Gas-light Co.,	Percy R. Pyne, 25 East 22d street... Samuel Sloane, 21 W. 17th street....	11,500 00
				\$30,000 00
<i>Miscellaneous Contracts.</i>				
Oct. 28	Building a reservoir at Rye ponds, in the towns of Harrison and North Castle, Westchester County	Lewis P. Hendrick, Westchester, N.Y....	Lawrence Ennis, 123 Atlantic avenue, Brooklyn..... Thomas Nichols, 95 Liberty street... Thomas F. White, 41 Peck Slip.....	\$35,914 40
Dec. 19	Laying flooring and doing other work in the alteration of Fulton Market	M. J. McInerney, 41 Peck Slip.....	Hugh Lackey, 116 South street....	6,250 00
				\$42,164 40

DATE.	NATURE AND LOCATION OF WORK.	CONTRACTORS.	SURETIES.	AMOUNT.
<b>1882.</b>				
<i>Special Contracts.</i>				
Oct. 6	Receiving-basin on the northeast corner of Twenty-third street and Avenue A.....	Gilbert Palmer, 49 E. 78th street....	Bernard Maloney, 123 E. 116th street..	\$124 00
" 7	Receiving-basin on the southeast corner of sixty-fourth street and First avenue.....	John B. Healy, 216 E. 113th street...	Maurice B. Flynn, 242 E. 12th street...	299 50
" 7	Receiving-basins on the northwest and southwest corners of One Hundred and Seventh street and Tenth avenue.....	John B. Healy, 216 E. 113th street...	Maurice B. Flynn, 242 E. 12th street...	505 50
" 17	Flagging south side of Eightieth street, from the west curb of Madison avenue to the east curb of Fifth avenue.....	Patrick Larney, 325 E. 38th street....		275 00
" 18	Receiving-basin at the northeast corner of the park at junction of Beach street and West Broadway	John McKim, 326 E. 58th street...	Matthew Baird, 306 E. 57th street...	\$260 00
Nov. 2	Receiving-basin on the northwest corner of Sixty-seventh street and Third avenue.....	Bernard Maloney, 123 E. 116th street..		489 50
Oct. 6	Receiving-basin on the southwest corner of Madison and Chestnut streets.....	Bernard Maloney, 123 E. 116th street..	Gilbert Palmer, 49 E. 78th street....	244 00
Nov. 17	Fencing vacant lots on the southwest corner of Fourth avenue and One Hundred and Twenty-fourth street.....	Patrick Larney, 325 E. 38th street...		86 68
" 23	Flagging sidewalks on the north side of Thirtieth street, from Avenue D to Avenue C.....	Patrick Larney, 325 E. 38th street...		563 36
" 23	Fencing vacant lots on both sides of Eighty-third street, from Eighth avenue to the Boulevard.....	Patrick Larney, 325 E. 38th street...		639 20
" 23	Fencing vacant lots on west side of Fourth avenue, between One Hundred and Fourth and One Hundred and Fifth streets.....	Patrick Larney, 325 E. 38th street...		36 04
" 27	Receiving-basins on the southeast and southwest corners of One Hundred and Forty-second, One Hundred and Forty-third, and One Hundred and Forty-fourth streets and Eighth avenue.....	Patrick Reilly, 249 E. 56th street...	James Williams, 442 E. 57th street... Michael Finn, 2 Sutton place.....	695 00
				\$4,418 28
<b>RECAPITULATION.</b>				
12 Sewer contracts.....				\$84,571 82
8 Regulating and grading contracts.....				104,121 39
1 Paving contract.....				8,821 20
2 Repaving contracts, under chap. 476, Laws of 1875.....				35,883 00
4 Gas contracts.....				30,000 00
2 Miscellaneous contracts.....				42,164 40
12 Special contracts.....				4,418 28
41 Contracts.....				\$309,980 09

Contracts completed during the Three Months ending December 31, 1882.

DATE.	NATURE AND LOCATION OF WORK.	AMOUNT.
<b>1882.</b>		
Oct. 3	Fencing vacant lots.....	
" 3	Flagging.....	\$376 02
" 3	Fencing vacant lots.....	476 90
" 3	Regulating, grading, etc.....	259 08
" 6	Sewer.....	1,406 59
" 6	Paving.....	5,083 22
" 12	Sewer.....	6,688 79
" 12	Regulating, grading, etc.....	1,739 83
" 12	Setting curb-stones and flagging.....	4,903 88
" 14	Paving.....	6,138 94
" 14	Regulating, grading, etc.....	3,086 72
" 17	Paving.....	6,771 17
" 20	Regulating, grading, etc.....	14,818 19
" 21	Paving.....	24,394 96
" 21	".....	6,005 69
" 27	Regulating, grading, etc.....	1,436 15
" 31	Paving.....	794 45
" 31	".....	5,456 27
" 31	".....	7,137 98
" 31	".....	4,541 37
" 31	".....	13,009 68
Nov. 8	".....	
" 13	Fencing vacant lots.....	41,001 32
" 13	".....	50 78
" 14	Paving.....	57 94
" 18	Sewer.....	5,171 34
" 20	".....	6,360 53
" 20	Regulating, grading, etc.....	4,403 08
" 21	Fencing vacant lots.....	7,766 22
" 21	Flagging.....	67 95
" 21	Sewer.....	324 47
" 22	".....	5,760 15
" 22	Paving.....	4,213 49
" 24	".....	4,900 70
" 24	".....	64,302 29
" 25	Regulating, grading and paving.....	5,020 01
" 29	Sewer.....	7,095 25
" 29	Regulating, grading and paving.....	19,236 81
" 29	Paving.....	2,289 09
Dec. 6	Sewer.....	4,181 15
" 6	".....	18,460 13
" 7	Regulating, grading, etc.....	5,187 45
" 7	Receiving-basin.....	4,505 87
" 7	Paving.....	337 48
" 7	".....	4,075 48
" 7	Sewer.....	4,975 25
" 7	".....	998 07



Supplying Water to Shipping and Building Purposes .....	\$2,318 00
Test Appliances for Suppressing Waste of Water .....	2,810 00
Water Supply for the Twenty-fourth Ward .....	1,346 70
<b>Total .....</b>	<b>\$342,943 31</b>

## REPORT OF THE CHIEF-ENGINEER OF THE CROTON AQUEDUCT.

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

*Expenditures for Quarter ending December 31, 1882.*

Appropriation or Fund.		
Aqueduct—Repairs, Maintenance and Strengthening.....		\$65,224 86
Aqueduct—Repairs, Maintenance and Strengthening—Salaries.....		5,965 51
Croton Water Fund .....		188,870 14
Contingencies—Department of Public Works .....		136 40
Laying Croton Pipes .....		63,811 82
Laying Croton Pipes—Salaries .....		3,264 49
Repairing and Renewal of Pipes, Stop-Cocks, etc. ....		1,928 41
Repairing and Renewal of Pipes, Stop-Cocks, etc.—Salaries.....		7,260 98

Supplying Water to Shipping and Building Purposes .....	\$2,318 00
Test Appliances for Suppressing Waste of Water .....	2,810 00
Water Supply for the Twenty-fourth Ward .....	1,346 70
<b>Total .....</b>	<b>\$342,943 31</b>

*Expenditures for the Year 1882.*

Appropriation or Fund.		
Aqueduct—Repairs, Maintenance and Strengthening		\$259,254 48
Aqueduct—Repairs, Maintenance and Strengthening—Salaries		22,242 05
Croton Water Fund		1,001,354 00
Contingencies—Department Public Works		174 75
Expenses of Surveying, etc., under chapter §87, Laws of 1881		2,364 50
Expenses of Laying Four-foot Croton Mains		1,114 64
Forty-second Street Reservoir—Removal of Pipes		138 64
Laying Croton Pipes		289,568 68
Laying Croton Pipes—Salaries		13,563 46
Meter Stock		11,092 71
Repairing and Renewal of Pipes, Stop-Cocks, etc.		21,115 32
Repairing and Renewal of Pipes, Stop-Cocks, etc.—Salaries		39,527 39
Supplying Water to Shipping and Building		8,998 00
Surveys, Maps, etc.—Street Openings		40 00
Test Appliances for Suppressing Waste of Water		5,000 00
Water Supply for the Twenty-fourth Ward		15,392 73
<b>Total</b>		<b>\$1,690,941 35</b>

*Contracts Made, Completed and Unfinished, 1882.*

WORK.	CONTRACTOR.	DATE OF CONTRACT.	ESTIMATED COST.	DATE OF FINAL ESTIMATE	AMOUNT OF FINAL ESTIMATE	AMOUNT PAID IN 1882.
Building reservoir at Kensico.....	George W. Flower.....	Aug. 31, 1880	\$199,568 00	.....	.....	\$75,250 69
Furnishing and laying 48-inch conduit pipe from Woodlawn to Bronxville.....	H. Stollmeyer.....	Dec. 10, "	280,657 50	.....	.....	99,793 35
Laying mains in Jerome avenue, between Croton avenue and Williamsbridge.....	Edward Bradburn.....	Sept. 12, 1881	19,452 40	.....	.....	9,909 00
Furnishing and laying 48-inch conduit pipe, between Kensico and Hartsdale.....	R. D. Wood & Co.....	" 14, "	484,757 00	.....	.....	360,755 09
Laying 36-inch main on Fifth avenue, between Fortieth and Forty-second streets.....	John Cornwell, Jr.....	" 14, "	2,699 50	.....	.....	.....
Furnishing stop-cocks, hydrants, etc.....	M. B. Flynn.....	Oct. 21, "	14,355 00	Sept. 13, 1882	\$14,355 00	13,115 60
Laying Croton mains in One Hundred and Sixty-sixth street, etc., etc.....	James Everard.....	" 27, "	9,310 50	July 28, "	6,723 15	6,386 99
" " Twenty-fourth Ward.....	John Cornwell, Jr.....	Nov. 18, "	3,769 00	April 5, "	2,786 97	2,647 62
" " Maiden Lane, etc.....	".....	Dec. 13, "	14,129 50	Oct. 4, "	13,899 86	13,204 87
For furnishing cast-iron water pipes, etc.....	Warren Foundry.....	Sept. 13, "	52,272 50	Feb. 21, "	52,000 15	27,551 83
" ".....	Walter Wood.....	" 14, "	44,352 00	Aug. 9, "	44,081 19	36,263 71
" ".....	Warren Foundry.....	Dec. 13, "	26,520 00	June 1, "	30,982 34	30,982 34
" ".....	Walter Wood.....	" 16, "	4,699 00	Mar. 3, "	6,034 74	6,034 74
" ".....	Theodore Sturges.....	Mar. 10, 1882	51,200 00	Nov. 21, "	64,602 65	64,602 65
" ".....	Warren Foundry.....	" 13, "	62,900 00	Oct. 23, "	63,108 80	63,108 80
For laying mains in Jerome avenue.....	James Everard.....	" 3, "	19,732 00	.....	.....	3,424 63
" " Twenty-second and Beaver streets, etc.....	".....	" 3, "	19,898 00	.....	.....	14,489 97
For building bridge at Forty-first street and Fourth avenue.....	Brown & Whitney.....	June 23, "	2,950 00	.....	.....	.....
" " Ninety-seventh street and Fourth avenue.....	Post & McCord.....	July 21, "	11,750 00	.....	.....	.....
For furnishing stop-cocks, hydrants, etc.....	Guy C. Hotchkiss, Field & Co..	Mar. 25, "	8,030 00	Oct. 10, 1882	8,030 00	8,030 00
For laying mains in St. Nicholas avenue, etc.....	John Cornwell, Jr.....	" 8, "	9,416 30	" 17, "	7,665 90	7,282 60
Furnishing and laying 48-inch conduit pipe, from Hartsdale to Bronxville.....	Thomas E. Crimmins.....	May 17, "	465,162 00	.....	.....	50,137 52
For laying mains in Lexington avenue, etc.....	John Burke.....	June 10, "	2,754 50	July 31, 1882	2,350 38	2,232 86
For building reservoir at Rye Ponds.....	L. P. Hendricks.....	Oct. 28, "	35,914 40	.....	.....	.....
For building and setting boilers, etc., at High Bridge.....	George H. Robinson.....	Sept. 3, 1881	5,050 00	April 24, 1882	5,050 00	5,050 00



## STORAGE RESERVOIRS.

The Croton river has furnished a full supply of water to the Aqueduct during the past quarter. The storage reservoirs are full, and the lakes over one-half full. The walling and paving of the outlets of Lakes Kirk and Mahopac have been completed. The surveys of and searches as to title of lands necessary for a new storage reservoir on the east branch of the Croton river, have been continued during the year.

## Rain-fall—1882.

	OCTOBER. INCHES.	NOVEMBER. INCHES.	DECEMBER. INCHES.	YEAR 1882. INCHES.
Boyd's Corners Reservoir.....	3.33	1.66	2.68	55.20
South East Reservoir.....	2.82	1.49	2.15	48.01
Kensico Reservoir.....	1.89	2.01	2.06	47.52
Croton Dam.....	2.77	0.54	3.17	57.69
Tarrytown.....	1.84	1.03	2.38	49.52
Central Park Reservoir.....	1.32	1.44	2.11	49.25

## Rain-fall during Heavy Storm of September, 1882.

	SEPTEMBER 21.	SEPTEMBER 22.	SEPTEMBER 23.	SEPTEMBER 24.	TOTAL.
Boyd's Corners Reservoir.....	0.16	4.00	3.68	2.33	10.17
South East Reservoir.....	0.15	2.17	3.68	2.19	8.19
Croton Dam.....	....	....	....	....	11.26
Sing Sing.....	....	....	3.70	5.80	9.50
Tarrytown.....	0.05	0.20	3.38	7.00	10.63
Central Park Reservoir.....	1.62	0.23	3.31	8.02	13.28

## Rain-fall in Croton Basin.

MONTHS.	1866.			1867.			1868.			1869.			1870.		
	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.
January.....	1.04	3.33	..	1.26	2.11	..	3.23	2.90	..	5.40	3.79	..	9.51	4.51	..
February.....	5.58	3.60	..	4.90	3.00	..	1.52	1.38	..	5.75	3.64	..	6.37	6.40	..
March.....	2.15	3.33	..	2.46	1.49	..	3.91	2.55	..	9.51	5.48	..	7.23	3.80	..
April.....	2.69	3.79	..	3.13	3.74	..	5.47	3.87	..	3.38	2.11	..	4.95	5.45	..
May.....	5.06	5.62	..	7.26	6.86	..	13.78	8.79	..	6.72	4.52	..	2.71	2.30	..
June.....	4.41	4.45	..	7.19	5.28	..	7.11	4.53	..	1.19	3.59	..	....	2.06	..
July.....	4.27	4.01	..	5.22	5.25	..	3.65	2.13	..	2.06	2.26	..	2.75	3.43	..
August.....	5.50	6.56	..	8.79	10.04	..	13.05	6.98	..	1.97	1.92	..	7.71	5.10	..
September.....	6.16	4.92	..	3.66	3.62	..	20.47	9.33	..	2.64	3.20	..	2.36	2.85	..
October.....	4.44	5.09	..	4.74	3.66	..	0.63	0.87	..	8.93	9.46	..	7.62	4.73	..
November.....	3.87	3.80	..	3.42	3.10	..	7.14	4.65	..	7.23	2.43	..	3.74	2.51	..
December.....	3.59	3.27	..	1.98	2.62	..	2.50	2.35	..	5.74	5.96	..	1.20	1.49	..
Totals.....	48.78	51.77	..	54.03	50.77	..	82.46	50.33	..	60.52	48.36	..	56.15	44.63	..

MONTHS.	1871.			1872.			1873.			1874.		
	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.
January.....	1.18	3.80	....	.76	1.44	....	2.95	5.66	....	5.98	6.95	....
February.....	.12	3.81	....	1.29	1.22	....	1.40	3.09	....	.17	2.78	....
March.....	5.62	4.27	....	3.57	2.59	....	1.90	3.08	....	.54	1.57	....
April.....	4.92	3.01	....	.70	3.04	....	3.17	3.77	....	3.49	6.31	....
May.....	5.74	3.45	....	3.93	3.69	....	3.02	2.91	....	1.59	1.99	....
June.....	8.62	5.73	....	3.65	4.00	....	.14	.71	....	2.26	3.57	....
July.....	5.33	5.07	....	5.11	4.34	....	4.44	2.21	....	5.96	5.98	....
August.....	9.48	5.24	....	7.83	5.99	....	9.91	5.73	....	4.22	2.75	....
September.....	1.47	1.44	....	3.17	3.69	....	5.35	3.73	....	4.32	3.56	....
October.....	7.89	6.18	....	1.80	2.15	....	4.85	5.13	....	1.90	2.40	....
November.....	7.71	4.35	....	4.51	4.91	....	2.16	3.72	....	2.68	2.72	....
December.....	.42	2.59	....	1.80	3.68	....	2.37	4.13	....	.99	1.78	....
Totals.....	72.81	48.94	....	43.48	40.74	....	46.08	43.87	....	36.93	42.37	....

MONTHS.	1875.			1876.			1877.			1878.		
	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.
January.....	2.01	2.74	....	1.03	1.42	....	3.23	2.68	....	4.30	4.49	....
February.....	3.83	3.47	....	6.98	4.91	....	1.21	0.80	....	4.61	3.65	....
March.....	5.87	4.99	....	14.61	6.33	....	8.89	7.66	....	2.69	3.10	....
April.....	3.78	3.04	....	3.78	4.43	....	2.73	2.35	....	4.00	2.85	....
May.....	1.36	1.08	....	3.42	3.99	....	.50	.85	....	2.69	4.97	1.72
June.....	2.78	3.02	....	4.35	2.52	....	5.58	4.95	....	4.52	4.65	6.13
July.....	7.34	3.10	....	5.13	3.42	....	6.26	4.65	....	3.86	4.28	3.02
August.....	12.98	10.33	....	2.51	1.20	....	3.18	2.54	....	2.63	2.66	4.49
September.....	1.76	2.11	....	4.41	5.21	....	1.09	1.49	....	11.26	6.61	8.58
October.....	4.27	3.61	....	2.13	1.50	....	10.03	8.38	....	6.79	3.78	3.51
November.....	4.17	4.61	....	3.33	3.40	....	8.06	8.16	....	5.27	4.36	4.43
December.....	1.76	1.56	....	6.51	2.35	....	1.35	1.52	....	13.28	8.74	7.08
Totals.....	53.52	43.66	....	58.14	40.68	....	52.11	46.03	....	65.90	54.14	....

## Rain-fall in Croton Basin—(Continued).

MONTHS.	1879.			1880.			1881.			1882.		
	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.	Croton Dam.	Boyd's Corners.	South East.
January.....	4.56	2.52	2.20	3.71	4.00	3.69	5.32	4.19	5.06	7.09	4.41	4.60
February.....	4.53	2.85	2.47	2.85	2.92	3.13	6.70	5.28	4.65	6.73	5.96	5.95
March.....	5.76	4.96	3.85	3.30	4.51	4.21	9.76	6.14	6.16	3.66	4.58	3.48
April.....	4.17	5.10	4.80	3.28	3.99	3.44	.86	1.67	1.20	1.46	1.36	1.31
May.....	2.19	2.45	2.02	1.10	1.17	1.00	2.74	3.74	3.89	6.43	6.30	5.51
June.....	5.23	5.29	5.36	1.47	1.28	1.43	5.27	5.27	4.62	2.57	3.04	2.33
July.....	5.28	5.95	6.12	6.56	5.65	5.49	1.60	2.45	2.17	3.19	3.63	2.69
August.....	9.39	5.83	6.69	5.25	3.60	4.05	2.97	1.71	3.30	3.82	3.92	2.35
September.....	2.88	3.43	3.40	2.64	2.69	2.16	0.41	0.75	0.94	16.26	14.33	13.33
October.....	0.39	0.95	0.57	2.43	3.25	2.56	1.98	3.65	2.75	2.77	3.33	2.82
November.....	2.59	2.49	2.54	2.97	1.85	5.60	4.50	5.53	0.54	1.66	1.49	..
December.....	4.80	4.26	3.17	2.38	2.49	2.44	7.56	6.37	8.12	3.17	2.68	2.15
Totals.....	51.77	46.08	43.19	37.51	38.52	35.45	50.77	46.17	48.39	57.69	55.20	48.01

## BRONX RIVER SUPPLY.

The Supreme Court have appointed Commissioners to appraise the lands necessary for the balance of the pipe line and for a reservoir at Williamsbridge.

The Commissioners have made their report as to value of and damage to the lands taken for a pipe line from Hartsdale to Woodlawn.

Several meetings have been held, taking testimony as to value, etc., of lands between Woodlawn and Jerome avenue.

Contract for building reservoir at Rye Ponds has been entered into.

Bids for contracts for laying 48-inch conduit pipe between Bronxville and Tuckahoe; for furnishing and laying 48-inch and 36-inch pipe between Woodlawn and Jerome avenue, and for stop-cocks, hydrants, etc., necessary for same, have been opened and awarded.

The following work has been done during the quarter and during the year 1882, and since commencement of same :

## Furnishing and Laying Pipe between Croton Avenue and Williamsbridge.

Contractor, Edward Bradburn ; date of contract, September 12, 1881.

		QUARTER DECEMBER 31, 1882.	YEAR 1882.	SINCE COMMENCE- MENT.
Pipe delivered.....	Tons.....	.....	1,006	1,306
Specials delivered.....	".....	.....	58	58
Rock excavation.....	Cubic yards.	380	2,680	2,680
Earth excavation.....	".....	210	2,570	2,570
Filling.....	".....	660	4,100	4,100
Brick work.....	".....	22	22	22
36-inch pipe laid.....	Lineal feet...	39	3,039	3,039
20 ".....	".....	61	61	61
12 ".....	".....	149	149	149
6 ".....	".....	140	140	140
36-inch stop-cock set.....	Number.....	1	1	1
20 ".....	".....	1	1	1
12 ".....	".....	3	3	3
6 ".....	".....	2	2	2
Hydrants set.....	".....	5	5	5

## Furnishing, Delivering and Laying Pipe between Bronxville and Woodlawn.

Contractor, H. Stollmeyer ; date of contract, December 10, 1881.

		QUARTER DECEMBER 31, 1882.	YEAR 1882.	SINCE COMMENCE- MENT.
Straight pipe delivered.....	Tons.....	.....	1,254	5,814
Specials.....	".....	.....	12	39
Rock excavation.....	Cubic yards.	100	2,900	6,700
Earth excavation.....	".....	1,800	9,900	22,400
Embankment.....	".....	4,000	25,000	51,000
Cut-stone masonry.....	".....	.....	30	30
Stone masonry.....	".....	12	360	550
Brick ".....	".....	.....	165	165
Concrete masonry.....	".....	.....	4	4
Dry stone wall.....	".....	180	730	1,120
48-inch pipe laid.....	Lineal feet...	.....	6,170	16,490
12 ".....	".....	.....	40	40
6 ".....	".....	.....	180	180
48-inch stop-cocks set.....	Number.....	.....	1	1
12 ".....	".....	.....	4	4
6 ".....	".....	.....	6	6
Blow-offs set.....	".....	.....	4	4
Hydrants set.....	".....	.....	6	6
White pine and chestnut timber.....	Feet, B. M...	25,000	40,000	40,000
Hemlock timber.....	".....	.....	5,000	5,000
Wrought iron.....	Pounds.....	810	13,000	13,000



*Furnishing and Delivering Pipe at Bronxville.*

Contractors, Warren Foundry and Machine Co.; date of contract, September 13, 1881.

		QUARTER DECEMBER 31, 1882.	YEAR 1882.	SINCE COMMENCE- MENT.
Straight pipe.....	Tons.....	.....	653	1,653
Specials.....	".....	.....	3	5

*Furnishing, Delivering and Laying Pipe from Station 302 to 522.*

Contractor, Thomas E. Crimmins; date of contract, May 17, 1882.

		QUARTER DECEMBER 31, 1882.	YEAR 1882.	SINCE COMMENCE- MENT.
Straight pipe delivered.....	Tons.....	798	1,259	1,259
Specials.....	".....	23	26	26
Rock excavation.....	Cubic yards.....	2,229	4,233	4,233
Earth excavation.....	".....	1,696	5,338	5,338
Embankment.....	".....	7,797	15,471	15,471
Cut-stone masonry.....	".....	74	89	89
Stone masonry.....	".....	245	457	457
Brick.....	".....	62	62	62
Concrete masonry.....	".....	0	0	0
Dry stone wall.....	".....	988	1,894	1,894
48-inch pipe laid.....	Lineal feet.....	1,786	2,886	2,886

*Furnishing, Delivering and Laying Pipe between Kensico and Hartsdale.*

Contractor, R. D. Wood &amp; Co.; date of contract, September 14, 1881.

		QUARTER DECEMBER 31, 1882.	YEAR 1882.	SINCE COMMENCE- MENT.
Straight pipe delivered.....	Tons.....	825	7,855	9,930
Specials delivered.....	".....	27	59	59
Rock excavation.....	Cubic yards.....	2,195	5,175	5,175
Earth.....	".....	8,000	32,244	33,200
Embankment.....	".....	20,300	83,786	84,000
Cut-stone masonry.....	".....	6	34	34
Stone.....	".....	453	990	990
Brick.....	".....	23	40	40
Concrete.....	".....	140	330	330
Dry stone wall.....	".....	530	1,300	1,300
48-inch pipe laid.....	Lineal feet.....	5,600	27,224	27,500
12 " ".....	".....	.....	380	380
6 " ".....	".....	110	150	150
48-inch stop-cocks set.....	Number.....	1	1	1
12 " ".....	".....	1	3	3
6 " ".....	".....	2	5	5
Blow-offs.....	".....	1	3	3
Hydrants.....	".....	2	5	5
Hemlock lumber.....	Feet, B. M.....	17,300	133,000	133,000
Wrought iron.....	Pounds.....	23,000	54,000	54,000

*Building Reservoir at Kensico.*

Contractor, George W. Flower; date of contract, August 31, 1880.

		QUARTER DECEMBER 31, 1882.	YEAR 1882.	SINCE COMMENCE- MENT.
Rock excavation.....	Cubic yards.....	40	1,400	2,300
Earth.....	".....	1,300	22,600	70,600
Embankment.....	".....	8,700	48,800	75,600
Cut-stone masonry.....	".....	70	120	196
Stone.....	".....	1,200	7,500	12,600
Brick.....	".....	.....	124	327
Concrete.....	".....	330	770	1,390
Dry stone wall.....	".....	1,270	3,000	3,270
Fence wall.....	Lineal feet.....	800	20,900	29,030
Hemlock, white pine, etc.....	Feet, B. M.....	.....	.....	33,700
Wrought iron.....	Pounds.....	.....	665	1,025

*Bronx Supply Lands Acquired in 1881.*

PARCEL.	NAME OF OWNER.	ACRES.	AMOUNT PAID.	REMARKS.
No. 1	Wm. H. Robinson.....	0.023	\$5 00	By Commission.
" 2	William H. Robbins.....	0.023	190 00	"
" 3	Phoebe Ann Ryder.....	1.787	407 40	"
" 4	Henry J. and Eugene Miller.....	1.216	249 20	"
" 5	P. F. Stoutenberg.....	19.083	5,521 25	"
" 6	G. Merritt and others.....	19.908	4,131 60	"
" 8	Evander Odel.....	11.291	2,408 20	"
" 9	L. S. & S. E. Onderdonk.....	46.195	9,739 00	"
" 10	M. E. Purdy and others.....	31.849	10,032 25	"

PARCEL.	NAME OF OWNER.	ACRES.	AMOUNT PAID.	REMARKS.
No. 11	G. W. E. Shelly.....	1.671	334 20	By Commission.
" 12	Mary H. Lester.....	40.425	9,085 00	"
" 13	Rye Lake Railroad Co.....	.....	6,000 00	"
" 14	John F. Williams.....	24.013	5,652 50	By Commissioner of Public Works.
" 15	Estate of H. Davis.....	61.115	15,000 00	"
" 16	Estate of E. M. Davis.....	49.474	11,131 65	"
" 17	Harlem Railroad Co.....	Right of way.	5 00	By Commission.
" 18	S. Y. D. Arrowsmith.....	1.341	670 50	"
" 19	M. F. Fowler.....	1.803	946 50	"
" 20	".....	0.802	264 60	"
" 21	Levi Hunt.....	0.655	381 00	"
" 22	J. Costello.....	1.086	475 80	"
" 23	Wm. Fisher, Est.....	1.044	563 20	"
" 24	Wm. Dunning.....	0.695	408 50	"
" 25	Wm. S. Heath.....	0.949	409 70	"
" 26	E. H. Sutton.....	0.171	300 00	"
" 27	A. O. Wills.....	0.374	250 00	"
" 28	John Anderson.....	0.175	100 00	"
" 29	O. & G. W. Martine.....	0.681	279 30	"
" 30	E. C. Wilson.....	2.530	504 00	"
" 31	W. R. Foster.....	0.567	170 10	"
" 32	Right of way through road.....	.....	5 00	"
" 33	J. S. Witherbee.....	0.599	450 00	"
" 34	Right of way through road.....	.....	5 00	"
" 35	R. Stoddard and others.....	0.622	2,420 00	"
" 36	".....	0.021	25 00	"
" 37	Right of way through road.....	.....	5 00	"
" 38	J. C. Horton and others.....	0.559	350 00	"
" 39	J. Smith.....	0.410	200 00	"
" 40	Right of way through road.....	.....	5 00	"
" 41	J. Smith.....	0.549	500 00	"
" 42	Right of way through road.....	.....	5 00	"
" 43	".....	.....	5 00	"
" 44	G. Le Bon Moring.....	0.118	25 00	"
" 45	J. Stark.....	1.065	1,200 00	"
" 46	C. Butler.....	4.036	872 00	"
" 71	".....	.....	.....	"
" 72	".....	.....	.....	"
" 73	Mutual Life Insurance Co.....	4.398	1,000 00	By Commissioner of Public Works.
" 74	".....	.....	.....	"

*Bronx River Supply, Lands, etc., Acquired in 1882.*

PARCEL.	NAME OF OWNER.	ACRES.	AMOUNT PAID.	REMARKS.
Mill at Wood-lawn.	Phynetta Bussing.....	For damages.	\$8,500 00	By Commissioner of Public Works.
No. 7	David Ver Plank, executor.....	{ Water rights } { and 1.275 }	24,725 00	By Commission.
" 47	Daniel Tripp.....	9.119	2,223 80	"
" 48	Oliver Matthews.....	28.964	9,242 80	"
" 49	".....	2.369	436 90	"
" 50	Elias Hicks Field.....	2.371	874 20	"
" 51	Frank Ilford.....	14.316	19,136 60	"
" 52	Hannah C. Keeler.....	.272	525 00	"
" 53	John Field.....	3.595	1,119 00	"
" 54	Spring Lake Ice Co.....	.442	177 25	"
" 55	Westchester Ice Co.....	46.524	9,592 00	"
" 56	Thomas L. Park.....	.035	75 00	"
" 57	".....	.024	75 00	"
" 58	Andrew Luke.....	19.249	4,849 80	"
" 59	".....	27.161	2,037 07	"
" 60	Squire G. Archer.....	2.036	1,254 50	"
" 61	James H. Strong.....	5.213	1,380 10	"
" 62	Robert F. Matthews.....	3.576	815 20	"
" 63	Unknown Owners, "Big Rye.".....	184.874	500 00	"
" 64	Andrew Luke.....	{ 50 feet wide } { along outlet. }	1,187 50	"
" 65	Purdy Estate.....	{ 50 feet wide } { along outlet. }	600 00	"
" 66	Squire G. Archer.....	{ 50 feet wide } { along outlet. }	900 00	"
" 67	David Ver Plank, executor.....	{ 50 feet wide } { along outlet. }	900 00	"
" 68	".....	{ 50 feet wide } { along outlet. }	50 00	"
" 84	Odell Stevenson.....	0.455	1,376 00	"

*Bronx River Supply.*

Amounts expended to December 31, 1882, for—

Engineering, inspection, etc.....	\$81,200 00
Land and expenses.....	257,887 00
Labor and materials.....	918,497 75
	<u>\$1,257,584 75</u>

Estimated amount to complete same—

Reservoir at Kensico.....	\$140,000 00
Balance of conduit.....	950,000 00
Williamsbridge reservoir.....	500,000 00
Land for pipe line and reservoir, etc.....	150,000 00
Damages on Bronx river below Kensico dam.....	200,000 00
Bronx river commission and expenses.....	50,000 00
	<u>\$1,990,000 00</u>

## AQUEDUCT REPAIRS, MAINTENANCE AND STRENGTHENING.

The following tables give the general character of work and a detailed statement of the amount done during the quarter, and the total amount for the year 1882.

The Aqueduct strengthened by reinforcing with additional masonry of embankments, on the Second, Fourth, Fifth and Sixth Divisions, has been unusually difficult work, as the cracks have been principally below the water line on the arch and side wall which required calking and the use of pure cement to check leakage. The rush of water from these cracks required bailing or pumping to remove it from the trench in many places while this work was progressing, which considerably delayed the work.

A large amount of the earth work during the quarter was to replace the washes and slides caused by the storm in September last.

Several of the embankments which have not yet been strengthened have been leaking seriously during the present month.

The importance of the telegraph along the line of the Croton Aqueduct has been signally illustrated: First in the heavy rain-storm that occurred in September last; this storm did not reach its full proportions before late in the afternoon. It was evident that unless precautions were promptly taken, heavy damage, if not a complete stoppage of the Aqueduct, would result from the torrents of storm water rushing over its banks. The Resident Engineer called all the keepers, by telegraph, to gather their men and proceed to the points on each Division where land-slides and earth-wash was liable to take place.

It is estimated that washouts, which would cost about six thousand dollars to repair, were prevented by these precautions, which were only possible by the use of the telegraph. Considerable damage, however, did result, because the number of men available on such short notice was only sufficient to cover the most vulnerable and dangerous points.

The damage which occurred at the less dangerous places cost about eighteen hundred dollars to repair.

The telegraph has also proved a great safeguard in the case of serious leakage on embankments. One occurred two miles below Yonkers which threatened the necessity of shutting off water from the city to make repairs. It is of great value now on account of the great demands for water in avoiding in many cases shutting off the Aqueduct.



Estimate of Work Done on Croton Aqueduct during Quarter and Year ending December 31, 1882.

No. of Division.	MASONRY.												MASONRY AROUND CAST-IRON WASTE PIPE.		EXCAVATION.							
	ARCH STRENGTHENED.		GATE-HOUSES.		RETAINING WALLS.		CULVERTS AND SEWERS.		WASTE PIPE.	MONUMENTS.	TOTAL MASONRY.			36 INCH.	15 INCH.	EARTH EXCAVATION.	EARTH EMBANKMENT.	TOTAL.	ROCK EXCAVATION.	ROCK QUARRIED.	TOTAL.	GRAND TOTAL.
	Lin. Ft.	Cu. Yds.	Sup. Ft.	Cu. Yds.	Lin. Ft.	Cu. Yds.	Lin. Ft.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Lin. Ft.	Sup. Ft.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.
First .....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	130	....	130	....	....	....	130
Second .....	180	139	614	46	....	....	....	....	70	....	180	614	255	203	....	3,309	1,315	4,624	287	....	287	4,911
Third .....	....	....	....	....	....	....	75.5	76.2	73.4	....	75.5	....	149.6	281.7	....	....	750	750	200	....	200	950
Fourth .....	....	....	....	....	....	....	44	43.1	....	....	44	....	43.1	....	....	432	....	432	....	....	....	432
Fifth .....	....	....	....	....	134	198.9	....	....	....	....	134	....	198.9	....	....	663	663	1,326	....	....	....	1,326
Sixth .....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Seventh .....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	89	....	89	....	....	....	89
Eighth .....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Total for Quarter..	180	139	614	46	134	198.9	119.5	119.3	143.4	....	433.5	614	646.6	484.7	....	4,623	2,728	7,351	487	....	487	7,838
Total for Year.....	3,930	3,049.62	7,698	515.6	134	198.9	119.5	119.3	262.4	30	4,183.5	7,698	4,175.82	581.7	150	35,457.5	25,322	60,779.5	1,442	1,028	2,470	63,249.5

No. of Division.	DRY STONE WORK.						GRADING, SEED- ING, ETC.	FENCES.		ADDITIONAL WORK.
	RETAINING WALLS.		CULVERTS.		TOTAL.			BUILT.	REPAIRED.	
	Lin. Ft.	Cu. Yds.	Lin. Ft.	Cu. Yds.	Lin. Ft.	Cu. Yds.				
First .....	140	70	....	....	140	70	....	600	....	Cleaning up on line of Aqueduct. Usual repairs.
Second .....	....	....	....	....	....	....	....	....	....	Set up gearing in Gatehouse. Cleaning up and usual repairs on line of Aqueduct.
Third .....	....	....	....	....	....	....	....	....	...	Stopping leaks. Cleaning up and usual repairs on line of Aqueduct.
Fourth .....	....	....	....	....	....	....	400	100	600	Stopping leaks. Cleani g up and usual repairs on line of Aqueduct.
Fifth .....	100	160	....	....	100	160	....	....	....	Forty lengths of 36-inch cast-iron pipe hauled to Gatehouse. Tool-house and barn painted.
Sixth .....	....	....	....	....	....	....	....	1,200	1,000	Repairing washout. Stopping leak. Pointing up Gatehouse and painting 810 feet of fence. Cleaning up.
Seventh .....	....	....	....	....	....	....	....	....	....	144 steps and 8 platforms delivered. 100 loads of manure spread on bank. Hoisting coal and necessary repairs. Cleaning Gatehouses and gearing. Painting and repairing fences. Building platform and pier for same and South Gatehouse chamber. Filling in Tenth avenue, between Ninety-third and One Hundred and Twenty-second streets. Usual work at High Service Works.
Eighth.....	....	....	....	....	....	....	....	....	....	
Total for Quarter..	240	230	....	....	240	230	400	1,900	1,600	
Total for Year.....	1,995	4,740	955	216	2,950	4,956	5,453	11,066	26,396	

## CEMENT TESTS.

The following is a memorandum of experiments made on cement at the office of the Resident Engineer of the Croton Aqueduct, Yonkers, N. Y., 1882.

All cement received during the year was tested: first, as to weight, one barrel in every ten being weighed; second, as to fineness, one barrel in every five being tested; third, as to strength, the same number being tested. The requirements were according to the following specifications:

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

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

## Tests for Fineness, 1882.

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

MONTH.	NUMBER OF SAMPLES.	HIGHEST PER CENT.	LOWEST PER CENT.	AVERAGE PER CENT.
May .....	168	99.7	82.3	91.2
June .....	149	90.9	77.2	85.2
July .....	273	93.9	76.3	86.0
August .....	150	90.9	76.7	86.1
September .....	90	93.5	80.3	87.1
	840	.....	.....	.....

## Tests of Tensile Strength in Pounds per Square Inch, Briquette 72 Hours old (Pure Cement), 1882.

(Each sample tested contained one square inch of section.)

MONTH.	NUMBER OF SAMPLES.	HIGHEST TEST.	LOWEST TEST.	AVERAGE TEST.
May .....	168	176	18	113.3
June .....	149	198	83	117.3
July .....	273	273	50	133.6
August .....	150	198	62	117.0
September .....	90	236	76	135.7
	840	.....	.....	.....

In addition to the above tests, there were made for comparative purposes 1,084 briquettes, of which 581 have been tested: 202 mixed pure and 379 mixed, one of cement to one of sand.

## Tests for Tensile Strength in Pounds per Square Inch (Pure Cement) Briquette 7 Days to 2 Months Old, 1882.

AGE OF SAMPLE.	NUMBER OF SAMPLES.	HIGHEST TEST.	LOWEST TEST.	AVERAGE TEST.
Seven days old .....	83	282	124	197.7
Twelve " .....	13	327	239	285.0
Three weeks old .....	21	238	160	197.6
Four " .....	19	275	148	210.9
Five " .....	19	283	113	203.7
Six " .....	19	300	160	225.3
Seven " .....	19	274	153	210.9
Eight " .....	9	264	196	218.5
	202	.....	.....	.....

## Tests for Tensile Strength in Pounds Per Square Inch, One of Cement to One of Sand, Briquette 7 Days to 13 Weeks Old.

AGE OF SAMPLE.	NUMBER OF SAMPLES.	HIGHEST TEST.	LOWEST TEST.	AVERAGE TEST.
Seven days old .....	329	98	10	37.1
Seventeen " .....	15	196	82	139.7
Twenty-four days old .....	15	194	100	154.8
Thirty-one " .....	15	170	81	121.4
Thirty-eight " .....	15	185	84	137.5
Forty-five " .....	15	201	80	146.1
Fifty-two " .....	15	180	69	137.0
Fifty-nine " .....	15	232	134	166.1
Sixty-five " .....	15	196	56	143.1
Seventy-two " .....	15	216	49	172.7
Seventy-nine " .....	.....	224	69	179.1

The samples from which these tests were made were taken indiscriminately from the storehouse, and although the cement shows an average increase in strength of 74 per cent. in two months, still the increase is so variable that it was deemed better to mix several barrels of cement together and take the samples from the mixture. This has been done, and 3,500 briquettes have been made, which will be sufficient to carry the experiments over several years, if necessary.

Samples made of one part cement and two parts sand have been made, but the tests have not as yet been sufficiently numerous to tabulate them. All of the tests will be continued during the ensuing year.



Tabulated Statement of Results of Testing Cement used at Kensico in Reservoir Dam. Tests made on "Richle Bro. Cement Tester." Composition of Mortar—Cement Pure with 25% Water.

ULSTER COUNTY CEMENT.	CARGOES.			DATE OF TESTS.	FINENESS.					AGE OF BRIQUETTES IN HOURS.			TENSILE STRENGTH, IN POUNDS.											
BRAND.	NO.	DATE OF ARRIVAL.	NO. OF BBLs.		PERCENTAGE PASSED THROUGH 2,500 MESHES TO ONE SQUARE INCH.					Before Immersion.	In Water.	After Immersion.	BREAKING AREA, ONE SQUARE INCH.					BREAKING AREA, FOUR SQUARE INCHES.						
					Max.	Min.	Over 94 %.	Under 94 %.	Aver- age.				Max.	Min.	Over 100 lbs.	Under 100 lbs.	Average	No. of Tests.	Max.	Min.	Over 400 lbs.	Under 400 lbs.	Average	No. of Tests.
F. O. Norton.....	1st ....	March 27, 1882	250	April 1, 1882	98	84	14	11	88	3	21	48	201	88	20	5	132	25	330	300	..	2	315	2
" .....	2d.....	April 19, "	961	April 24, "	98	83	38	58	91	1	23	48	198	48	77	19	153	96	506	353	3	6	411	9
" .....	3d.....	May 15, "	960	May 19, "	97	83	76	24	95	1	23	48	210	40	90	9	131	99	489	260	2	7	362	9
" .....	4th....	June 10, "	1,000	June 15, "	99	88	85	15	96	1	23	48	203	71	98	2	153	100	576	310	7	3	419	10
" .....	5th....	July 14, "	979	July 20, "	98	91	91	9	95	1	23	48	260	72	92	8	136	100	453	302	3	7	366	10
" .....	6th....	August 9, "	997	Aug. 12, "	98	90	68	32	94	1	23	48	235	38	91	9	135	100	474	340	4	6	395	10
" .....	7th....	Sept. 5, "	1,524	Sept. 8, "	98	91	132	20	95	1	23	48	246	40	140	12	136	152	506	279	9	6	397	15

On the arrival of a cargo of cement, the number of barrels was ascertained and a sample from every tenth barrel was taken promiscuously throughout the cargo. Each sample contained a little more than enough to make one 1-inch briquette, and the cement that was left from each ten was mixed and used in making 4-inch briquettes.

## LAYING CROTON PIPES.

Contracts for laying mains in Madison avenue, between One Hundred and Twentieth and One Hundred and Twenty-first streets; in One Hundred and Twentieth street, between Fourth and Madison avenues; in One Hundred and Forty-eighth street, between Third and Courtland avenues; in One Hundred and Forty-second street, between Willis and Brook avenues; in Ninth avenue, between One Hundred and Fifty-first and One Hundred and Fifty-fourth streets, and between Seventy-eighth and Seventy-ninth streets; in Eighty-first street, between Ninth and Tenth avenues; in Ninety-seventh street, between Second and Third avenues; in Sixty-first street, between Tenth and Eleventh avenues; in One Hundred and Ninth street, between Third and Fourth avenues; and in Fourth avenue, between One Hundred and Ninth and One Hundred and Tenth streets, have been completed.

Two contracts for furnishing pipe and specials have been completed.  
One contract for furnishing stop-cocks, hydrants, etc., has been filled.

## Amount of Pipe Laid.

	DURING QUARTER.	DURING YEAR 1882.
36-inch.....	2,500	2,500
20-inch.....	3	1,757
12-inch.....	10,239	42,026
6-inch.....	7,236	56,783
4-inch.....	.....	415
Total lineal feet.....	19,978	103,481
Hydrants set.....	55	448
Stop-cocks set.....	.....	133

## Statement of Pipe Laid for Distribution and Hydrants in Use to December 31, 1882, in the City of New York.

## PIPE LAID, ETC., 1882.

DIAMETER OF PIPES.	PIPES LAID DEC. 31, 1881.	PIPES LAID DEC. 31, 1882.	TOTAL PIPE LAID TO DEC. 31, 1882.	STOP-COCKS TO DEC. 31, '81.	STOP-COCKS TO DEC. 31, '82.	TOTAL STOP-COCKS TO DEC. 31, '82.
	Feet.	Feet.	Feet.	Number.	Number.	Number.
48-inch.....	65,654	.....	65,654	16	.....	16
36-inch.....	78,935	2,500	81,435	38	.....	38
30-inch.....	41,773	.....	41,773	29	.....	29
24-inch.....	11,542	.....	11,542	13	.....	13
20-inch.....	191,252	1,757	193,009	178	2	180
16-inch.....	17,130	.....	17,130	22	.....	22
12-inch.....	602,744	42,026	644,770	1,289	57	1,346
10-inch.....	6,629	.....	6,629	15	.....	15
6-inch.....	1,658,693	56,783	1,715,476	3,727	73	3,800
4-inch.....	29,257	415	29,672	100	1	101
Total feet.....	2,703,609	103,481	2,807,090	.....	.....	.....
Total miles.....	512	19.6	531.6	...	...	...
Total number.....	.....	.....	.....	5,427	133	5,560

## HYDRANTS.

KIND.	HYDRANTS PLACED DECEMBER 31, 1881.	HYDRANTS PLACED TO DECEMBER 31, 1882.	TOTAL HYDRANTS DECEMBER 31, 1882.
	Number.	Number.	Number.
Nos. 1, 2 and 3.....	3,402	16	3,418
Victor.....	139	.....	139
A Hydrants.....	1,664	234	1,898
B ".....	1,291	198	1,489
Total numbers.....	6,496	448	6,944

## PIPES LAID FOR FIRE PURPOSES--1872 TO 1882.

SIZE OF PIPE, INCHES.	LOCATION.
36	Madison avenue, between Forty-second and Twenty-sixth streets.
36	Twenty-sixth street, between Madison and Third avenues.
36	Third avenue, between Fifth and Twenty-sixth streets.
36	Bowery, between Fifth and Bleecker streets.
36	Bleecker street, between Bowery and Mott streets.
36	Mott street, between Bleecker and Chatham Square.
36	New Bowery, between Chatham Square and Madison street.
36	Madison street, between New Bowery and Chambers street.
36	Chambers street, between Madison and Chatham Square.
24	Chambers street, between Chatham and Hudson streets.
20	Park street, between Mott and Pearl streets.
20	Chambers street, between Hudson and Greenwich streets.
12	Chambers street, between Greenwich and West streets.
20	Church street, between Fulton and Canal streets.
12	Vesey street, between Broadway and Greenwich street.
12	Barclay street, between Broadway and Greenwich street.
12	Park Place, between Broadway and Greenwich street.
12	Murray street, between Broadway and Greenwich street.
12	Warren street, between Broadway and Greenwich street.
12	Reade street, between Broadway and West Broadway.
12	Duane street, between Broadway and West Broadway.
12	Thomas street, between Church street and West Broadway.
12	Worth street, between Broadway and West Broadway.
12	Leonard street, between Broadway and West Broadway.
12	Franklin street, between Broadway and West Broadway.
12	White street, between Broadway and West Broadway.
12	Walker street, between Broadway and West Broadway.
12	Lispenard street, between Broadway and West Broadway.
20	Fifth avenue, between Fifty-seventh and Fourth streets.
20	William street, between Chambers and Frankfort streets.
20	Frankfort street, between William and Nassau streets.
20	Nassau street, between Frankfort and Wall streets.
20	Church street, between Fulton and Greenwich streets.
20	Wooster street, between Fourth and Canal streets.
12	Crosby street, between Bleecker and Howard streets.
12	Mercer street, between Canal and Eighth streets.
20	Seventh avenue, between Eleventh and Fifty-seventh streets.
12	University Place, between Fourth and Tenth streets.
12	Tenth avenue, between Gansevoort and Forty-second streets.
12	Eleventh avenue, between Fourteenth and Fiftieth streets.
36	First avenue, between Houston and Fourteenth streets.
36	Houston street, between First avenue and Orchard street.
36	Orchard street, between Houston and Division streets.
30	Division and Pike streets, between Orchard street and East Broadway.
12	Chrystie street, between Houston and Division streets.
12	Elizabeth street, between Bleecker and Bayard streets.
12	Elm street, between Spring and Reade streets.
12	Washington street, between Battery Place and Gansevoort street.
12	Beekman and Mail streets, between Nassau street and Broadway.
12	Maiden Lane, between William and Pearl streets.
12	Broad street, between Wall and Beaver streets.
12	Jackson street, between Cherry and Grand streets.
12	Bond street, between Bowery and Broadway.
12	Fourth avenue, between Eighth and Thirty-third streets.
12	Eighth street, between Fourth avenue and Lafayette place.
12	Lafayette place, between Eighth and Great Jones streets.
12	Great Jones street, between Bowery and Broadway.
12	Beaver street, between Broadway and Pearl street.
12	Frankfort street, between William and Pearl streets.
12	Cherry street, between Jackson and East streets.
12	Greene street, between Third and Eighth streets.
12	Twenty-second street, between First and Third avenues.
12	Fifteenth street, between Broadway and Seventh avenue.
12	West street, between Gansevoort and West Eleventh streets.
12	Twenty-third street, between Avenue A and Seventh avenue.
12	Rose street, between Frankfort and William streets.
20	Being 33,804 feet of 12-inch pipe.
20	Canal street, between Mott and Orchard streets.
	Being 1,757 feet of 20-inch pipe.

## PIPE LAID IN 1882.

## Thirty-six-inch Pipe.

Jerome avenue, from fifteen hundred feet south of One Hundred and Seventy-seventh street, northward.

## Twenty-inch Pipe.

Canal street, from Orchard to Mott street.

## Twelve-inch Pipe.

St. Ann's avenue, between One Hundred and Thirty-seventh and One Hundred and Thirty-eighth streets.

Seventh avenue, between One Hundred and Twenty-second and One Hundred and Twenty-third streets.

Sixth avenue, between One Hundred and Twenty-fourth and One Hundred and Twenty-fifth streets.

Broad street, between Wall and South streets.

Beaver street, between Whitehall and Pearl streets.

Maiden Lane, between William and Pearl streets.

Jackson street, between Grand and Cherry streets.

Bond street, between Bowery and Broadway.

Great Jones street, between Bowery and Broadway.

Frankfort street, between William and Pearl streets.



Ninth avenue, between Eighty-sixth and Eighty-seventh streets.  
 Southern Boulevard crossing One Hundred and Forty-first street.  
 Lafayette place, between Great Jones street and Astor place.  
 Astor place, between Lafayette place and Fourth avenue.  
 Rose street, between Frankfort and Pearl streets.  
 Fourth avenue, between Sixty-seventh and Seventy-second streets (both sides).  
 Fourth avenue, between Astor place and Thirteenth street.  
 Fourth avenue, between Fifteenth and Thirty-third streets.  
 Fourth avenue, between One Hundred and First and One Hundred and Third streets.  
 Cherry street, between Jackson and Grand streets.  
 West street, between West Eleventh and Gansevoort streets.  
 Twelfth avenue, between One Hundred and Thirty-first and One Hundred and Thirty-third streets.  
 Greene street, between Third and Eighth streets.  
 Fifteenth street, between Broadway and Seventh avenue.  
 Lexington avenue, between One Hundred and Fifth and One Hundred and Sixteenth streets.  
 Twenty-second street, between First and Third avenues.  
 Twenty-third street, between Avenue A and Seventh street.  
 Madison avenue, between One Hundred and Ninth and One Hundred and Tenth streets.  
 Madison avenue, between One Hundred and Twentieth and One Hundred and Twenty-first streets.  
 Ninth avenue, between Seventy-eighth and Seventy-ninth streets.  
 Fourth avenue, between One Hundred and Ninth and One Hundred and Tenth streets.

*Six-inch Pipe.*

One Hundred and Thirty-seventh street, between St. Ann's Avenue and Southern Boulevard.  
 Ninety-ninth street, between Second and Third avenues.  
 One Hundred and Twenty-eighth street, between Seventh and Eighth avenues.  
 One Hundred and Sixtieth street, between Tenth avenue and 400 feet west.  
 Elton avenue, between One Hundred and Fifty-fourth and One Hundred and Sixty-second streets.  
 Madison avenue, between One Hundred and Seventy-second and One Hundred and Seventy-seventh streets.  
 One Hundred and Seventy-second street, between Third and Madison avenues.  
 One Hundred and Sixty-ninth street, between Boston and Union avenues.  
 Terrace place, between One Hundred and Fifty-seventh and One Hundred and Sixty-first streets.  
 Riverdale avenue, Sidney street, etc., Twenty-fourth Ward.  
 One Hundred and Fifty-sixth street, between Courtland and Railroad avenues.  
 One Hundred and Twenty-second street, between Seventh and Eighth avenues.  
 One Hundred and Fifteenth street, between Fifth and Sixth avenues.  
 One Hundred and Third street, between First and Second avenues.  
 One Hundred and Seventh street, between Second avenue and East river.  
 Eighty-seventh street, between Ninth and Tenth avenues.  
 Bergen avenue, between Westchester avenue and Grove street.  
 Concord avenue, between One Hundred and Forty-first street and Mary's street.  
 Robbins avenue, between One Hundred and Forty-first street and Mary's street.  
 Avenue A, between Seventy-fourth and Seventy-seventh streets (both sides).  
 One Hundred and Forty-first street, between South Boulevard and Robbins avenue.  
 Delmonico place, between Cedar and Wall streets.  
 Delafield's property, Riverdale, Twenty-fourth Ward.  
 One Hundred and Thirty-fourth street, between Brown place and 200 feet west.  
 One Hundred and Thirty-fifth street, between Third avenue and Canal street.  
 One Hundred and Thirty-sixth street, between Willis avenue and 200 feet east.  
 One Hundred and Sixty-fourth street, between Third and Washington avenues.  
 One hundred and Fourth street, between Avenue A and First avenue.  
 Ninety-third street, between First and Second avenues.  
 St. Nicholas avenue, between One Hundred and Forty-fifth and One Hundred and Fiftieth streets (both sides).  
 One Hundred and Fifty-third street, between St. Nicholas and Tenth avenues.  
 Seventy-sixth street, between Boulevard and Ninth avenue.  
 One Hundred and Sixty-eighth street, between Boston and Union avenues.  
 Seventieth street, between Boulevard and Ninth avenue.  
 One Hundred and Thirty-seventh street, between Southern Boulevard and Willow avenue.  
 Stewart's lane, from Riverdale avenue east.  
 One Hundred and Fifty-third street, between Courtland and Morris avenues.  
 One Hundred and Sixty-third street, between Morris and Fleetwood avenues.  
 Eighty-second street, between Ninth and Tenth avenues.  
 Sixty-eighth street, between Avenue A and First avenue.  
 Devoe street, between Ogden and Lind avenues.  
 Ninety-seventh street, between Third and Fourth avenues.  
 One Hundred and Ninth street, between Fourth and Madison avenues.  
 One Hundred and Twentieth street, between Fourth and Madison avenues.  
 One Hundred and Forty-eighth street, between Third and Courtland avenues.  
 Ninth avenue, between One Hundred and Fifty-first and One Hundred and Fifty-fourth streets.  
 One Hundred and Forty-second street, between Willis and Brook avenues.  
 Eighty-first street, between Ninth and Tenth avenues.  
 Ninety-seventh street, between Second and Third avenues.  
 Sixty-first street, between Tenth and Eleventh avenues.  
 One Hundred and Ninth street, between Third and Fourth avenues.

*Four-inch Pipe.*

Blackwell's Island, from Penitentiary to boiler-house.

*"B" Hydrants set in 1882.*

1 southwest corner Broad and Wall streets.  
 1 east side Broad street, between Wall and Exchange place.  
 1 northeast corner Broad street and Exchange place.  
 1 southeast corner Broad street and Exchange place.  
 1 west side Broad street, south of Exchange place.  
 1 east side Broad street, north of Beaver street.  
 1 northwest corner Broad and Beaver streets.  
 1 southeast corner Broad and Beaver streets.  
 1 west side Broad, north of Stone street.  
 1 east side Broad, opposite Stone street.  
 1 southwest corner Broad and Stone streets.  
 1 northeast corner Broad and Pearl streets.  
 1 northwest corner Broad and Pearl streets.  
 1 southwest corner Broad and Pearl streets.  
 1 northeast corner Broad and Water streets.  
 1 southwest corner Broad and Water streets.  
 1 northeast corner Broad and Front streets.  
 1 southeast corner Broad and Front streets.  
 1 west side Broad street, between Front and South streets.  
 1 northeast corner Broad and South streets.  
 1 southeast corner Maiden Lane and William street.  
 1 north side Maiden Lane, between William and Gold streets.  
 2 south side Maiden Lane, between Liberty and Pearl streets.  
 1 southeast corner Jackson and Grand streets.  
 1 east side Jackson street, between Madison and Monroe streets.  
 1 southwest corner Jackson and Monroe streets.  
 1 northeast corner Jackson and Cherry streets.  
 1 northwest corner Twenty-second street and First avenue.  
 1 north side Twenty-second street, between First and Second avenues.  
 1 southeast corner Twenty-second street and Second avenue.  
 1 northwest corner Twenty-second street and Second avenue.  
 1 north side Twenty-second street, between Second and Third avenues.  
 1 southeast corner Twenty-second street and Third avenue.  
 2 south side Fifteenth street, between Broadway and Fifth avenue.  
 1 northeast corner Fifteenth street and Fifth avenue.  
 2 north side Fifteenth street, between Fifth and Sixth avenues.  
 1 south side Fifteenth street, between Fifth and Sixth avenues.  
 1 southeast corner Fifteenth street and Sixth avenue.  
 1 northwest corner Fifteenth street and Sixth avenue.  
 2 south side Fifteenth street, between Sixth and Seventh avenues.  
 2 south side Twenty-third street, between Avenue A and First avenue.  
 2 north side Twenty-third street, between Avenue A and First avenue.  
 3 north side Twenty-third street, between First and Second avenues.  
 2 south side Twenty-third street, between First and Second avenues.

2 south side Twenty-third street, between Second and Third avenues.  
 2 north side Twenty-third street, between Second and Third avenues.  
 2 south side Twenty-third street, between Third and Lexington avenues.  
 1 southwest corner Twenty-third street and Lexington avenue.  
 1 north side Twenty-third street, between Lexington and Fourth avenues.  
 1 southeast corner Twenty-third street and Fourth avenue.  
 1 southwest corner Twenty-third street and Fourth avenue.  
 1 northeast corner Twenty-third street and Madison avenue.  
 1 southeast corner Twenty-third street and Broadway.  
 2 south side Twenty-third street, between Fifth and Sixth avenues.  
 1 southeast corner Fourth avenue and Twenty-fifth street.  
 1 northwest corner Fourth avenue and Twenty-fifth street.  
 1 southwest corner Fourth avenue and Twenty-sixth street.  
 1 northeast corner Fourth avenue and Twenty-sixth street.  
 1 east side Fourth avenue, between Twenty-seventh and Twenty-eighth streets.  
 1 east side Fourth avenue, between Twenty-eighth and Twenty-ninth streets.  
 1 southeast corner Fourth avenue and Thirtieth street.  
 1 northeast corner Fourth avenue and Thirtieth street.  
 1 west side Fourth avenue, between Thirtieth and Thirty-first streets.  
 1 southeast corner Fourth avenue and Thirty-first street.  
 1 northeast corner Fourth avenue and Thirty-first street.  
 1 west side Fourth avenue, between Thirty-first and Thirty-second streets.  
 1 southwest corner Fourth avenue and Thirty-second street.  
 1 northeast corner Fourth avenue and Thirty-second street.  
 1 northeast corner Fourth avenue and Thirty-third street.  
 1 northwest corner Canal and Orchard streets.  
 1 southwest corner Canal and Allen streets.  
 1 northeast corner Canal and Eldridge streets.  
 1 southwest corner Canal and Eldridge streets.  
 1 southeast corner Canal and Forsyth streets.  
 1 northeast corner Canal and Chrystie streets.  
 1 southwest corner Canal and Chrystie streets.  
 1 north side Canal, between Chrystie street and Bowery.  
 1 northwest corner Canal and Bowery.  
 1 northeast corner Canal and Elizabeth streets.  
 1 north side Canal, between Elizabeth and Mott streets.  
 2 north side Twenty-third street, between Fifth and Sixth avenues.  
 1 northwest corner Twenty-third street and Sixth avenue.  
 1 south side Twenty-third street, between Sixth and Seventh avenues.  
 1 northeast corner Beaver and Whitehall streets.  
 1 southeast corner of Beaver and New streets.  
 1 northwest corner of Beaver and Broad streets.  
 1 southwest corner Beaver and South William streets.  
 1 southeast corner Beaver and Pearl streets.  
 1 south side Frankfort street, east of William street.  
 1 south side Frankfort street, opposite Vandewater street.  
 1 south side Frankfort street, between Jacob and Cliff streets.  
 1 southwest corner Frankfort and Pearl streets.  
 1 northwest corner Rose and Frankfort streets.  
 1 west side Rose street, between Frankfort and Duane streets.  
 1 southwest corner Rose and Duane streets.  
 1 east side Rose street, between Duane and Pearl streets.  
 1 north side Cherry street, between Jackson and Corlears streets.  
 2 south side Cherry street, between Jackson and Corlears streets.  
 2 south side Cherry street, between Corlears and East streets.  
 1 southwest corner East and Grand streets.  
 1 northeast corner Greene and Amity streets.  
 1 southwest corner Greene and Fourth streets.  
 1 northeast corner Greene and Fourth streets.  
 1 southwest corner Greene street and Washington place.  
 1 northwest corner Greene street and Washington place.  
 1 southwest corner Greene street and Waverley place.  
 1 northeast corner Greene street and Waverley place.  
 2 north side Bond street, between Bowery and Broadway.  
 1 south side Bond street, between Bowery and Broadway.  
 3 south side Great Jones street, between Bowery and Broadway.  
 1 northwest corner Lafayette place and Great Jones street.  
 1 northwest corner Lafayette place and Fourth street.  
 2 east side Lafayette place, between Fourth street and Astor place.  
 1 west side Lafayette place, between Fourth street and Astor place.  
 1 southeast corner Fourth avenue and Astor place.  
 1 southwest corner Fourth avenue and Ninth street.  
 1 southeast corner Fourth avenue and Tenth street.  
 1 northwest corner Fourth avenue and Tenth street.  
 1 southeast corner Fourth avenue and Eleventh street.  
 1 southwest corner Fourth avenue and Twelfth street.  
 1 northeast corner Fourth avenue and Twelfth street.  
 1 southeast corner Fourth avenue and Thirteenth street.  
 1 east side Fourth avenue, between Fifteenth and Sixteenth streets.  
 1 southeast corner Fourth avenue and Eighteenth street.  
 1 southwest corner Fourth avenue and Eighteenth street.  
 1 southeast corner Fourth avenue and Nineteenth street.  
 1 northeast corner Fourth avenue and Nineteenth street.  
 1 southeast corner Fourth avenue and Twentieth street.  
 1 northwest corner Fourth avenue and Twentieth street.  
 1 northwest corner Fourth avenue and Twenty-first street.  
 1 southeast corner Fourth avenue and Twenty-second street.  
 1 southeast corner Fourth avenue and Twenty-third street.  
 1 southeast corner Fourth avenue and Twenty-fourth street.  
 1 northeast corner Fourth avenue and Twenty-fourth street.  
 1 east side Greene street, between Waverley place and Eighth street.  
 1 southwest corner Greene street and Eighth street.  
 1 northwest corner West street and West Eleventh street.  
 1 west side West street, between West Eleventh and Bank streets.  
 1 east side West street, between West Eleventh and Bank streets.  
 1 east side West street, between Bank and Bethune streets.  
 1 west side West street, between Bank and Bethune streets.  
 1 northwest corner West street and Bethune street.  
 1 southeast corner West street and West Twelfth street.  
 1 west side West street, between West Twelfth and Jane streets.  
 1 east side West street, between West Twelfth and Jane streets.  
 1 east side West street, between Jane and Horatio streets.  
 1 west side West street, between Jane and Horatio streets.  
 1 west side West street, between Horatio and Gansevoort streets.

168 Total.

*Double Nozzle Case Hydrants Placed in 1882.*

1 southwest corner Third avenue and Twenty-fourth street.  
 1 west side Third avenue, in front of No. 334.  
 1 northeast corner Broadway and Twenty-fifth street.  
 1 northwest corner Broadway and Twenty-sixth street.  
 1 southwest corner Third avenue and Twenty-sixth street.  
 1 southwest corner Third avenue and Twenty-seventh street.  
 1 east side Broadway, in front of No. 1164.  
 1 southwest corner Madison avenue and Twenty-eighth street.  
 1 south side East Twenty-eighth street, in front of No. 36.  
 1 southwest corner Twenty-eighth street and Fourth avenue.  
 1 southeast corner Twenty-eighth street and Fourth avenue.  
 1 southwest corner Twenty-eighth street and Lexington avenue.  
 1 south side East Twenty-eighth street, in front of No. 136.  
 1 south side East Twenty-eighth street, in front of No. 166.  
 1 south side East Twenty-eighth street, in front of No. 236.  
 1 south side East Twenty-eighth street, in front of No. 306.  
 1 north side East Twenty-eighth street, in front of No. 335.  
 1 southeast corner Third avenue and Twenty-eighth street.  
 1 southeast corner First avenue and Twenty-eighth street.  
 1 northeast corner First avenue and Twenty-eighth street.  
 1 southwest corner First avenue and Twenty-eighth street.  
 1 southwest corner Third avenue and Thirtieth street.  
 1 southeast corner Third avenue and Thirtieth street.  
 1 southwest corner Third avenue and Thirty-first street.



- 1 southwest corner Twenty-ninth street and First avenue.
- 1 south side East Twenty-ninth street, in front of No. 332.
- 1 north side East Twenty-ninth street, in front of No. 309.
- 1 south side East Twenty-ninth street, in front of No. 234.
- 1 southeast corner Twenty-ninth street and Third avenue.
- 1 north side East Twenty-ninth street, in front of No. 135.

30 Total.

*Single Nozzle Case Hydrants Placed in 1882.*

- 1 southwest corner Second avenue and Twenty-seventh street.
- 1 southeast corner Lexington avenue and Twenty-seventh street.
- 1 northwest corner Fourth avenue and Twenty-seventh street.
- 1 southwest corner Lexington avenue and Twenty-sixth street.
- 1 north side East Twenty-sixth street, in front of No. 149.
- 1 south side East Twenty-sixth street, in front of No. 206.
- 1 south side East Twenty-sixth street, in front of No. 234.
- 1 north side East Twenty-sixth street, in front of No. 303.
- 1 north side East Twenty-sixth street, in front of No. 317.
- 1 south side East Twenty-sixth street, in front of No. 416.
- 1 north side East Twenty-seventh street, in front of No. 35.
- 1 east side Madison avenue, in front of No. 63.
- 1 north side East Thirtieth street, in front of No. 13.
- 1 south side East Thirtieth street, in front of No. 32.
- 1 north side East Thirtieth street, in front of No. 117.
- 1 south side East Thirtieth street, in front of No. 142.
- 1 south side East Thirtieth street, in front of No. 236.
- 1 southeast corner Madison avenue and Thirtieth street.
- 1 southeast corner Lexington avenue and Thirtieth street.
- 1 southeast corner Second avenue and Thirtieth street.
- 1 north side East Thirtieth street, in front of No. 317.
- 1 south side East Thirtieth street, in front of No. 338.
- 1 north side East Thirty-first street, in front of No. 5.
- 1 south side East Thirty-first street, in front of No. 14.
- 1 south side East Thirty-first street, in front of No. 32.
- 1 south side East Twenty-fourth street, in front of No. 208.
- 1 north side East Twenty-fourth street, in front of No. 235.
- 1 north side East Twenty-fourth street, in front of No. 341.
- 1 south side East Twenty-fourth street, 100 feet east of First avenue.
- 1 south side East Twenty-fifth street, in front of No. 338.
- 1 north side East Twenty-fifth street, in front of No. 303.
- 1 northeast corner Twenty-fourth street and Second avenue.
- 1 west side First avenue, in front of No. 431.
- 1 south side East Twenty-fifth street, in front of No. 238.
- 1 north side East Twenty-fifth street, in front of No. 211.
- 1 south side East Twenty-fifth street, in front of No. 150.
- 1 south side East Twenty-fifth street, in front of No. 112.
- 1 southeast corner Lexington avenue and Twenty-fifth street.
- 1 north side West Twenty-sixth street, in front of No. 17.
- 1 south side West Twenty-sixth street, in front of No. 40.
- 1 north side West Twenty-sixth street, in front of No. 117.
- 1 northwest corner Madison avenue and Twenty-sixth street.
- 1 southeast corner Madison avenue and Twenty-sixth street.
- 1 southeast corner Fourth avenue and Twenty-sixth street.
- 1 east side First avenue opposite Twenty-seventh street.
- 1 south side East Twenty-seventh street, in front of No. 320.
- 1 south side East Twenty-seventh street, in front of No. 236.
- 1 north side East Twenty-seventh street, in front of No. 203.
- 1 south side East Twenty-seventh street, in front of No. 148.
- 1 south side East Twenty-seventh street, in front of No. 120.
- 1 north side East Thirty-first street, in front of No. 43.
- 1 south side East Thirty-first street, in front of No. 104.
- 1 north side East Thirtieth street, 250 feet east of First avenue.
- 1 northwest corner Madison avenue and Thirty-first street.
- 1 southeast corner Madison avenue and Thirty-first street.
- 1 north side East Thirty-first street, in front of No. 125.
- 1 north side East Thirty-first street, in front of No. 141.
- 1 north side East Thirty-first street, in front of No. 163.
- 1 south side East Thirty-first street, in front of No. 208.
- 1 south side East Thirty-first street, in front of No. 242.
- 1 north side East Thirty-first street, in front of No. 309.
- 1 south side East Thirty-first street, in front of No. 340.
- 1 southwest corner Lexington avenue and Thirty-first street.
- 1 southeast corner Lexington avenue and Thirty-first street.
- 1 northeast corner Twenty-ninth street and First avenue.

65 Total.

*"A" Hydrants set in 1882.*

- 1 northeast corner One Hundred and Thirty-seventh street and St. Ann's avenue.
- 1 northwest corner One Hundred and Thirty-seventh street and Cypress avenue.
- 1 northwest corner One Hundred and Thirty-seventh street and Southern Boulevard.
- 1 northeast corner Ninety-ninth street and Third avenue.
- 3 on One Hundred and Twenty-eighth street, between Seventh and Eighth avenues.
- 1 on One Hundred and Sixtieth street, 120 feet west of Elton avenue.
- 1 northwest corner Elton avenue and One Hundred and Fifty-sixth street.
- 1 northwest corner Elton avenue and One Hundred and Sixtieth street.
- 1 northwest corner Elton avenue and One Hundred and Sixty-first street.
- 1 west side Madison avenue, 200 feet south of One Hundred and Seventy-second street.
- 1 west side Madison avenue, between One Hundred and Seventy-second and One Hundred and Seventy-third streets.
- 1 northwest corner Madison avenue and One Hundred and Seventy-third street.
- 1 southwest corner Madison avenue and One Hundred and Seventy-fourth street.
- 1 northwest corner Madison avenue and One Hundred and Seventy-fourth street.
- 1 southwest corner Madison avenue and One Hundred and Seventy-fifth street.
- 1 northwest corner Madison avenue and One Hundred and Seventy-fifth street.
- 1 southwest corner Madison avenue and One Hundred and Seventy-sixth street.
- 1 west side Madison avenue, between One Hundred and Seventy-sixth and One Hundred and Seventy-seventh streets.
- 1 northwest corner One Hundred and Sixty-ninth street and Union avenue.
- 1 northwest corner Terrace place and One Hundred and Sixtieth street.
- 1 northwest corner Terrace place and One Hundred and Sixty-first street.
- 3 north side One Hundred and Twenty-second street, between Seventh and Eighth avenues.
- 1 northwest corner One Hundred and Fifty-sixth street and Courtland avenue.
- 1 northwest corner One Hundred and Fifty-sixth street and College avenue.
- 2 north side One Hundred and Fifteenth street, between Fifth and Sixth avenues.
- 1 southeast corner One Hundred and Fifteenth street and Sixth avenue.
- 1 northwest corner One Hundred and Sixtieth street and Tenth avenue.
- 1 north side One Hundred and Sixtieth street, 400 feet west of Tenth avenue.
- 1 east side Fourth avenue, between Eleventh and Twelfth streets.
- 1 southwest corner Fourth avenue and Thirteenth street.
- 1 east side Fourth avenue, between Sixteenth and Seventeenth streets.
- 1 northwest corner Fourth avenue and Seventeenth street.
- 1 northeast corner Fourth avenue and Twenty-first street.
- 1 southwest corner Fourth avenue and Twenty-second street.
- 1 southwest corner Lexington avenue and Thirty-third street.
- 1 northeast corner One Hundred and Sixty-fourth street and Washington avenue.
- 1 northeast corner One Hundred and Fourth street and First avenue.
- 1 northeast corner Ninety-third street and Second avenue.
- 1 northwest corner Ninety-third street and First avenue.
- 1 northwest corner St. Nicholas avenue and One Hundred and Forty-fifth street.
- 1 northwest corner St. Nicholas avenue and One Hundred and Forty-sixth street.
- 1 southeast corner St. Nicholas avenue and One Hundred and Forty-seventh street.
- 1 southeast corner St. Nicholas avenue and One Hundred and Forty-eighth street.
- 1 northwest corner St. Nicholas avenue and One Hundred and Forty-ninth street.
- 2 north side One Hundred and Fifty-third street, between Tenth and St. Nicholas avenues.
- 1 northeast corner Seventy-sixth street and Boulevard.
- 3 north side Seventy-sixth street, between Ninth and Tenth avenues.
- 1 northeast corner Twelfth avenue and One Hundred and Thirty-first street.
- 1 northeast corner Twelfth avenue and One Hundred and Thirty-second street.

- 1 northeast corner Twelfth avenue and One Hundred and Thirty-third street.
- 1 northwest corner One Hundred and Sixty-eighth street and Union avenue.
- 1 northwest corner One Hundred and Sixty-eighth street and Tinton avenue.
- 1 northwest corner Seventieth street and Ninth avenue.
- 1 northeast corner Seventieth street and Boulevard.
- 1 northwest corner One Hundred and Thirty-seventh street and Willow avenue.
- 1 northwest corner Avenue A and Seventy-fourth street.
- 1 northeast corner Avenue A and Seventy-fifth street.
- 1 northeast corner Avenue A and Seventy-sixth street.
- 1 southwest corner Avenue A and Seventy-seventh street.
- 1 east side Lafayette place, north of Fourth street.
- 1 northeast corner Lafayette and Astor place.
- 1 east side Rose street, between Frankfort and Duane streets.
- 1 northwest corner Delmonico place and Cedar street.
- 1 west side Delmonico place, south of Cliff street.
- 1 west side Delmonico place, north of Cliff street.
- 1 northwest corner Delmonico place, and One Hundred and Sixty-third street.
- 1 west side Delmonico place, between Teasdale place and One Hundred and Sixty-fourth street.
- 1 west side Delmonico place, between One Hundred and Sixty-fourth and One Hundred and Sixty-fifth streets.
- 1 west side Fourth avenue, between Sixty-seventh and Sixty-eighth streets.
- 1 east side Fourth avenue, between Sixty-seventh and Sixty-eighth streets.
- 1 east side Fourth avenue, between Sixty-eighth and Sixty-ninth streets.
- 1 west side Fourth avenue, between Sixty-ninth and Seventieth streets.
- 1 east side Fourth avenue, between Sixty-ninth and Seventieth streets.
- 1 west side Fourth avenue, between Seventieth and Seventy-first streets.
- 1 west side Fourth avenue, between Seventy-first and Seventy-second streets.
- 1 east side Fourth avenue, between Seventy-first and Seventy-second streets.
- 1 southwest corner One Hundred and Thirty-fifth street and Third avenue.
- 1 northwest corner One Hundred and Thirty-fifth street and College place.
- 1 northwest corner Fourth avenue and One Hundred and Third street.
- 1 southwest corner Fourth avenue and One Hundred and Second street.
- 1 southwest corner Fourth avenue and One Hundred and First street.
- 1 east side Fourth avenue, between Ninth and Tenth streets.
- 1 northwest corner One Hundred and Third street and First avenue.
- 1 northeast corner Beaver and Broad streets.
- 1 northeast corner Beaver and William streets.
- 1 northeast corner Beaver and Hanover streets.
- 1 southwest corner Beaver and Hanover streets.
- 1 northeast corner Maiden Lane and William street.
- 1 northeast corner Maiden Lane and Gold street.
- 1 northwest corner Maiden Lane and Pearl street.
- 2 south side Bond street, between Bowery and Broadway.
- 1 south side Great Jones street, between Lafayette place and Broadway.
- 1 north side Great Jones street, between Lafayette place and Bowery.
- 1 northwest corner One Hundred and Seventh street and First avenue.
- 1 northeast corner One Hundred and Seventh street and First avenue.
- 1 northwest corner One Hundred and Seventh street and Avenue A.
- 1 northeast corner Frankfort and Cliff streets.
- 1 northeast corner Frankfort and Jacob streets.
- 1 northeast corner Frankfort and Gold streets.
- 1 northeast corner Frankfort and William streets.
- 3 north side of Eighty-seventh street, between Ninth and Tenth avenues.
- 1 west side Bergen avenue, between Westchester avenue and Rose street.
- 1 northwest corner Bergen avenue and Rose street.
- 1 southwest corner Bergen avenue and One Hundred and Fifty-third street.
- 1 north side One Hundred and Forty-first street, between Concord and Robbins avenues.
- 1 east side Robbins avenue, 200 feet north of One Hundred and Forty-first street.
- 1 northwest corner Concord avenue and One Hundred and Forty-first street.
- 1 southwest corner Concord avenue and Mary's street.
- 1 northeast corner Avenue A and Seventy-fourth street.
- 1 east side Lexington avenue, between One Hundred and Sixth and One Hundred and Seventh streets.
- 1 west side Lexington avenue, between One Hundred and Eighth and One Hundred and Ninth streets.
- 1 northwest corner Lexington avenue and One Hundred and Ninth street.
- 1 west side Lexington avenue, between One Hundred and Eleventh and One Hundred and Twelfth streets.
- 1 west side Lexington avenue, between One Hundred and Twelfth and One Hundred and Thirteenth streets.
- 1 east side Lexington avenue, between One Hundred and Thirteenth and One Hundred and Fourteenth streets.
- 1 west side Lexington avenue, between One Hundred and Fourteenth and One Hundred and Fifteenth streets.
- 1 west side Lexington avenue, between One Hundred and Fifteenth and One Hundred and Sixteenth streets.
- 3 north side One Hundred and Fifty-third street, between Courtland and Morris avenues.
- 2 north side One Hundred and Sixty-third street, between Fleetwood and Morris avenues.
- 1 northeast corner Sixty-eighth street and First avenue.
- 1 northwest corner Sixty-eighth street and Avenue A.
- 1 northeast corner Devoe street and Aqueduct avenue.
- 1 northeast corner Devoe street and Lind avenue.
- 1 northwest corner Ninety-seventh street and Third avenue.
- 1 northwest corner Ninety-seventh street and Lexington avenue.
- 1 northeast corner Ninety-seventh street and Fourth avenue.
- 1 northwest corner One Hundred and Ninth street and Fourth avenue.
- 1 northeast corner One Hundred and Ninth street and Madison avenue.
- 1 northeast corner One Hundred and Twentieth street and Madison avenue.
- 1 northwest corner One Hundred and Twentieth street and Fourth avenue.
- 1 northeast corner One Hundred and Forty-eighth street and Courtland avenue.
- 1 northwest corner Ninth avenue and One Hundred and Fifty-second street.
- 1 northwest corner Ninth avenue and One Hundred and Fifty-third street.
- 1 southwest corner Ninth avenue and One Hundred and Fifty-fourth street.
- 1 north side Nineteenth street, between Tenth and Eleventh avenues.
- 3 north side One Hundred and Forty-second street, between Willis and Brook avenues.
- 2 north side Eighty-first street, between Ninth and Tenth avenues.
- 1 northeast corner Ninety-seventh street and Third avenue.
- 1 southwest corner Seventy-eighth street and Ninth avenue.
- 1 north side Sixty-first street, between Tenth and Eleventh avenues.
- 1 north side One Hundred and Ninth street, between Fourth and Lexington avenues.
- 1 north side One Hundred and Ninth street, between Third and Lexington avenues.
- 1 north side One Hundred and Twenty-seventh street, west of Fourth avenue.
- 1 south side One Hundred and Twenty-seventh street, between Fifth and Sixth avenues.
- 1 north side One Hundred and Twenty-eighth street, west of Fourth avenue.
- 1 north side One Hundred and Twenty-eighth street between Madison and Fifth avenues.
- 1 north side One Hundred and Twenty-eighth street, between Sixth and Seventh avenues.
- 1 north side One Hundred and Twenty-ninth street, between Third and Lexington avenues.
- 1 north side One Hundred and Twenty-ninth street, between Madison and Fifth avenues.
- 1 northwest corner One Hundred and Twenty-ninth street and Seventh avenue.
- 1 north side One Hundred and Thirtieth street, between Third and Lexington avenues.
- 1 northwest corner One Hundred and Thirty-second street and Fifth avenue.

169 Total.

*No. 1 Hydrants Set in 1882.*

- 1 north side One Hundred and Twenty-eighth street, between Third and Lexington avenues.
- 1 northwest corner One Hundred and Thirty-first street and Madison avenue.
- 1 southwest corner Southern Boulevard and Lincoln avenue.
- 1 Kingsbridge road and One Hundred and Ninety-fifth street.
- 1 in Delafield's property, Riverdale.
- 1 in Sherman's property, Riverdale.
- 1 southeast corner Riverdale avenue and Northern Terrace.
- 3 east side Riverdale avenue, between Northern Terrace and Sidney street.
- 1 northwest corner Sidney street and Independence avenue.
- 1 northeast corner Sidney street and Westchester avenue.
- 1 northeast corner Sidney and Tray streets.
- 1 southwest corner Independence and Palisade avenues.
- 1 on Blackwell's Island, south of boiler house.
- 1 northwest corner One Hundred and Fourth street and Avenue A.

16 Total.



## SUPPLY OF WATER FOR PUTTING OUT FIRE.

NEW YORK, June 27, 1882.

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

SIR—I beg leave to present the following statement, respecting the communication of the 11th inst., of the Fire Department, which you have handed to me for examination.

The Fire Department urge that the following changes and additions be made to the distributing system of the city:

First.—“That new water-mains, not less than twelve inches in diameter, should be laid in all the following-named streets:

West street, from the Battery to West Eleventh street.  
South street, from the Battery to Montgomery street.  
Park place, from Church street to College place.  
Reade street, from Broadway to Centre street.  
West Broadway, from Chambers to Canal street.  
\* Thomas street, from Broadway to Church street.  
Broome street, from Bowery to Sullivan street.  
Spring street, from Bowery to Sullivan street.  
Twenty-second street, from Third to Seventh avenue.  
Twenty-fourth street, from Fifth avenue to North river.  
New street, from Wall to Beaver street.  
Vandewater street, from Frankfort to Pearl street.  
Beekman street, from Nassau to South street.  
Gold street, from Frankfort street to Maiden Lane.

The twelve-inch pipe in Elizabeth street to be extended from Bayard street to Mott and Bayard streets, or through Bayard street, Bowery and Chatham street to Mott street, and connected with Mott street main. A new stop-cock to be placed at Chatham Square on the main south of the connection of the Elizabeth street pipe. The gate at Sixth street to be opened to its full capacity to furnish a sufficient supply of water to the hydrants on Mott and Elizabeth streets.

Additional fire hydrants are required east of Broadway, from State to Wall street, east of Nassau, Chatham and Division streets, south of Grand street. In this section they are very much needed; also in the district north of Twenty-eighth street, from the East river to Fifth avenue, north of Thirty-third street, from Fifth avenue to North river, excepting that on Tenth avenue to Forty-second street and on Eleventh avenue to Fiftieth street a sufficient number are located.

Also on the twenty-four-inch pipe in Ninth avenue, on the twenty-inch pipe on Fifth avenue, from Twenty-ninth to Fifty-seventh street, as at present there are only eight hydrants on that pipe between those streets. On the forty-eight-inch pipe in First avenue, from Fourteenth to Eighty-third street, as there are only a few hydrants scattered here and there on the highest points, and on Third avenue, from Seventh to Seventy-ninth streets.

Generally there should be two hydrants on avenue corners, at each street crossing, and at least two additional on the streets between the avenues, and as a rule the entire city should be covered with hydrants, not more than two hundred feet apart.”

It is estimated that to lay 12-inch pipes in the streets above-named with the large hydrants and stop-cocks which would be necessary would require 45,750 lineal feet at \$3.50 per foot=\$160,125. Park place, between Church street and College place, is so occupied by vaults in the roadway that it appears to be impracticable to lay mains and place hydrants in this street.

The sidewalks on New and Gold streets are so narrow that the large hydrants would be a serious obstruction.

In Beekman street the only place to lay a main would be under the track of the railroad, and most of the hydrants would be in vaults.

Thomas street, between Broadway and Church street, is private property, and the vaults extend across and under the roadway.

To place a stop-cock on the 36-inch main in Chatham Square would cost \$3,500, and if shut would to a great extent destroy the circulation in that part of the city below Canal street.

To place hydrants on the several old mains in the city, as called for by this letter, on each corner, and at least 200 feet apart on side streets, where there are none at present, and on the several large mains, would require, say 3,000 hydrants at \$150=\$450,000.

Second.—“It is recommended by the Fire Department that cisterns as adjuncts to the water pipes be built in the populated sections of the city, especially on Broadway, as high as Twenty-third street. On Canal street, in the immediate vicinity of the large furniture warehouses. On Grand street, in the vicinity of Allen street, on Hudson street and all other sections of the city where combustible goods stored in extensive warehouses may, in case of fire, make necessary the use of a large quantity of water.”

The Fire Department has omitted to state either the capacity of the proposed cisterns, their depth, number or location; hence it is impossible to make an estimate of their cost. Under the present laws it is hardly possible, even if it was established that they are necessary, that this Department could undertake to place such structures.”

Third.—“It is recommended, pending the consummation of the plans for increasing the water supply of the city, that a main be laid for fire purposes only, with branches to extend to all the high points throughout the city, to secure a steady pressure at all times of at least 36 pounds.”

Respecting the suggestion I would call attention to the following points in relation to the topography of the city, which may have escaped notice.

In the first place, a pressure of 36 pounds to the square inch requires a column (or head) of water 83 feet in height.

## Altitudes of following Points above City Datum.

The water in the Central Park Reservoir, when full, is .....	115 feet.
Broadway and Chambers street .....	37 “
Canal and Chrystie streets .....	47 “
Grand and Ridge streets .....	40 “
Prince and Elizabeth streets .....	46 “
Fourth street and Lafayette place .....	44 “
Broadway and Twelfth street .....	42 “
Thirty-fourth street, between Ninth and Tenth avenues .....	49 “
Second avenue and Sixtieth street .....	67 “

These elevations would make it necessary to pump the water to obtain 36 pounds pressure, and in order that the present distribution to dwellings, etc., would not be destroyed it would be necessary to lay entirely new mains and disconnect them from the present pipes. Their length, quantity, size, etc., are not stated, but to obtain 36 pounds pressure two-thirds of the streets and avenues would need to have new pipes to connect with these special mains.

In order to form some idea of the cost of this recommendation, even if it was feasible with the present water supply, it will be only necessary to state that the pipes now in the city have cost about \$16,000,000.

It is probably safe to say that this scheme would cost about as much as a new aqueduct, besides it would take years to carry it into effect.

It will be interesting to note that the Fire Department uses, say 40 million gallons of water per year, while the whole amount consumed and wasted is 34,000 millions, or nearly 900 times as much.

There has been expended during the past twelve years \$5,000,000 in laying larger mains, placing hydrants, etc., for the sole purpose of increasing the security against fire; during that time nothing has been done to increase the amount of water from the Croton basin.

Allow me to add that no contrivance of pumps, or arrangement of water-mains, can restore the pressure with the present rate of consumption and waste, and as bearing on this subject, I beg leave to quote the following, from my report of April 11, 1881.

With respect to its water supply, “this city is having the same experience that every large city has had, the quantity originally provided for being found inadequate, measures are taken to secure an increased supply.

“In Baltimore, Philadelphia, Boston, Cincinnati, St. Louis and Chicago, additional works have been found necessary and carried out. The demand in this city must be met by the construction of a new aqueduct. It cannot be urged too strongly that a city of such great and constantly increasing magnitude as New York should not rely upon one aqueduct only. No other city of equal importance in Christendom is so dependent upon a single engineering structure.

Very respectfully,

(Signed)

ISAAC NEWTON, Chief Engineer.

## HIGH-SERVICE PUMPING WORKS.

The engines and pumps have steadily performed their work during the year.

The new boiler has been completed at High Bridge.

Below find statement of the performance of the engines and pumps during the year.

\* There is no pipe in this street.

## Performance of High-service Pumping Engines at Ninety-eighth Street Engine-house, for Year 1882.

MONTH.	Number of Days Pumping.	Number of Strokes.	Height Pumped, Feet.	Number of Gallons Pumped.	Pounds of Coal Consumed.	Gallons of Oil Expended.	Pounds of Waste Expended.
January .....	31	2,235,516	64.68	243,671,244	203,150	35	15
February .....	28	2,036,352	64.68	221,062,368	193,950	32	14
March .....	31	2,167,956	63.06	236,307,204	201,150	35	16
April .....	30	2,088,584	66.41	227,655,656	198,800	34	15
May .....	31	2,217,236	67.00	241,678,724	215,000	35	16
June .....	30	2,070,256	60.75	225,657,904	194,950	34	15
July .....	31	2,022,808	53.13	220,486,072	176,750	35	16
August .....	31	2,077,604	53.13	226,458,836	175,250	35	16
September .....	30	2,005,856	53.13	218,638,304	159,000	34	15
October .....	31	2,085,900	55.50	227,073,100	158,400	34	15
November .....	30	2,092,756	57.75	228,110,404	153,000	34	15
December .....	31	2,245,612	57.75	244,771,708	158,100	35	15
Total .....	365	25,346,436	716.97	2,762,471,524	2,195,500	412	183
Average .....	..	2,112,203	59.74	230,205,960	182,958	..	..

Expenses .....

\$12,970 00

Average cost of pumping 1,000,000 gallons, 60 feet high .....

\$4 69

Average cost of pumping 1,000,000 gallons, 1 foot high .....

07 <sup>81</sup>/<sub>100</sub>

Average duty, 63,072,000 pounds raised 1 foot with 100 pounds coal.

1,258 gallons raised 60 feet with 1 pound coal.

Average amount pumped daily, 7,568,415 gallons.

Average pounds of coal consumed per day, 6,015.

## Performance of High-service Engines at High Bridge for 1882.

NUMBER OF DAYS PUMPING.	AVERAGE HOURS PER DAY.	HEIGHT PUMPED, FEET.	NUMBER OF GALLONS PUMPED.	POUNDS OF COAL CONSUMED.	GALLONS OF OIL EXPENDED.	POUNDS OF WASTE EXPENDED.
365	19	100	1,560,375,000	4,480,000	1,250	375

Expenses .....

\$18,865 00

Average number of gallons pumped per day .....

4,275,000

Average pounds of coal consumed per day .....

12,274

Average cost of pumping 1,000,000 gallons, 100 feet high .....

\$12 09

Average cost of pumping 1,000,000 gallons, 1 foot high .....

12 <sup>08</sup>/<sub>100</sub>

Average duty, 29,059,800 pounds raised 1 foot with 100 pounds of coal.

348 gallons raised 100 feet with 1 pound of coal.

18,000,000 gallons pumped 214 feet high into tank in tower during year.

## FORTY-SECOND STREET RESERVOIR.

No work has been done during the year (under chapter 456, Laws of 1881), the same having been suspended in obedience to an injunction from the Supreme Court.

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

7,500 feet of 6-inch pipe have been laid in this District during the year 1882. 37 meters are now in use, and 12,000,000 gallons of water have been used during the year in this District.

## METERS.

Meters placed during the quarter ending December 31, 1882 .....	217
Meters placed during the year ending December 31, 1882 .....	1,524
Number of meters now in use .....	6,817

## Water Meters in Use December 31, 1882.

WHERE PLACED.	1/2"	3/8"	3/4"	1"	1 1/2"	2"	3"	4"	TOTAL.
Hotels .....	3	7	62	130	62	45	16	5	330
Breweries, Bottlers, and Malt-houses .....	1	1	77	93	45	59	7	..	283
Charitable Institutions .....	..	..	4	17	29	31	3	2	86
Offices .....	10	..	679	660	255	72	18	5	1,699
Manufacturing Establishments .....	12	2	73	115	69	49	3	1	324
Gas Works .....	..	..	..	9	2	2	12	12	37
Railroads .....	..	4	85	40	3	10	18	20	180
Stables .....	20	7	823	370	51	22	7	1	1,301
Apartment-houses .....	..	..	6	17	31	25	3	1	83
Docks .....	1	..	6	11	..	24	35	29	106
Riverdale .....	1	2	27	6	..	..	1	2	39
Miscellaneous .....	100	15	781	900	362	145	42	4	2,349
Total .....	148	38	2,623	2,368	909	484	165	22	6,817
KIND OF METER.									
Gem .....	..	..	..	2	..	5	15	5	27
Crown .....	148	..	336	347	20	7	1	2	861
Worthington .....	..	38	2,287	2,019	889	472	149	75	5,929
Total .....	148	38	2,623	2,368	909	484	165	82	6,817



Average Number of Gallons of Water Used Per Day Through Meter.

NUMBER OF METERS.	WHERE USED.	GALLONS.
330	Hotels.....	1,680,200
283	Breweries, Bottlers, and Malt-houses.....	1,365,800
86	Charitable Institutions.....	403,300
1,655	Offices, etc.....	1,537,800
320	Manufacturing Establishments.....	949,800
37	Gas Works.....	688,400
120	Railroads.....	1,157,500
1,223	Stables.....	913,500
79	Apartment-houses.....	200,400
106	Docks.....	1,290,000
39	Riverdale.....	34,000
2,127	Miscellaneous.....	3,427,300
6,465	Total.....	13,648,000

Amount received by Water Register in 1882..... \$309,959 09  
 Amount returned to Bureau of Arrears in 1882..... 11,811 71  
 Amount received by Water Register from Docks in 1882..... 53,444 17  
 Amount received by Water Register from Riverdale in 1882..... 884 50

Total..... \$376,099 47

The following statement of the consumption of water in two cities with populations near enough alike for comparison shows what has been accomplished in preventing waste by the use of meters:

Number of Meters and Consumption of Water in the Cities of Providence and Milwaukee.

PROVIDENCE.				
	NUMBER OF METERS IN USE.	DAILY CONSUMPTION, IN GALLONS.	POPULATION.	CONSUMPTION PER CAPITA, IN GALLONS.
1879.....	4,036	3,110,279	.....	.....
1880.....	4,401	.....	104,857	.....
1881.....	.....	.....	.....	.....
1882.....	5,279	3,665,000	.....	31
MILWAUKEE.				
1882.....	91	14,690,413	130,000	113

If New York had the same number of meters as Providence, in proportion to the number of taps, about 45,000, instead of 6,817, would be in use.

## TEST OF APPLIANCES FOR SUPPRESSING WASTE OF CROTON WATER.

The appropriation of \$5,000 for testing appliances for suppressing waste has been expended, as follows:

During November Crown Water Meters and Church's Waste-water Indicators were placed on the service pipes to the houses on Forty-seventh street, between Madison and Fifth avenues, and Church's Indicators on the service pipes to the houses on Forty-ninth street, between Madison and Fifth avenues.

Daily examinations have been made, and an enormous amount of waste has been detected in these houses.

Six-inch Meter in East Forty-Seventh street, between Fifth and Madison avenues, connecting with Twenty-four Houses.

DATE.	CUBIC FEET READING.	CUBIC FEET PER DAY.	GALLONS PER DAY.	GALLONS PER HOUR.	GALLONS PER HEAD.	NO. OF PEOPLE IN HOUSES.
Sept. 21, 1882.....	5,600	.....	.....	.....	.....	.....
" 22, ".....	7,100	1,500	11,250	469	67	169
" 23, ".....	8,500	1,400	10,500	438	62	169
" 24, ".....	10,200	1,700	12,750	531	75	169
" 25, ".....	12,000	1,800	13,500	563	80	169
" 26, ".....	13,500	1,500	11,250	469	67	169
" 27, ".....	15,000	1,500	11,250	469	67	169
" 28, ".....	16,800	1,800	13,500	563	80	169
" 29, ".....	18,420	1,620	12,150	506	73	169
" 30, ".....	20,100	1,680	12,600	525	75	169
Oct. 1, ".....	21,260	1,160	8,700	362	49	179
" 2, ".....	22,020	1,660	12,450	518	69	179
" 3, ".....	24,700	1,780	13,350	556	75	179
" 4, ".....	26,250	1,550	11,625	484	65	179
" 5, ".....	27,860	1,610	12,075	503	67	179
" 6, ".....	29,160	1,300	9,750	406	54	179
" 7, ".....	30,780	1,620	12,150	506	68	179
" 8, ".....	32,100	1,320	9,900	412	55	179
" 9, ".....	33,720	1,620	12,150	506	68	179
" 10, ".....	35,140	1,420	10,950	456	61	179
" 11, ".....	36,820	1,680	12,600	525	75	179
" 12, ".....	38,260	1,440	10,800	450	60	179
" 13, ".....	39,610	1,350	10,125	422	57	179
" 14, ".....	41,000	1,390	10,425	434	58	179
" 15, ".....	42,330	1,330	9,975	416	55	179
" 16, ".....	43,710	1,380	10,350	431	58	179
" 17, ".....	45,200	1,490	11,175	466	62	179
" 18, ".....	46,700	1,500	11,250	469	63	179
" 19, ".....	48,080	1,380	10,350	431	58	179
" 20, ".....	49,490	1,410	10,575	441	59	179
" 21, ".....	50,850	1,360	10,200	425	57	179
" 22, ".....	52,340	1,490	11,175	466	62	179
" 23, ".....	53,750	1,410	10,575	441	59	179
" 24, ".....	55,540	1,790	13,425	559	75	179
" 25, ".....	56,900	1,360	10,200	425	57	179
" 26, ".....	58,390	1,490	11,175	466	62	179
" 27, ".....	59,840	1,450	10,875	453	61	179
" 28, ".....	61,350	1,510	11,325	472	63	179
" 29, ".....	62,940	1,590	11,925	497	65	183
" 30, ".....	64,620	1,680	12,600	525	69	183
" 31, ".....	65,990	1,370	10,275	428	56	183
Nov. 1, ".....	67,520	1,530	11,175	473	63	183
" 2, ".....	69,100	1,580	11,850	494	65	183
" 3, ".....	70,520	1,420	10,650	444	58	183
" 4, ".....	71,760	1,240	9,300	387	51	183
" 5, ".....	73,610	1,850	13,875	578	76	183
" 6, ".....	75,360	1,750	13,125	547	72	183
" 7, ".....	77,240	1,880	14,100	587	77	183
" 8, ".....	78,480	1,240	9,300	387	51	183
" 9, ".....	79,840	1,360	10,200	425	56	183
" 10, ".....	81,200	1,360	10,200	425	56	183
" 11, ".....	82,570	1,370	10,275	428	56	183
" 12, ".....	83,800	1,230	9,225	384	50	183
" 13, ".....	85,180	1,380	10,350	431	58	183
" 14, ".....	86,820	1,620	12,150	506	68	183
" 15, ".....	88,120	1,320	9,900	412	55	183
" 16, ".....	89,460	1,340	10,050	419	55	183
" 17, ".....	90,800	1,340	10,050	419	55	183
" 18, ".....	92,180	1,380	10,350	431	57	183
" 19, ".....	93,520	1,340	10,050	419	55	183
" 20, ".....	94,900	1,380	10,350	431	57	183
" 21, ".....	96,520	1,620	12,150	506	68	183
" 22, ".....	97,860	1,340	10,050	419	55	183
" 23, ".....	99,110	1,250	9,375	391	51	183
" 24, ".....	100,380	1,270	9,525	397	52	183
" 25, ".....	101,740	1,360	10,200	425	56	183
" 26, ".....	103,000	1,260	9,450	394	52	183

DATE.	CUBIC FEET READING.	CUBIC FEET PER DAY.	GALLONS PER DAY.	GALLONS PER HOUR.	GALLONS PER HEAD.	NO. OF PEOPLE IN HOUSES.
Nov. 27, 1882.....	104,230	1,230	9,225	384	50	183
" 28, ".....	105,600	1,370	10,275	428	56	183
" 29, ".....	106,710	1,110	8,325	347	45	183
" 30, ".....	108,070	1,360	10,200	425	56	183
Dec. 1, ".....	109,480	1,410	10,575	441	58	183
" 2, ".....	110,770	1,290	9,675	403	53	183
" 3, ".....	112,110	2,640	19,800	825	108	183
" 4, ".....	113,490	1,480	11,100	462	61	183
" 5, ".....	114,890	1,400	10,500	438	57	183
" 6, ".....	116,100	1,210	9,075	378	50	183
" 7, ".....	117,350	1,250	9,375	390	51	183
" 8, ".....	118,510	1,160	8,700	362	47	183
" 9, ".....	119,760	1,250	9,375	390	51	183
" 10, ".....	120,910	1,150	8,625	359	47	183
" 11, ".....	122,090	1,180	8,850	369	48	183
" 12, ".....	123,440	1,350	10,125	422	55	183
" 13, ".....	124,740	1,300	9,750	406	53	183
" 14, ".....	125,900	1,160	8,700	362	47	183
" 15, ".....	127,050	1,150	8,625	359	47	183
" 16, ".....	128,290	1,240	9,300	387	51	183
" 17, ".....	129,520	1,230	9,225	384	50	183
" 18, ".....	130,820	1,300	9,750	403	53	183
" 19, ".....	132,010	1,420	10,650	444	58	183
" 20, ".....	133,190	1,150	8,625	359	47	183
" 21, ".....	134,420	1,230	9,225	384	50	183
" 22, ".....	135,680	1,260	9,450	390	51	183
" 23, ".....	137,050	1,370	10,275	428	56	183
" 24, ".....	138,260	1,210	9,075	378	50	183
" 25, ".....	139,350	1,090	8,175	341	45	183
" 26, ".....	140,280	930	6,975	291	38	183
" 27, ".....	141,570	1,290	9,675	403	53	183
" 28, ".....	142,810	1,240	9,300	387	51	183
" 29, ".....	143,850	1,040	7,800	325	43	183

DATE.	HOOR.	CUBIC FEET READING.	CUBIC FEET.	GALLONS.	GALLONS PER HOUSE.	GALLONS PER HEAD.	NO. OF PEOPLE IN HOUSES.
Jan. 4, 1883.....	10 P. M.	150,770	6,420	48,150	2,006	In 6 days, 263	183
" 12, ".....	11 P. M.	158,800	8,030	60,975	2,666	8 " 350	183
" 20, ".....	10 A. M.	167,260	8,460	63,450	2,644	8 " 347	183

Six-inch Meter in East Forty-ninth Street, between Fifth and Madison Avenues, connecting with Twenty-one Houses.

DATE.	CUBIC FEET, READING.	CUBIC FEET, PER DAY.	GALLONS, PER DAY.	GALLONS, PER HOUSE.	GALLONS, PER HEAD	NO. OF PEOPLE IN HOUSE.
Sept. 21, 1882.....	430	.....	.....	.....	.....	..
" 22, ".....	2,200	1,770	13,275	632	109	121
" 23, ".....	3,900	1,700	12,750	607	105	121
" 24, ".....	5,700	1,800	13,500	643	112	121
" 25, ".....	7,400	1,700	12,750	607	105	121
" 26, ".....	9,200	2,300	17,250	821	142	121
" 27, ".....	11,000	2,200	16,500	785	136	121
" 28, ".....	13,700	1,800	13,500	643	112	121
" 29, ".....	15,410	1,710	12,825	611	106	121
" 30, ".....	17,170	1,760	13,200	629	109	121
Oct. 1, ".....	18,830	1,660	12,450	593	94	133
" 2, ".....	20,500	1,670	12,525	599	94	133
" 3, ".....	22,000	2,100	15,750	750	118	133
" 4, ".....	24,300	1,700	12,750	607	96	133
" 5, ".....	26,290	1,990	14,925	711	112	133
" 6, ".....	28,210	1,920	14,400	686	108	133
" 7, ".....	30,650	2,140	18,300	871	133	133
" 8, ".....	32,720	2,070	15,525	739	117	133
" 9, ".....	34,600	1,880	14,100	671	105	133
" 10, ".....	37,040	2,440	18,300	871	138	133
" 11, ".....	38,930	1,890	14,175	675	107	133
" 12, ".....	40,860	1,930	14,475	699	109	133
" 13, ".....	42,660	1,800	13,500	613	102	133
" 14, ".....	44,420	1,760	13,200	603	99	133
" 15, ".....	46,220	1,800	13,500	643	102	133
" 16, ".....	48,470	2,250	16,375	804	127	133
" 17, ".....	50,460	1,990	14,925	711	112	133
" 18, ".....	52,810	2,350	17,025	839	133	133
" 19, ".....	54,540	2,030	15,225	725	114	133
" 20, ".....	56,810	1,970	14,775	704	111	133
" 21, ".....	59,080	2,270	17,025	811	128	133
" 22, ".....	61,250	2,170	16,275	775	122	133
" 23, ".....	63,260	2,010	15,075	718	113	133
" 24, ".....	65,270	2,010	15,075	718	113	133
" 25, ".....	67,280	1,720	12,900	614	97	133
" 26, ".....	68,620	1,630	12,225	532	92	133
" 27, ".....	70,410	1,790	13,425	639	101	133
" 28, ".....	72,200	1,840	13,800	657	104	133
" 29, ".....	74,130	1,880	14,100	671	106	133
" 30, ".....	76,100	1,970	14,775	704	111	133
" 31, ".....	78,050	1,900	14,700	708	111	133
Nov. 1, ".....	79,650	1,390	11,925	568	90	133
" 2, ".....	81,410	1,700	13,200	629	99	133
" 3, ".....	83,090	1,680	12,600	600	95	133
" 4, ".....	84,600	1,510	11,325	539	85	133
" 5, ".....	86,600	2,060	15,450	736	116	133
" 6, ".....	88,620	1,060	14,700	700	111	133
" 7, ".....	90,500	1,810	14,100	671	106	133
" 8, ".....	91,940	1,440	10,800	514	81	133
" 9, ".....	93,400	1,460	10,950	521	82	133
" 10, ".....	94,910	1,510	11,325	539	85	133
" 11, ".....	96,440	1,530	11,475	546	86	133
" 12, ".....	97,920	1,480	11,100	529	83	133
" 13, ".....	99,340	1,420	10,650	507	80	133
" 14, ".....	101,250	1,910	14,325	682	108	133
" 15, ".....	102,780	1,530	11,475	546	86	133
" 16, ".....	104,310	1,530	11,475	546	86	133
" 17, ".....	105,800	1,430	11,175	532	84	133
" 18, ".....	107,140	1,340	10,950	479	76	133
" 19, ".....	108,600	1,450	10,950	521	82	133
" 20, ".....	110,410	1,310	13,575	646	102	133
" 21, ".....	112,160	1,750	14,125	625	99	133
" 22, ".....	113,680	1,520	11,400	543	86	133
" 23, ".....	115,220	1,540	11,500	550	87	133
" 24, ".....	116,780	1,560	11,700	557	88	133
" 25, ".....	118,600	1,820	13,950	650	103	133
" 26, ".....	120,380	1,780	13,350	636	100	133
" 27, ".....	122,030	1,950	12,375	589	93	133
" 28, ".....	123,770	1,740	13,050	621	98	133
" 29, ".....	125,080	1,310	9,225	468	74	133
" 30, ".....	126,530	1,450	10,875	518	82	133
Dec. 1, ".....	128,210	1,680	12,600	600	95	133
" 2, ".....	129,670	1,460	10,950	511	82	133
" 4, "..... 2 days.....	132,980	3,310	24,825	1,182	187	133
" 5, ".....	134,880	1,900	14,250	679	107	133
" 6, ".....	136,000	1,720	12,900	614	97	133
" 7, ".....	138,300	1,700	12,750	607	96	133
" 8, ".....	139,860	1,560	11,700	557	81	133
" 9, ".....	141,390	1,430	10,725	511	81	133
" 10, ".....	142,600	1,300	9,075	475	75	133
" 11, ".....	144,100	1,480	11,000	509	83	133
" 12, ".....	145,820	1,720	12,900	614	97	133
" 13, ".....	147,250	1,430	10,725	511	81	133
" 14, ".....	148,910	1,660	12,450	593	94	133
" 15, ".....	150,350	1,440	10,800	514	81	133
" 16, ".....	151,870	1,520	11,400	543	86	133
" 17, ".....	153,570	1,700	12,750	607	95	133
" 18, ".....	155,000	1,430	10,725	511	81	133
" 19, ".....	156,940	1,900	14,550	693	109	133
" 20, ".....	158,430	1,490	11,175	532	84	133
" 21, ".....	159,900	1,470	11,025	525	83	133
" 22, ".....	161,280	1,380	10,350	493	78	133
" 23, ".....	162,840	1,500	11,700	557	88	133
" 24, ".....	164,300	1,520	11,400	543	85	133
" 25, ".....	165,860	1,500	11,250	536	85	133
" 26, ".....	167,360	1,500	11,250	536	85	133
" 27, ".....	169,190	1,790	13,425	639	100	133
" 28, ".....	170,540	1,390	10,425	503	78	133
" 29, ".....	171,930	1,410	10,575	503	79	133



DATE.	HOURS.	CUBIC FEET, READING.	CUBIC FEET.	GALLONS.	GALLONS, PER HOUSE.	GALLONS, PER HEAD.	No. OF PEOPLE IN HOUSES.
Jan. 4, 1883.....	10 P. M.	180,050	8,100	60,750	2,893	In 6 days, 457	133
" 12, ".....	11 P. M.	192,340	12,290	92,175	4,389	8 " 693	133
" 20, ".....	10 A. M.	205,200	12,860	95,450	4,545	8 " 718	133

## WASTE AND USE OF WATER.

Examination of Sewers for Waste of Water in Houses between 12 o'clock Midnight and 6 A.M., for Quarter and Year ending December 31, 1882.

## FOR QUARTER.

NUMBER OF HOUSE CONNECTIONS EXAMINED.	NUMBER OF DRY DRAINS.	NUMBER WHERE WASTE WAS LESS THAN 1 GALLON PER MINUTE.	NUMBER WHERE WASTE WAS FROM 1 TO 5 GALLONS PER MINUTE.	NUMBER WHERE WASTE WAS OVER 5 GALLONS PER MINUTE.
2,708	2,399	65	242	*2

\*1 wasting ..... 7 gallons per minute.  
 " " ..... 9 " "

## FOR YEAR.

NUMBER OF HOUSE CONNECTIONS EXAMINED.	NUMBER OF DRY DRAINS.	NUMBER WHERE WASTE WAS LESS THAN 1 GALLON PER MINUTE.	NUMBER WHERE WASTE WAS FROM 1 TO 5 GALLONS PER MINUTE.	NUMBER WHERE WASTE WAS OVER 5 GALLONS PER MINUTE.
9,268	7,857	184	1,189	*38

\*3 wasting ..... 5½ gallons per minute  
 15 " ..... 6 " "  
 6 " ..... 7 " "  
 3 " ..... 8 " "  
 4 " ..... 9 " "  
 7 " ..... 10 " "

Report of Examinations made by Inspectors relative to Leaky Fixtures and Waste of Water, for Quarter ending December 31, 1882.

ASSEMBLY DISTRICT.	Whole Number of Buildings Examined.	Number where Plumbing was Defective or Water Wasted.	FAUCETS.		WATER-CLOSETS OR URINALS.		HYDRANTS IN YARD.		Pipes Burst.	Ball Cocks Wanted.
			Leak.	Waste.	Leak.	Waste.	Leak.	Waste.		
Second.....	17	....	..	..	..	..	..	..	..	..
Third.....	225	6	7	..	..	..	2	..	..	..
Fifth.....	146	13	14	..	..	..	4	..	..	..
Tenth.....	274	11	14	..	..	..	3	..	..	..
Twelfth.....	289	15	17	..	..	..	..	..	..	..
Fifteenth.....	424	69	117	3	..	2	15	..	..	..
Sixteenth.....	108	....	..	..	..	..	..	..	..	..
Twentieth.....	242	85	220	..	..	..	9	..	..	..
Twenty-first.....	218	5	5	..	..	..	..	..	..	..
Twenty-second.....	40	....	..	..	..	..	..	..	..	..
Total.....	1,983	204	394	3	..	2	33	..	..	..

## Report of Examinations for the Year 1882.

ASSEMBLY DISTRICT.	Whole Number of Buildings Examined.	Number where Plumbing was Defective or Water Wasted.	FAUCETS.		WATER-CLOSETS OR URINALS.		HYDRANTS IN YARD.		Pipes Burst.	Ball-cocks Wanted.
			Leak.	Waste.	Leak.	Waste.	Leak.	Waste.		
First.....	1,514	42	33	2	1	5	1	1	..	..
Second.....	549	1	..	..	..	..	2	..	..	..
Third.....	331	10	10	..	1	..	2	..	..	..
Fourth.....	938	139	134	5	..	..	..	..	..	..
Fifth.....	886	156	152	..	2	..	5	2	..	..
Sixth.....	1,568	251	201	3	..	..	42	2	..	3
Seventh.....	961	10	4	..	1	2	2	..	1	..
Eighth.....	1,678	69	59	7	1	8	2	1	..	2
Ninth.....	868	72	59	..	4	1	6	..	2	..
Tenth.....	2,199	133	110	14	..	2	4	8	1	..
Eleventh.....	1,185	25	20	1	2	..	2	..	..	..
Twelfth.....	550	21	23	..	..	..	..	..	..	..
Thirteenth.....	930	226	202	10	1	18	..	2	1	..
Fourteenth.....	1,082	6	..	6	..	..	..	..	..	..
Fifteenth.....	2,745	1,785	1,739	4	1	3	106	..	..	..
Sixteenth.....	1,827	7	4	1	..	..	..	..	2	..
Seventeenth.....	675	40	14	19	..	5	..	2	..	..
Eighteenth.....	481	222	159	34	..	..	10	19	..	..
Nineteenth.....	244	19	12	..	..	..	6	1	..	..
Twentieth.....	604	95	228	..	..	..	10	..	1	..
Twenty-first.....	981	175	155	5	5	3	3	..	4	..
Twenty-second.....	1,293	17	9	..	2	2	1	3	..	..
Twenty-third.....	100	10	8	..	..	..	2	..	..	..
Twenty-fourth Ward.....	....	....	..	..	..	..	..	..	..	..
Total.....	24,189	3,531	3,335	111	21	49	203	43	12	5

There are at present 85,000 service taps in the distributing pipes of this city from ¾-inch diameter to 1 inch diameter, and 150 four-inch branches for the supply of the docks and large buildings and institutions. Total area of same, 198 square feet.

## SUPPLYING WATER FOR SHIPPING AND BUILDING PURPOSES.

The inspection of pipes on wharves and the use of water for shipping and building purposes has been continued.  
 During the quarter and year 1882 permits have been issued as follows:

FOR WATER SUPPLIED	PERMITS DURING QUARTER.	PERMITS DURING YEAR 1882.	AMOUNT RECEIVED DURING QUARTER.	AMOUNT RECEIVED DURING YEAR 1882.
To engines on wharves.....	7	34	\$90 00	\$1,450 80
To building purposes.....	148	650	7,840 50	26,904 60
To shipping.....	117	607	5,842 51	26,023 00
Measured by meter.....	....	....	14,276 43	53,444 17
Totals.....	272	1,291	\$28,049 44	\$107,822 57

## PERMITS TO OPEN STREETS ISSUED IN 1882.

## Edison Electric Illuminating Co.

Pearl street, between John and Fulton streets.  
 Fulton street, between Nassau and South streets.  
 Ann street, between Broadway and Nassau street.

## Metropolitan Gas-light Co.

First avenue, between Thirty-ninth and Forty-first streets.  
 Seventy-fifth street, between Eighth and Ninth avenues.  
 Seventy-third street, between Second and Third avenues.  
 Ninth avenue, between Sixty-third and Seventy-seventh streets.  
 Avenue A, between Fifty-ninth and Sixty-first streets.  
 Sixtieth street, between Avenue A and First avenue.  
 Seventy-second street, between Eighth and Ninth avenues.  
 Seventieth street, between First avenue and Avenue A.  
 Forty-third street, between Second and Third avenues.  
 Avenue A, between Sixty-ninth and Seventy-first streets.  
 Sixty-eighth street, between Avenue A and First avenue.  
 Seventy-second street, between Madison and Fifth avenues.  
 Seventy-third street, between Eighth and Ninth avenues.  
 Seventy-second street, between Second and Third avenues.  
 Tenth avenue, between Seventy-third and Seventy-fourth streets.  
 Fifty-first street, between Seventh avenue and Broadway.  
 Fifty-seventh street, between Third avenue and Avenue A.  
 Sixty-fifth street, between Ninth and Tenth avenues.  
 Seventieth street, between Tenth and Eleventh avenues.  
 Seventy-fifth street, between Avenues A and B.  
 First avenue, between Forty-eighth and Forty-ninth streets.  
 Fifty-fifth street, between Ninth and Tenth avenues.

## Knickerbocker Gas-light Co.

Ninety-ninth street, between Fifth avenue and East river.  
 One Hundred and Seventh street, between Third and Lexington avenues.  
 One Hundred and Twentieth street, between Fourth and Fifth avenues.

## New York Steam Co.

Broadway, between Liberty and Cedar streets.  
 Broadway, between Cedar and Pine streets.  
 Vesey street, between Broadway and Church streets.  
 Vesey street, between Church and Greenwich streets.  
 Broadway, between Cedar and Morris streets.  
 Broadway, between Dey and Chambers streets.  
 Fulton street, between Broadway and South street.  
 John street, between Broadway and Cliff street.  
 John street, between Cliff and Pearl streets.  
 Maiden Lane, between Broadway and South street.  
 Wall street, between Broadway and South street.  
 Fulton street, between Greenwich street and Broadway.  
 Dey street, between Greenwich street and Broadway.  
 Pine street, between Broadway and Nassau street.  
 Liberty street, between William and Washington streets.  
 Park place, between Broadway and Washington street.  
 Barclay street, between Greenwich and West streets.  
 Greenwich street, between Dey and Thames street.  
 William street, between Maiden Lane and Exchange place.  
 Ann street, between Broadway and Nassau street.  
 Theatre alley, between Ann and Beekman streets.  
 Beekman street, between Park Row and William street.  
 Park Row, between Ann and Chatham streets.  
 Mail street, between Broadway and Park Row.  
 Washington street, between Cortlandt and Chambers streets.  
 Cortlandt street, between Greenwich and West streets.

## New York Gas-light Co.

Beaver street, between Broadway and William street.  
 William street, between Beaver and Water streets.  
 Water street, between Old Slip and Dover street.  
 Dover street, between Water and Pearl streets.  
 Pearl street and New Bowery, between Dover and Madison streets.  
 Madison street, between Market street and New Bowery.  
 Market street, between Madison and Division streets.  
 Division street, between Eldridge and Market streets.  
 Eldridge street, between Stanton and Division streets.

## Western Union Telegraph Co.

Broadway, between Liberty and Cedar streets.  
 Cedar street, between Broadway and Nassau street.  
 Pine street, between Broadway and Nassau street.  
 Nassau and Broad streets, between Pine street and Exchange place.  
 Broadway, between Dey and Twenty-third streets.

## New York Mutual Gas-light Co.

Chambers street, between Broadway and Chatham street.  
 Chatham street, between Chambers street and Broadway.  
 Bowery, between Chatham and Sixth streets.

## United States Heating and Power Co.

Pine street, between Broadway and William street.  
 Cedar street, between Broadway and William street.  
 Liberty street, between Broadway and Maiden Lane.  
 Maiden Lane, between Broadway and Gold street.  
 John street, between Broadway and Gold street.  
 William street, between Fulton street and Exchange place.  
 Pine street, between Broadway and William street.  
 Broad street, between Wall and Beaver streets.  
 Gold street, between Fulton street and Maiden Lane.  
 Fulton street, between Gold street and Broadway.  
 Broadway, between John street and Exchange place.  
 Exchange place, between Broad and Nassau streets.  
 Exchange place, between Broad street and Broadway.  
 Wall street, between Broadway and Pearl street.  
 Broadway, between John and Chambers streets.  
 Cedar street, between William and Pearl streets.  
 Nassau street, between Wall and Fulton streets.



*Manhattan Gas-light Co.*

Great Jones street, between Broadway and Bowery.

*Gore Underground Wire Co.*

Eighth avenue, between One Hundred and Twenty-fifth and One Hundred and Forty-fifth streets.

The number of companies now applying for permission to lay pipes under the streets for gas, steam, telegraph, telephone, and other purposes, raises the question, Where are they to be placed? the streets are now occupied: 1st. Under sidewalks, and in a great many instances far into the roadway by vaults. 2d. By sewers. 3d. By water pipes. 4th. By gas pipes. Until some general system is established under either a State law or by ordinance of the Common Council, I do not see how this Department can assign places for these pipes and wires without, to a large extent, seriously interfering with the system of sewers and water pipes belonging to the city, and their connections, and also with the vaults and gas pipes now in the streets. The necessity for the adoption of some system has been forcibly shown by the action of the steam companies in placing their pipes and appurtenances.

Very respectfully submitted,

ISAAC NEWTON, Chief Engineer.

## Document "E."

## WATER PURVEYOR'S REPORT.

DEPARTMENT OF PUBLIC WORKS,  
WATER PURVEYOR'S OFFICE, 31 CHAMBERS STREET, ROOM 1,  
NEW YORK, January 5, 1883.

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

SIR—In compliance with your instructions I herewith submit the following report of the transactions of this bureau during the quarter ending December 31, 1882, together with a summary of the work done under the direction of the bureau during the year 1882:

## REPAIRS AND RENEWAL OF PAVEMENTS.

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

In October, 476 men and 91 carts.

In November, 464 men and 90 carts.

On the 20th day of November the repair force was disbanded.

The repair gangs have been steadily employed up to the above date in making necessary repairs to the pavements in all parts of the city, and also the complete relaying of the pavements in several places where required.

679 defects in pavements were repaired.

23 permits were issued to repair pavements at the expense of the applicants.

## REPAVING UNDER CHAPTER 476, LAWS OF 1875.

The following streets under contract for repaving were completed during the quarter, viz.:

	Square Yards.
Tenth avenue, from Forty-eighth to Fifty-ninth street.....	16,701
Eleventh avenue, from Forty-sixth to Fifty-second street.....	10,057
Twenty-fifth street, from Sixth to Eleventh avenue.....	13,739
Thirty-fifth street, from Eighth to Tenth avenue.....	5,392
City Hall Place, from Chambers to Pearl street.....	1,642
William street, from New Chambers to Pearl street.....	656
North William street, from Frankfort to Chatham street.....	748
Rose street, from Frankfort to New Chambers street.....	1,492
Vandewater street, from Frankfort to Pearl street.....	1,142
<b>Total.....</b>	<b>51,569</b>

## NEW PAVEMENTS UNDER ASSESSMENT.

New pavements under contract were completed in the following streets during the quarter, viz.:

	Square Yards.
Fourth avenue, from Seventy-second to Ninety-sixth street.....	39,659
Fifth avenue, from One Hundred and Tenth to One Hundred and Twenty-fourth street.....	20,355
Lexington avenue, from Ninety-third to Ninety-fourth street.....	1,114
Lexington avenue, from One Hundred and Fourth to One Hundred and Thirty-first street.....	26,737
Nineteenth street, from 260 feet west of Tenth avenue to Thirteenth avenue.....	2,508
Twenty-sixth street, near East river.....	684
Forty-fourth street, from Eleventh to Twelfth avenue.....	2,705
Forty-fifth street, from Eleventh to Twelfth avenue.....	2,708
Sixty-eighth street, from Avenue A to First avenue.....	2,086
Seventieth street, from Third to Second avenue.....	2,089
Seventieth street, from Boulevard to Eleventh avenue.....	3,152
Eighty-fourth street, from Eighth to Tenth avenue.....	5,757
Ninety-ninth street, from Third avenue to Exterior street.....	6,533
One Hundred and Fourth street, from First to Second avenue.....	2,217
One Hundred and Fifth street, from Third to Fourth avenue.....	2,834
One Hundred and Ninth street, from Third to Fourth avenue.....	2,846
One Hundred and Eleventh street, from First to Second avenue.....	2,210
One Hundred and Twelfth street and Fourth avenue intersection.....	540
One Hundred and Fourteenth street, from First to Second avenue.....	2,209
One Hundred and Fourteenth street, from First to Pleasant avenue.....	2,090
One Hundred and Eighteenth street, from Third to Fourth avenue.....	2,848
One Hundred and Twenty-third street, from First to Second avenue.....	2,218
<b>Total.....</b>	<b>136,099</b>

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

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

In October, 70 men and 8 carts.

In November, 70 men and 8 carts.

In December, 73 men and 8 carts.

708 fire-hydrants were repaired.

38 fire-hydrants were substituted for old ones.

28 new fire-hydrants were furnished and placed.

429 defects in pipes and stop-cocks were repaired.

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

In addition to the above work this force has been employed since November 20, where necessary, to repair dangerous places in the pavements.

## PUBLIC DRINKING-HYDRANTS.

52 public drinking-hydrants were repaired.

3 new drinking-hydrants were substituted for old ones.

1 new drinking-hydrant was furnished and placed.

The total number of public drinking-hydrants in the city is 583.

## WELLS AND PUMPS.

3 pumps were repaired during the quarter.

The total number of pumps in the city is 48.

## VAULTS.

44 permits were issued for the construction of vaults.

The amount received for the same was \$17,671.41.

19 permits were issued to repair vaults.

Vouchers were drawn during the quarter and charged to the following accounts, viz.:

Public Drinking-hydrants.....	\$1,824 30
Repaving Streets and Avenues.....	124,766 94
Repaving Streets and Avenues—Salaries.....	2,447 49
Repairs and Renewal of Pavements and Regrading.....	62,544 29
Repairs and Renewal of Pavements and Regrading—Salaries.....	1,342 50
Repairing and Renewal of Pipes, Stop-cocks, etc.....	14,970 84
Wells and Pumps.....	206 01
Contingencies—Department of Public Works.....	64 71
Street Improvement Fund—Assessment Works.....	264,049 65
<b>Total.....</b>	<b>\$472,216 73</b>

## SUMMARY OF WORK DONE DURING THE YEAR ENDING DECEMBER 31, 1882.

## Repaving Under Chapter 476, Laws of 1875.

Contracts for repaving the following streets were completed during the year, viz.:

STREETS.	BETWEEN.	Square Yards.	Length in Feet.
Ann street.....	Broadway and Gold street.....	1,966	1,059
Frankfort street.....	Nassau and Jacob streets.....	1,691	876
Jacob street.....	Frankfort and Ferry streets.....	615	301
Front street.....	Fulton and Roosevelt streets.....	3,633	1,312
Water street.....	Market and Clinton streets.....	5,098	1,821
Bayard street.....	Market street and Bowery.....	1,342	510
Broadway.....	Seventeenth and Twenty-second streets.....	5,307	1,251
Pike street.....	Division and South streets.....	7,844	1,534
Rutgers street.....	East Broadway and Cherry street.....	3,131	942
Builing Slip.....	Water and South streets.....	4,017	1,425
Tenth street.....	Chatham and Front streets.....	3,086	1,331
Livingston place.....	Fifteenth and Seventeenth streets.....	1,050	404
Hall place.....	Sixth and Seventh streets.....	516	195
Charles street.....	Hudson and West streets.....	2,604	980
Weehawken street.....	West Tenth and Christopher streets.....	552	221
Morris street.....	Greenwich and West streets.....	554	359
City Hall place.....	Chambers and Pearl streets.....	1,642	641
William street.....	New Chambers and Pearl streets.....	656	307
North William street.....	Frankfort and Chatham streets.....	748	344
Rose street.....	Frankfort and New Chambers streets.....	1,492	778
Vandewater street.....	Frankfort and Pearl streets.....	1,142	518
Horatio street.....	Fourth street and Thirtieth avenue.....	4,909	1,877
First avenue.....	Eighth and Twenty-third streets.....	22,971	3,591
Tenth avenue.....	Forty-second and Forty-eighth streets.....	9,134	1,425
Eleventh avenue.....	Forty-eighth and Fifty-ninth streets.....	16,701	2,540
Twenty-fifth street.....	Forty-sixth and Fifty-second streets.....	10,057	1,571
Third street.....	Avenue B and Goerck street.....	6,709	2,073
Fourth street.....	Avenues B and C.....	4,593	1,384
Seventh street.....	Broadway and Thirtieth street.....	13,218	4,490
Thirteenth street.....	Fifth and Sixth avenues.....	3,104	96
Seventeenth street.....	Sixth and Eighth avenues.....	5,382	1,631
Eighteenth street.....	First and Third avenues.....	4,229	1,313
Twenty-fifth street.....	First and Second avenues.....	2,172	664
Twenty-seventh street.....	Sixth and Eleventh avenues.....	13,739	4,103
Twenty-ninth street.....	Sixth and Eighth avenues.....	5,393	1,632
Thirtieth street.....	Broadway and Seventh avenue.....	4,030	1,210
Thirty-first street.....	Ninth and Eleventh avenues.....	5,308	1,640
Thirty-second street.....	Eighth and Tenth avenues.....	5,392	1,633
Thirty-third street.....	Second and Third avenues.....	2,066	626
Thirty-fourth street.....	Third and Lexington avenues.....	1,452	444
Forty-fourth street.....	Madison and Vanderbilt avenues.....	652	211
Forty-fifth street.....	Seventh and Eighth avenues.....	2,416	723
One Hundred and Twenty-fourth street.....	First and Third avenues.....	4,288	1,306
<b>Totals.....</b>		<b>196,561</b>	<b>53,341*</b>

\* Or 10 1-10 miles.

In the above statement the streets which were commenced in 1881 and completed in 1882 are included. The number of square yards of pavement is 48,066, and the length of the streets is 2 4-10 miles, which leaves 148,495 square yards in 7 7-10 miles of streets repaved under the appropriation for the year 1882.

## New Pavements Under Assessment.

Contracts for laying new pavements under assessment in the following streets were completed during the year, viz.:

STREETS.	FROM.	Square Yards.	Length in Feet.
Avenue A.....	Fifty-fourth to Fifty-seventh street.....	5,314	806
Lexington avenue.....	At One Hundred and Fifth and One Hundred and Sixth streets, crosswalks.....	27	....
Lexington avenue.....	Ninety-third to Ninety-fourth street.....	1,114	258
Lexington avenue.....	One Hundred and Fourth to One Hundred and Thirty-first street.....	26,737	6,405
Fourth avenue.....	Seventy-second to Ninety-sixth street.....	39,659	5,893
Madison avenue.....	One Hundred and Tenth to One Hundred and Sixteenth street.....	7,099	1,538
Fifth avenue.....	One Hundred and Tenth to One Hundred and Twenty-fourth street.....	20,355	4,135
Tenth avenue.....	Seventy-second to Seventy-fourth street.....	2,890	443
Tenth avenue.....	One Hundred and Fifty-first to One Hundred and Fifty-fifth street.....	6,120	970
Twelfth avenue.....	One Hundred and Thirtieth to One Hundred and Thirty-third street.....	5,221	740
Nineteenth street.....	260 feet west of Tenth avenue to Thirteenth avenue.....	2,508	757
Twenty-sixth street.....	Near East river.....	684	183
Forty-second street.....	Second to First avenue.....	4,338	674
Forty-fourth street.....	Eleventh to Twelfth avenue.....	2,705	808
Forty-fifth street.....	Eleventh to Twelfth avenue.....	2,708	824
Sixty-second street.....	Tenth avenue to Boulevard.....	3,575	1,114
Sixty-seventh street.....	Tenth avenue to Boulevard.....	1,445	453
Sixty-eighth street.....	Avenue A to First avenue.....	2,086	639
Sixty-ninth street.....	Avenue A to First avenue.....	2,086	639
Seventieth street.....	Third to Second avenue.....	2,089	627
Seventieth street.....	Boulevard to Eleventh avenue.....	3,152	955
Seventy-fifth street.....	Avenue A to First avenue.....	1,098	637
Seventy-sixth street.....	Madison to Fifth avenue.....	1,470	443
Eighty-first street.....	And Ninth avenue intersection.....	328	60
Eighty-second street.....	First to Second avenue.....	2,036	665
Eighty-fourth street.....	Eighth to Tenth avenue.....	5,757	1,726
Eighty-seventh street.....	First avenue to Avenue A.....	2,085	629
Eighty-eighth street.....	First avenue to Avenue A.....	2,090	630
Ninety-fourth street.....	Fourth to Madison avenue.....	1,321	425
Ninety-fifth street.....	Third to Lexington avenue.....	1,376	445
Ninety-ninth street.....	Third avenue to Exterior street.....	6,533	1,780
One Hundred and Second street.....	Third to Lexington avenue.....	1,442	442
One Hundred and Third street.....	Second to Lexington avenue.....	3,561	1,065
One Hundred and Fourth street.....	First to Second avenue.....	2,217	673
One Hundred and Fifth street.....	Third to Fourth avenue.....	2,834	856
One Hundred and Ninth street.....	Third to Fourth avenue.....	2,846	861
One Hundred and Eleventh street.....	First to Second avenue.....	2,210	660
One Hundred and Twelfth street.....	And Fourth avenue intersection.....	540	119
One Hundred and Twelfth street.....	Fourth to Madison avenue.....	1,372	418
One Hundred and Thirteenth street.....	Second to Third avenue.....	2,065	627
One Hundred and Fourteenth street.....	First to Second avenue.....	2,209	672
One Hundred and Fourteenth street.....	First to Pleasant avenue.....	2,090	644
One Hundred and Eighteenth street.....	Third to Fourth avenue.....	2,848	861
One Hundred and Twenty-second street.....	Third to Fourth avenue.....	2,864	865
One Hundred and Twenty-second street.....	Sixth to Seventh avenue.....	2,661	806
One Hundred and Twenty-third street.....	First to Second avenue.....	2,218	666
One Hundred and Twenty-fourth street.....	First to Pleasant avenue.....	2,109	634
One Hundred and Twenty-eighth street.....	Seventh to Eighth avenue.....	2,517	812
One Hundred and Thirtieth street.....	Sixth to Seventh avenue.....	2,315	812
One Hundred and Thirtieth street.....	Sixth to Eighth avenue.....	5,273	1,647
One Hundred and Thirty-third street.....	Fourth to Sixth avenue.....	6,150	1,871
<b>Totals.....</b>		<b>219,431</b>	<b>52,316*</b>

Or 9 9-10 miles.

2,744 notices and complaints of defects in pavements were received and attended to during the year.

2,852 repairs were made to fire-hydrants.

223 new fire-hydrants were substituted for old ones.

71 new fire-hydrants were furnished and placed.

1,739 defects in pipes and stop-cocks were repaired.

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

310 repairs were made to drinking-hydrants.

43 new drinking-hydrants were substituted for old ones.

11 new drinking-hydrants were furnished and placed.

11 pumps were repaired.

2 new pumps were furnished and placed.

189 permits were issued for the construction of vaults.

The amount received for the same was \$96,077.08.

59 permits were issued to repair vaults.

99 permits were issued to repair pavements.



The following statement shows the amounts on vouchers drawn during the year, together with the liabilities and balances on the appropriations which are under the charge of this bureau :

ON WHAT ACCOUNT.	APPROPRIATIONS AND TRANSFERS.	PAYMENTS.	LIABILITIES.	BALANCES.
Public Drinking-hydrants.....	\$7,000 00	\$6,860 46	\$136 00	\$3 54
Repaving Streets and Avenue.....	339,900 00	313,257 20	25,113 85	1,528 95
Repaving Streets and Avenues—Salaries.....	10,100 00	9,922 49	.....	177 51
Repairing and Renewal of Pavements, etc.—Salaries.....	195,000 00	192,687 02	2,311 25	1 73
Repairing and Renewal of Pavements, etc.—Salaries.....	5,000 00	5,000 00	.....	.....
Wells and Pumps.....	500 00	380 98	.....	119 02
Repairing and Renewal of Pipes, Stop-cocks, etc.....	.....	62,278 49	.....	.....
Repairing and Renewal of Pipes, Stop-cocks, etc.—Salaries.....	.....	422 61	.....	.....
Contingencies—Department of Public Works.....	.....	192 08	.....	.....
Street Improvement Fund.....	.....	566,379 53	.....	.....

Total Number of Miles of Paved Streets in the City.

	DECEMBER 31, 1881.	LAID AND RELAID IN 1882.	DECEMBER 31, 1882.
Macadam.....	25½ Miles.	1 Mile.	26½ Miles.
Asphalt.....	½ "	.....	½ "
Stone-blocks.....	249 "	19 Miles.	268 "
Cobble.....	65½ "	.....	55½ "
Total.....	340½ Miles.	20 Miles.	350½ Miles.

Respectfully,  
DANIEL O'REILLY, Water Purveyor.

Document "F."

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF STREET IMPROVEMENTS, 31 CHAMBERS STREET, ROOM 5,  
NEW YORK, January 10, 1883.

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

SIR—In compliance with your instructions, I have the honor to submit herewith my report of the operations of the Bureau of Street Improvements for the three months of October, November and December, as also for the year 1882 :

During the year 63 contracts have been completed, at a cost of \$317,716.35, and for which assessment lists have been transmitted to the Chief Clerk's office.

WORKS UNDER CONTRACT.

Sixty-second street, from Tenth to Eleventh avenue—  
This work is so near done that it can be completed in ten or twelve days if the weather proves favorable.

Sixty-sixth street, from Eighth avenue to Boulevard—  
This old contract is now progressing rapidly, and will probably be completed in the spring months.

Eighty-third street, from Boulevard to Riverside Drive, and Eighty-eighth street, from Tenth avenue to Riverside Drive—  
These works are being carried on, and both bid fair to be completed in April next.

Eighty-fifth street, from Ninth to Tenth avenue—  
The rock-cutting on this street is so far advanced that work can be easily finished during the spring months.

Eighty-ninth street, from Eighth to Tenth avenue—  
This large contract has been actively carried on since the commencement of the work thereon, and can be finished in May or June.

Ninety-eighth and Ninety-ninth streets, from Fourth to Fifth avenue—  
These contracts being on low land, will require a large amount of filling-in to bring them up to the required grade ; the work thereon is, however, so far advanced that it is expected that they will be completed during the next season.

One Hundredth street, from Third to Second avenue—  
This work is over part of what is known as the Harlem marshes, and is about half done ; it will take a part of the next summer to complete it.

One Hundredth and One Hundred and First sts., from Third ave. to five feet east of Fourth avenue—  
These are both large works, consisting almost entirely of earth and rock excavation, and it will probably take a year to complete them.

One Hundred and Twelfth street, from Madison to Sixth avenue—  
This contract has not made much progress for some time back ; it is to be hoped, however, that it will be fully completed during the coming season.

One Hundred and Twelfth street, from Seventh to Eighth avenue—  
This work is progressing rapidly, and will be finished next summer.

One Hundred and Thirteenth street, from Fifth to Eighth avenue—  
This is quite a large work, and is at present so far advanced that it can be easily finished by next May.

One Hundred and Seventeenth street, from Fourth to Fifth avenue—  
This work consists almost entirely of rock-cutting, work on which has not yet commenced ; it will take more than a year to complete it.

One Hundred and Eighteenth street, from Fourth to Sixth avenue—  
This is a large work, consisting mostly of rock-cutting, and will be finished during next year.

One Hundred and Twenty-second street, from Seventh to Eighth avenue—  
Is not a large work, and can easily be finished by the first of May next.

One Hundred and Twenty-third street, from Ninth avenue to Avenue St. Nicholas—  
This work will be completed during the spring months.

One Hundred and Thirty-seventh street, from Fifth to Seventh avenue—  
The work on this contract is so far advanced that its completion may be expected before the first of June next.

One Hundred and Forty-first street, from Seventh to Eighth avenue—  
The contractor of this work can easily complete it during the summer months.

One Hundred and Fifty-third street, from sixty feet east of Seventh avenue to New avenue—  
This is a very heavy piece of rock-cutting, and it is probable that it will take more than a year to complete the same.

One Hundred and Seventy-fifth street, from Tenth avenue to Kingsbridge road—  
This is a very large work and is at present in active progress, and it is hoped that it can be completed during the year, as it is a very necessary connecting link between Tenth avenue and the Kingsbridge road.

Ninth avenue, from One Hundred and Fiftieth to One Hundred and Fifty-fifth street—  
This avenue is so well advanced that it can be easily completed during the spring months.

Filling in low and sunken land between One Hundred and Forty-third and One Hundred and Fifty-fifth streets, and Eighth and Ninth avenues—  
The work of filling in upon these low lands up to a point 5 feet above high water has progressed to a considerable extent during the past season and will probably be completed during the ensuing year.

Morningside avenue, west—  
The erection of a retaining-wall along the east side of this avenue has made such rapid progress since its commencement, in July, last, that it is expected that the balance of it may be completed during this year, which, with the regulating and grading of said avenue carried on at the same time, will open up all the property fronting thereon (upon this high ground) to such improvements as the owners thereof may desire.

Gansevoort Market—  
The legislature having set apart the block bounded by West street, Thirteenth avenue, Gansevoort and Bloomfield streets as additional ground for the Farmers' Market, and the proceedings for taking title thereto were commenced, but not being yet completed, has prevented this space, in its entirety, from being prepared for their use. A portion, however, (fronting on West street, Gansevoort street and Bogart street), being in possession of the city is now under contract for this purpose, and so far advanced that, although the work thereon is at present suspended on account of the inclemency of the winter season, it can be easily finished in the spring months.

APPROPRIATIONS.

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

The amount appropriated for this purpose was \$1,500, which sum, in addition to other necessary expenses, has been mainly used to defray the expenses of numbering the streets of the Twenty-third and Twenty-fourth Wards under the direction of a series of resolutions adopted by the Common Council for that purpose. With the population of this part of the city rapidly increasing, and the erection of a large number of houses for its accommodation, there was so much confusion in regard to locating residences therein, that its numbering became a matter of necessity. The work, although not yet completed, is at present so far advanced that most of the difficulty, as to finding a location desired, has been removed. The bureau has been greatly assisted by the active co-operation of the citizens themselves in producing this result in at once placing the numbers given to them upon their houses and stores, thus securing to themselves also all the advantages of the movement as soon as possible.

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

Such portions of the amount of \$1,500 (the sum set apart for this purpose), have been used for repairs and renewals of sidewalks in front of city property as from time to time became necessary.

Respectfully submitted,

GEO. A. JEREMIAH, Superintendent of Street Improvements.

Statement showing Works in Bureau of Street Improvements, on the 31st day of December, 1882.

LOCATION OF WORK.	CONTRACTOR.	SURVEYOR.	INSPECTOR.	CONTRACT TIME, DAYS.	ESTIMATED COST.	AMOUNT EARNED.	AMOUNT RETAINED.	AMOUNT PAID.	REMARKS.
Regulating, Grading, Curb and Flagging—									
Morningside avenue, One Hundred and Tenth street to Tenth avenue.....	James W. O'Grady...	Peter J. Moran....	James McCarthy....	350	\$60,599 10	\$28,625 20	\$8,578 56	\$20,037 64	
Fourth avenue, One Hundred and Thirty-third street to One Hundred and Thirty-fifth street.....	James H. Perkins...	W. V. Smith.....	John Richardson....	70	3,854 50	.....	.....	.....	
East side Fifth avenue, Seventy-second street to Eighty-sixth street.....	John S. Masterson...	W. V. Smith.....	.....	10	2,702 40	.....	.....	.....	Work not yet commenced.
Ninth avenue, One Hundred and Fifty-first street to One Hundred and Fifty-fifth street.....	John Brady.....	W. V. Smith.....	Robert Gardner....	100	4,418 40	.....	.....	.....	
First avenue, Ninety-second street to One Hundred and Ninth street.....	Thomas E. Crimmins.	W. V. Smith.....	.....	275	20,651 80	21,242 43	6,372 73	14,869 70	{ Work completed, but not yet accepted.
Sixty-second street, Tenth avenue to Eleventh avenue.....	D. K. Gallagher.....	T. J. Slator.....	James Murray.....	100	4,922 10	.....	.....	.....	
Sixty-sixth street, Eighth avenue to Boulevard.....	John Mulholland.....	F. M. Leonard.....	Jeremiah Chadwick..	300	14,372 76	8,219 50	2,465 85	5,753 65	
Eighty-third street, Boulevard to Riverside drive.....	John Brady.....	R. L. Waters.....	Adam Moser.....	75	5,331 69	.....	.....	.....	
Eighty-fifth street, Ninth avenue to Tenth avenue.....	Hugh Duffy.....	W. V. Smith.....	Dyer D. Lum.....	150	7,029 00	5,184 00	1,555 20	3,668 80	
Eighty-eighth street, Tenth avenue to Riverside drive.....	John Brady.....	E. L. Viele.....	F. S. McAvoy.....	75	9,180 00	19,370 00	5,811 00	13,559 00	
Eighty-ninth street, Fourth avenue to Fifth avenue.....	James Slattery.....	W. V. Smith.....	G. G. Banzer.....	300	27,538 00	5,300 00	1,590 00	3,710 00	
Ninety-eighth street, Fourth avenue to Fifth avenue.....	Abraham Dowdney..	M. A. Kellogg.....	Matthew Stripp.....	350	6,101 50	.....	.....	.....	
Ninety-ninth street, Fourth avenue to Fifth avenue.....	Abraham Dowdney..	J. McIntyre Smith..	G. G. Banzer.....	350	8,611 50	.....	.....	.....	
One Hundredth street, Third avenue to Second avenue.....	Patrick Farley.....	J. McIntyre Smith..	L. Keenan.....	585	3,546 20	.....	.....	.....	
One Hundredth street, Third avenue to five feet east of Fourth avenue.....	D. K. Gallagher.....	W. V. Smith.....	Morgan L. Ogden....	300	26,614 90	.....	.....	.....	
One Hundred and First street, Third avenue to five feet east of Fourth avenue.....	John Kinsley.....	J. McIntyre Smith..	John Reilly.....	300	25,789 44	.....	.....	.....	
One Hundred and Twelfth street, Madison avenue to Sixth avenue.....	Phelan & Haughton..	W. V. Smith.....	J. J. Fitzgerald.....	320	10,359 50	.....	.....	.....	
One Hundred and Twelfth street, Seventh avenue to Eighth avenue.....	John Brady.....	E. E. McLean.....	Hugh Corrigan.....	275	13,857 40	.....	.....	.....	
One Hundred and Thirteenth street, Fifth avenue to Eighth avenue.....	James Slattery.....	W. V. Smith.....	W. S. Edwards.....	350	38,541 20	29,099 00	8,729 70	20,369 30	
One Hundred and Sixteenth street, Eighth avenue to Ninth avenue.....	Thomas E. Crimmins.	R. L. Waters.....	William Turner.....	200	9,777 40	.....	.....	.....	
One Hundred and Seventeenth street, Fourth avenue to Fifth avenue.....	Patrick Farley.....	John E. Eustis.....	.....	500	35,778 00	.....	.....	.....	Work not yet commenced.
One Hundred and Eighteenth street, Fourth avenue to Sixth avenue.....	Michael Finn.....	W. V. Smith.....	W. H. Johnson.....	250	29,952 30	.....	.....	.....	
One Hundred and Twenty-second street, Seventh avenue to Eighth avenue.....	James H. Perkins...	E. E. McLean.....	P. H. Kedney.....	28	2,868 30	.....	.....	.....	
One Hundred and Twenty-third street, Avenue St. Nicholas to Ninth avenue.....	Michael Finn.....	W. V. Smith.....	W. J. Weiant.....	60	1,848 00	.....	.....	.....	
One Hundred and Thirty-seventh street, Fifth avenue to Seventh avenue.....	Michael Finn.....	W. V. Smith.....	T. Connors.....	250	9,883 30	3,528 00	1,058 40	2,469 60	
One Hundred and Forty-first street, St. Nicholas avenue to Tenth avenue.....	James Reilly.....	Chas. H. Haswell..	W. B. Williams.....	150	10,934 80	.....	.....	.....	
One Hundred and Forty-first street, Seventh avenue to Eighth avenue.....	Michael Finn.....	W. V. Smith.....	John Mahon.....	100	6,111 16	.....	.....	.....	
One Hundred and Fifty-third street, sixty feet east of Seventh avenue to New avenue.....	Patrick Farley.....	J. McIntyre Smith..	N. Frank.....	350	23,435 30	5,860 00	1,758 00	4,102 00	
One Hundred and Seventy-fifth street, Tenth avenue to Kingsbridge road.....	George F. Doak.....	M. A. Kellogg.....	George W. Nash.....	224	28,398 50	.....	.....	.....	
Gansevoort Market—									
West street, Gansevoort street and Bogart street.....	M. A. Kellogg.....	Horace Loomis....	.....	100	18,688 60	10,370 13	3,111 04	7,259 09	Work suspended.
Boulevard and Avenues—									
Eleventh avenue, One Hundred and Fifty-fifth street to Kingsbridge road.....	M. Noonan.....	G. E. Babcock.....	.....	300	65,523 20	53,545 60	16,063 68	37,481 92	{ Work completed, but not yet accepted.
Filling in Low and Sunken Land—									
One Hundred and Forty-third and One Hundred and Fifty-fifth streets, Eighth avenue to Ninth avenue.....	William Everard.....	W. V. Smith.....	A. J. Fleming.....	350	47,260 00	15,300 00	4,590 00	10,720 00	
Total.....					\$584,480 45	\$205,643 86	\$61,693 16	\$143,950 70	



*Works Completed during the Year 1882.*

*Amount of Work done during the Year 1882.*

*Amount of Vouchers drawn during the Year 1882.*

NATURE AND LOCATION OF WORK.		AMOUNT.	AMOUNT.
Regulating, grading, etc.	Avenue B, from Eighty-sixth to Eighty-seventh street.....	\$1,719 69	
"	Fourth avenue, from Ninety-sixth to One Hundred and Second street.....	35,192 06	
"	Ninth avenue, from Eighty-first to One Hundred and Tenth street.....	24,394 96	
"	Seventy-first street, from Boulevard to Eleventh avenue.....	5,748 06	
"	Seventy-third street, from Third avenue to East river.....	40,800 69	
"	Seventy-fifth street, from Tenth avenue to Riverside Drive.....	10,739 61	
"	Eighty-first street, from Boulevard to Riverside Drive.....	8,780 80	
"	Eighty-second street, from Avenue B to Avenue A.....	1,406 59	
"	Eighty-seventh street, from Tenth avenue to Boulevard.....	2,432 17	
"	Ninety-third street, from Boulevard to West End avenue.....	2,149 40	
"	Ninety-fourth street, from Eighth avenue to Boulevard.....	13,356 28	
"	Ninety-eighth street, from Second to Third avenue.....	4,452 16	
"	Ninety-eighth street, from Third to Fourth avenue.....	27,776 22	
"	One Hundred and First street, from Second to Third avenue.....	6,251 26	
"	One Hundred and First street, from Ninth to New avenue.....	6,287 09	
"	One Hundred and Fifth street, from Third to Fourth avenue.....	1,476 30	
"	One Hundred and Fifth street, from Fourth to Fifth avenue.....	4,505 87	
"	One Hundred and Sixth street, from Madison to Fifth avenue.....	1,335 31	
"	One Hundred and Twelfth street, from Sixth to Seventh avenue.....	4,903 88	
"	One Hundred and Thirteenth street, from Fourth to Fifth avenue.....	2,985 96	
"	One Hundred and Fifteenth street, from Boulevard to Riverside Drive.....	7,582 80	
"	One Hundred and Fifteenth street, from Tenth to Morningside avenue.....	6,771 17	
"	One Hundred and Sixteenth street, from Tenth to Morningside avenue.....	7,502 30	
"	One Hundred and Seventeenth street, from Fifth to Sixth avenue.....	6,407 58	
"	One Hundred and Eighteenth street, from Sixth to Seventh avenue.....	5,959 84	
"	One Hundred and Nineteenth street, from Sixth to Seventh avenue.....	7,766 22	
"	One Hundred and Twenty-fifth street, from Manhattan street to Boulevard.....	19,211 69	
"	One Hundred and Twenty-ninth street, from Sixth to Seventh avenue.....	998 29	
"	One Hundred and Fifty-second street, from Ninth to St. Nicholas avenue.....	920 85	
"	One Hundred and Fifty-third street, from Ninth to St. Nicholas avenue.....	977 88	
"	One Hundred and Fifty-third street, from Tenth avenue to Boulevard.....	6,283 86	
"	One Hundred and Fifty-ninth street, from Tenth to Eleventh avenue.....	8,777 85	
Curb and flagging.....	Lexington avenue, from Ninety-sixth to Ninety-seventh street, Eighty-seventh street, from Eighth to Tenth avenue.....	\$794 45	\$285,855 48
"	One Hundred and Sixth street, from Fourth to Madison avenue.....	6,138 94	
"	One Hundred and Thirteenth street, from Fourth to Fifth avenue.....	1,749 77	
"	One Hundred and Seventeenth street, from Fifth to Sixth avenue.....	3,165 21	
"	One Hundred and Twenty-second street, from Sixth to Seventh avenue.....	3,449 65	
"		2,748 63	
Flagging.....	West side of First avenue, from Forty-first to Forty-second street, and from Forty-third to Forty-fourth street.....	\$277 74	18,046 65
"	East side of Fifth avenue, from Sixty-fifth to Sixty-sixth street, etc.....	279 32	
"	North side of Thirteenth street, from Avenue D to Avenue C.....	675 06	
"	South side of Thirty-fourth street, from Eleventh to Twelfth avenue.....	972 35	
"	Forty-third street, from Lexington to Fourth avenue.....	570 53	
"	South side of Eightieth street, from Madison to Fifth avenue.....	394 47	
"	Eighty-third street, from Eighth avenue to Boulevard.....	3,684 77	
"	One Hundred and Nineteenth street, from Second to Third avenue.....	476 90	
"	One Hundred and Nineteenth street, from Fourth to Sixth avenue.....	3,452 98	
Fencing vacant lots.....	East side of Avenue A, from Ninety-second to Ninety-third street.....	\$50 78	10,784 12
"	Southeast corner of Fourth avenue and One Hundred and Eighteenth street.....	57 94	
"	Southwest corner of Fourth avenue and One Hundred and Twenty-fourth street.....	103 57	
"	West side of Fourth avenue, from One Hundred and Fourth to One Hundred and Fifth street.....	43 80	
"	West side of Sixth avenue, from One Hundred and Twenty-second to One Hundred and Twenty-third street, etc.....	259 08	
"	West side of Ninth avenue, from Seventy-first to Seventy-second street.....	699 03	
"	Southwest corner of Lexington avenue and One Hundred and Eleventh street.....	69 91	
"	Southwest corner of Lexington avenue and One Hundred and Twenty-first street.....	62 20	
"	Southwest corner of First avenue and One Hundred and Twenty-fourth street.....	88 05	
"	Southwest corner of Sixth avenue and One Hundred and Twenty-fourth street.....	73 97	
"	Block bounded by Seventy-first and Seventy-second streets, and Eighth and Ninth avenues.....	376 02	
"	South side of Seventy-ninth street, from Third to Lexington avenue.....	51 62	
"	Eighty-third street, from Eighth avenue to Boulevard.....	757 73	
"	South side of One Hundred and Fourth street, from Fourth to Madison avenue.....	67 95	
"	North side of One Hundred and Twenty-third street, beginning 125 feet west of First avenue.....	61 95	
"	South side of One Hundred and Thirty-second street, from Fifth to Sixth avenue.....	206 50	
Total.....			\$317,716 35

### RECAPITULATION.

32 contracts for regulating, grading, etc.....	\$285,855	48
6 " " curb and flagging.....	18,046	05
9 " " flagging.....	10,784	12
16 " " fencing vacant lot.....	3,030	10
63 contracts,	\$317,716	35

## Document "G."

DEPARTMENT OF PUBLIC WORKS,  
OFFICE OF ENGINEER IN CHARGE OF SEWERS, 31 CHAMBERS STREET,  
ROOM 9, NEW YORK, January 5, 1883.

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

SIR—With my last quarterly report, I would respectfully submit a statement of the transactions of this bureau for the year ending December 31, 1882.

There have been built  
40,443 linear feet of sewer.  
2,578 linear feet of culvert.  
98 receiving-basins.

Making a total length of sewerage in the city of 391 22-100 miles, and 4,692 receiving-basins, exclusive of the Twenty-third and Twenty-fourth Wards.

In the improvement of defective sewerage  
4,254 linear feet of sewer have been entirely rebuilt.  
1,556 linear feet of sewer have been repaired.

219 receiving-basins have been rebuilt and repaired.  
756 manholes have been repaired.  
271 manholes have been fitted with perforated ventilating covers.

47,446 linear feet of sewer and  
2,480 receiving-basins have been cleaned.  
7,075 cart loads of sewer dirt have been removed.  
During the past year new work has been contracted for to the extent of  
27,635 linear feet of sewer.  
2,497 linear feet of culvert.  
95 receiving-basins.



The following list shows the location of the several works contracted for and in progress during the year, viz.:

Sewer in One Hundred and Fifty-third street, between Tenth avenue and Avenue St. Nicholas.

Sewer in One Hundred and Forty-first street, between Seventh and Eighth avenues.

Sewer in Ninth avenue, between One Hundred and Fifty-second and One Hundred and Fifty-fifth streets, and in One Hundred and Fifty-fifth street, between Ninth avenue and Avenue St. Nicholas.

Sewer in Madison avenue, between One Hundred and Nineteenth and One Hundred and Twenty-first streets, and in One Hundred and Twentieth and One Hundred and Twenty-first streets, between Fourth and Madison avenues, connecting with present sewers in Fourth avenue and One Hundred and Twentieth street.

Sewer in Riverside and Twelfth avenues, between One Hundred and Twenty-second and Manhattan streets.

Sewer in West End avenue (formerly Eleventh avenue), between Ninety-first and Ninety-sixth streets, and in Ninety-third street, between West End avenue and Boulevard.

Sewer in West End avenue (formerly Eleventh avenue), between Ninety-sixth and One Hundred and Fifth streets.

Sewer in Fourth avenue, east side, between One Hundred and Second and One Hundred and Third streets, and in One Hundred and Second street, between Fourth and Lexington avenues.

Sewer in Riverside avenue, between One Hundred and Sixth and One Hundred and Eleventh streets.

Sewer in Riverside avenue, between One Hundred and Eleventh and One Hundred and Twenty-second streets, with outlet through Riverside Park and One Hundred and Fifteenth street to Hudson river.

Sewer in Lexington avenue, between Eighty-first and Eighty-second streets.

Sewer in Second avenue, west side, between Ninety-fifth and Ninety-sixth streets, with branches in Ninety-sixth street, between Second and Third avenues.

Sewer in Riverside avenue, between Ninety-second and One Hundred and Sixth streets.

Sewer in Riverside avenue, between Seventy-sixth and Ninety-second streets, and outlet through Riverside Park and Ninety-first street to Hudson river.

Sewer in Eighty-second street, between Eighth and Tenth avenues.

Sewer in Seventy-eighth street, between Ninth and Tenth avenues.

Sewer in Sixty-eighth street, between Eighth avenue and Boulevard.

Sewer in First avenue, between Twenty-first and Twenty-fourth streets.

Sewer in One Hundred and Fifty-eighth street, outlet sewer.

Sewer in West street, between Spring and West Eleventh streets, with connections, to present sewers and alterations and improvements to existing sewers and their appurtenances in Sewerage District No. 20.

Sewer in Seventieth street, between Boulevard and Ninth avenue.

Sewer in One Hundred and Twenty-third street, between Fourth and Madison avenues.

Sewer in One Hundred and Fifteenth street, between Fifth and Sixth avenues.

Sewer in One Hundred and Sixth street, between summit east of Tenth avenue and new avenue between Eighth and Ninth avenues.

Sewer in Eighty-seventh street, between Ninth and Tenth avenues.

Sewer in Eighty-third street, between Riverside and West End avenues.

Sewer in extension in Eighty-first street, between Fourth and Madison avenues.

Sewer in One Hundred and First street, between Riverside and West End avenues.

Sewer in Seventy-third street, between First and Third avenues.

Sewer in alteration and improvement Twenty-third street, between Eleventh and Thirteenth avenues, with branches in Thirteenth avenue, between Twenty-third and Twenty-fourth streets.

Sewer in Front street, between Broad street and Old slip, and in Coenties slip, between Front and South streets.

Sewer in Broadway, east side, between Liberty street and Maiden Lane.

Sewer in Cherry street, between Corleams and Jackson streets.

Sewer in Mangin street, between Broome and Delancey streets, and between Rivington and Stanton streets.

Sewer in Seventy-second street, between Avenue A and First avenue, from end of present sewer.

Sewer in One Hundred and Nineteenth street, between Sixth avenue and summit east of Sixth avenue.

Sewer in Fourth avenue, east side, between Eighty-second and Eighty-third streets.

Sewer in Fourth or Park avenue, east side, between Thirty-fifth and Thirty-sixth streets, from end of present sewer.

Sewer in Front street, between Old Slip and Cuyler alley.

Sewer in Ninety-fourth street, between Ninth and Tenth avenues.

Sewer in One Hundred and Twelfth street, between Seventh and Eighth avenues.

Sewer in One Hundred and Twentieth street, between Fifth and Sixth avenues, in One Hundred and Twenty-first and One Hundred and Twenty-second streets, between Mount Morris and Sixth avenues, and in Mount Morris avenue, between One Hundred Twentieth and One Hundred and Twenty-second streets.

Sewer in West End avenue (formerly Eleventh avenue), between Seventy-sixth and Eighty-ninth streets, and in Eightieth street, between Boulevard and Riverside avenue.

Sewer in West End avenue (formerly Eleventh avenue), between Sixty-fifth and Sixty-sixth streets, and in Sixty-fifth street, between West End and Tenth avenues.

Sewer in Montgomery street, between Cherry and Water streets, from end of present sewer in Water street.

Alteration and improvement, Seventy-second street, between Eighth and Ninth avenues.

Sewer in Seventy-fifth street, between West End avenue and Boulevard.

Sewer in Tenth avenue, between Tenth avenue and Boulevard.

Sewer in Ninety-second street, between First and Second avenues, from end of present sewer in First avenue.

Sewer in Ninety-second street, between Avenue A and First avenue.

Sewer in repairs, Ninety-fifth street, between Second and Third avenues.

Sewer in One Hundred and Sixteenth street, between Eighth and new avenues, between Eighth and Ninth avenues.

Sewer in Twentieth street, between Fourth avenue and Irving Place, from end of present sewer in Twentieth street, east of Irving Place.

Sewer in Sixth avenue, east side, between Fifty-third and Fifty-fourth streets.

Sewer in Lexington avenue, between Eighty-fifth and Eighty-sixth streets.

Sewer in Twenty-fourth, Twenty-fifth and Twenty-sixth streets, between Eleventh and Thirteenth avenues, and in Thirteenth avenue between Twenty-fourth and Twenty-seventh streets, with alterations and improvements to existing sewers.

Sewer in Seventieth street, between Avenue A and East river.

Sewer in Seventieth street, between Eighth and Ninth avenues, from end of present sewer, west of Ninth avenue.

Sewer in Seventy-first street, between Avenue A and East river.

Sewer in One Hundred and Twenty-sixth street, between Ninth avenue and Avenue St. Nicholas.

Sewer in completion, unfinished outlet, One Hundred and Fifty-eighth street, from Hudson river to and through road or public drive, and in One Hundred and Fifty-seventh street to Tenth avenue, with branches in Tenth avenue between One Hundred and Fifty-fifth street and Kingsbridge road, in road or public drive, and Eleventh avenue (east side) between One Hundred and Fifty-sixth and One Hundred and Fifty-seventh streets, and in One Hundred and Fifty-sixth street, between Tenth avenue and road or public drive.

Sewer in alteration and improvement, Thompson street, between Canal and Broome streets, and in Grand street, between Thompson and Wooster streets.

Sewer in Tenth avenue, east side, between One Hundred and Fourteenth and One Hundred and Sixteenth streets, with branches in One Hundred and Sixteenth street.

Sewer in Tenth avenue, east side, between One Hundred and Sixteenth and One Hundred and Eighteenth streets.

Sewer in Tenth avenue, east side, between One Hundred and Twenty-eighth and One Hundred and Thirtieth streets.

Sewer in Avenue A, between Ninety-second street and Harlem river.

Sewer in Eleventh avenue, east side, between Thirty-fifth and Thirty-sixth streets.

Sewer in Second avenue, west side, between First and Second streets.

Sewer in Thompson street, between West Third and West Fourth streets.

Sewer in Seventy-third street, between First avenue and Avenue A.

Receiving-basins in First avenue, between Ninety-ninth and One Hundred and Ninth streets. Receiving-basins on the southeast and southwest corners of One Hundred and Forty-second and One Hundred and Forty-third and One Hundred and Forty-fourth streets and Eighth avenue.

Also the following separate receiving-basins built under special contract, viz.:

West side of Fifth avenue opposite One Hundred and Second street.

Southwest corner of One Hundred and Eighth street and Fourth avenue.

Northwest corner of One Hundred and Sixth street and Third avenue.

Northeast corner of One Hundred and Twenty-fifth street and Madison avenue.

Northeast corner of Eighty-sixth street and Madison avenue.

Northwest corner of One Hundred and Fifty-third street and Ninth avenue.

Southwest corner of Madison and Chestnut streets.

Northeast corner of Twenty-third street and Avenue A.

Northwest and southwest corners of One Hundred and Seventh street and Tenth avenue.

Southeast corner of Sixty-fourth street and First avenue.

Northeast corner of the Park, at junction of Beach street and West Broadway.

Southwest corner of Sixty-seventh street and Third avenue.

Among the principal works completed during the past year, I would mention the collective sewer in West street, between Canal and West Eleventh streets, discharging at Clarkson street through Pier No. 40 into the tideway of the Hudson river, as well as a general repair, under the same contract, to all the sewers and receiving basins in the district lying generally between Canal and West Eleventh streets, west of Broadway. This sewer is the first section of the system of main intercepting sewers to be built in West and South streets, by this Department, in connection with the improvement of those streets and the water-front by the Department of Docks.

The great improvement to the sanitary condition of this whole district is very apparent, especially to the river-front, which heretofore has been rendered unwholesome from the discharge of sewage from the many sewers that emptied into the still water of the old slips, where it accumulated and remained until removed by dredging.

The sewers of this district are now ventilated by two hundred manholes, with perforated ventilating covers.

The intercepting sewers will be extended as fast as the bulkhead wall with the river street is built. The width of the new river streets, two hundred and fifty feet, will admit the building of the sewers without interfering with public travel and access to the piers.

Another work, completed in December, 1881, I would again mention on account of the greatly improved sanitary condition of the large and very valuable district it was designed to benefit, is the deep sewer in Fifth avenue, from Fifty-ninth street, south to Fifty-fifth street. This sewer underlies the low swampy surface through which it passes, and following, as it does, the old water ways, drains the subsoil water from a large district now almost wholly built over. The sanitary benefit from this work will be felt as soon as the long saturated soil has more fully had time to thoroughly dry out. Such deep sewerage could be extended with advantage to the district lying north of Fifty-ninth street, from the Fifth to Lexington avenue, which was once covered by swamps and ponds. This district was sewerage previous to 1870, without reference to subsoil drainage, the sewers being laid at a uniform depth of thirteen feet below the street surface, and often as many feet above the natural level of the ground. Sewers so laid on made ground cannot be kept in even fair working order excepting at great expense and constant attention, and even then there may be defects that cannot be detected or located. These sewers are mostly of pipe and too small to enter for the purpose of examination. House drains are occasionally found discharging no waste into the public sewer and on examination the drain is found broken and the sewage leaking into the made ground on which the house drain had been laid. Several such cases were met with in Fifty-sixth street. The owners in every such case are notified of the condition of their house drain and advised to make the necessary repairs.

As the public sewers are put in repair all house drains should be made perfect, for, no matter how perfect or well made the public sewer may be, if the house drain is improperly laid or broken, great harm must result to the health of a whole neighborhood from the house wastes finding their way through the made ground beneath the dwellings.

The surface of the ground in the vicinity of Grand and Thompson streets, formed over the Lisenard Meadows, has gradually settled several feet, carrying the sewers and street pavement with it. The sewers had so far settled as to make the rebuilding of the Thompson street sewer between Canal and Broome streets, and the Grand street sewer, between Thompson and Wooster streets, necessary. This work is now in progress and will be completed in a few weeks to the very great sanitary benefit of the whole neighborhood, and saving expensive litigation between the owners and the city, which has been going on from time to time for many years on account of damage from the defective old sewers.

The work was both difficult and troublesome, and rendered more so from the fact that the cold winter months had to be selected for doing it, as the disturbance in summer or warm weather of such a large extent of foul old sewers and saturated ground might endanger the health of the city.

Besides the improvements I have mentioned, a great number of smaller works have been completed, especially the repairs to the outlets along the river fronts.

The building of the sewer in Twentieth street, between Irving place and Fourth avenue, will be a great benefit to the sanitary condition of the residents of Gramercy Park. The necessity for this sewer has been apparent to the Department, especially since the interruption of a private sewer running through the rear of lots fronting the south side of the street.

This old sewer is a most wretched affair; too shallow to drain a cellar of the usual depth, and many times larger than can possibly be kept clean by the most lavish use of Croton water, and for most of its length is little better than a long cesspool. This old sewer became so offensive as to decide the Department to build the public sewer in the street. The new sewer, of the usual depth, underlies the old private sewer some five feet, and in its construction sub-soil water was met with in large quantities and taken into the new sewer, which was specially designed for sub-soil drainage as well as sewerage. The sanitary condition of this whole neighborhood would be greatly improved if the old drain was removed and the houses properly connected with the public sewer. Rapid progress has been made in the work of building the sewers on Riverside avenue, and three of the five sections contracted for have been completed. This work has been conducted without accident, and with less inconvenience to the public than is usual in contract work of so large an extent. The use of steam and labor saving machinery is so general that it has become a recognized necessity among contractors for sewer work, and is so considered in making their bids, and we cannot well go back to hand labor with its expense and delays, without greatly increasing the cost of the work. The inconvenience to those using the Riverside avenue for pleasure driving was but slight compared with the importance of pressing the work to an early completion as has been done by the use of steam and labor saving machinery.

The district remaining to be sewerage is generally north of Eighty-sixth street and west of Seventh avenue. Surveys for new sewers are being made in anticipation of their being required for their early use, as it has been customary to defer the building of branch sewers until applied for by owners or recommended by the Board of Health.

I think, in view of the rapid change of ownership of property fronting on many of the unsewered streets, it would be advisable to construct the sewers, even without the usual application, in all streets that are opened by law, where the surface will admit. This would save much delay and disappointment to those who have purchased in view of immediate improvement. The sewers being the necessary preliminary improvement in all building operations; streets already sewerage are the first to be built upon.

The systematic inspection of all sewers has been continued uninterruptedly, and has brought to light many cases of defective sewers, as well as private house drains. This systematic inspection will be continued, as it is the only way that a system of sewers can be maintained in proper order.

The price of labor and materials used in the construction of sewers continues high, making competition in estimating for contract work very sharp, leaving but little margin for profits to the contractor, and for this reason requiring a most rigid inspection, in order to secure a full compliance with the terms of the contract, and I am pleased to note that the work has been performed in every way to my satisfaction, and will compare with any work of its kind in the country.

The law requiring a deposit to accompany each bid for work has operated to secure much more experienced contractors than heretofore, and better work is the consequence.

The ventilation of the public sewers has progressed to the extent of such money as could be spared from the general appropriation for repairing and cleaning sewers; the great number of necessary repairs leaving but a small sum available for the substitution of perforated ventilating manhole covers for the old air-tight ones. There were 560 of such ventilating covers placed on those sewers most needing ventilation.

The ventilation of sewers in this way is becoming an absolute necessity, as the requirements of the Board of Health of placing a trap in the main house drains cuts off all possible sewer escape of air in this way. The appropriation that has been made will allow of a very general improvement in the ventilation of sewers, and should be continued until all sewers are thoroughly ventilated.

There are some 20,000 manholes, each of which will then be a ventilating shaft. About one-half yet remains to be done.

The making of surveys and maps for the legal opening of streets has by law been placed in the Department of Public Works, and assigned to this Bureau. This work has necessarily taken much of my time and attention for the past year from matters pertaining to the sewerage of the city. I regret having had to take this time from my studies for the improvement of the old defective sewerage of the city.

Heretofore the preparation of maps and surveys for street openings had been in the hands of several experienced city surveyors with their trained assistants, who made a specialty of this work, and it will take some time to organize a branch of my bureau for this purpose. I have only been able to accomplish this work by sparing my best draughtsmen to the detriment of the work pertaining to sewers, as I have been unable to procure draughtsmen familiar with this work at prices paid by the city.

#### STREET OPENINGS, ETC.

Under Laws of 1873 and the Consolidated Laws of 1882, chapter 410, etc., the Commissioner of Public Works is required to furnish the necessary plans, maps, and assessment lists for the widening, closing, and opening of all streets. Also under Laws of 1881, chapter 587, the Commissioner is to furnish the necessary maps, plans, etc., for laying out, openings, etc., the new street or avenue between One Hundred and Thirty-fifth street at Avenue St. Nicholas and One Hundred and Thirty-eighth street, near Tenth avenue.

The petitions for the following streets and avenues have been received up to date, for which rule maps have been prepared and forwarded to the Counsel to the Corporation, viz.:

One Hundred and Thirty-fourth street, between Eighth avenue and Avenue St. Nicholas.

One Hundred and Thirty-fifth street, between Eighth avenue and new avenue west of Eighth avenue.

One Hundred and Eighth street, between Fifth avenue and Harlem river.

Fifty-third street, between Tenth and Eleventh avenues.



Fifty-fourth street, between Tenth avenue and Hudson river.  
 One Hundred and Fourteenth street, between Fourth and Eighth avenues.  
 Washington street extension, from Little West Twelfth to Fourteenth street.  
 Lands to be taken under chapter 191, Laws of 1880, for market purposes, Gansevoort Market.  
 Widening of Gansevoort street, from Washington to West Thirteenth, and West Thirteenth, from Gansevoort street to Eighth avenue.  
 Sixty-fourth street, between Third avenue and Harlem river.  
 Lexington avenue, between Ninety-seventh and Ninety-eighth streets, and Ninety-ninth and One Hundred and Second streets.  
 One Hundred and Twenty-sixth street, between First and Second avenues.  
 One Hundred and Twenty-seventh street, between First and Second avenues.  
 One Hundred and Twentieth street, between Eighth and Ninth avenues.  
 One Hundred and Thirty-eighth street, between Boulevard and Tenth avenue.  
 One Hundred and Twenty-fourth street, between Avenue St. Nicholas and Eighth avenue.  
 Extension of Manhattan street, westerly from Twelfth avenue to Hudson river.  
 Pleasant avenue, between One Hundred and Sixth street and Harlem river.  
 One Hundred and Twenty-seventh street, between Eighth avenue and Avenue St. Nicholas.  
 One Hundred and Twenty-eighth street, between Eighth avenue and Avenue St. Nicholas.  
 One Hundred and Twenty-ninth street, between Eighth avenue and Avenue St. Nicholas.  
 One Hundred and Twelfth street, between Eighth avenue and new avenue west of Eighth avenue.  
 One Hundred and Forty-third street, between Seventh avenue and new avenue west of Eighth avenue.  
 One Hundred and Forty-fourth street, between Seventh avenue and new avenue west of Eighth avenue.  
 Laying out and opening of new street or avenue from Avenue St. Nicholas at One Hundred and Thirty-fifth street to One Hundred and Thirty-eighth street near Tenth avenue.  
 Closing of One Hundred and Thirty-seventh street, between Avenue St. Nicholas and a point 860 feet easterly from Tenth avenue.  
 One Hundred and Third street, between Riverside and Eighth avenues.  
 Ninety-seventh street, between Boulevard and Riverside avenue.  
 One Hundred and Thirty-ninth street, between Boulevard and a point 425 feet westerly.  
 One Hundred and Sixty-second street, between Tenth avenue and Edgecombe road.  
 One Hundred and Forty-third street, between Boulevard and Tenth avenue.  
 One Hundred and Fifty-fourth street, between Avenue St. Nicholas and Tenth avenue.  
 Edgecombe road and Eastern Drive, between One Hundred and Fifty-fifth street and Dykeman street at One Hundred and Ninety-eighth street.  
 Total, 34 streets and avenues, 45,873 linear feet.

The damage and benefit maps with their duplicate copies, also first copies for final assessment for openings, representing in each case from 30 to 6,000 lots, of which two copies have to be furnished, some of which have been delivered. The total at this date representing in the aggregate 27,000 lots.

Very respectfully,

STEVENSON TOWLE, Engineer in Charge of Sewers.

#### REPORT OF THE TRANSACTIONS OF THE OFFICE OF ENGINEER IN CHARGE OF SEWERS, FOR THE QUARTER ENDING DECEMBER 31, 1882.

Credit to General Fund—		
Amount received for 267 permits for sewer connections.....	\$6,205	06
Engineers' Fees—		
Amount of Engineers' and Surveyors' fees charged on Assessment Lists and credited to Street Improvement Fund.....	\$5,465	27
Sewers—Repairing and Cleaning—		
Balance on hand September 30, 1882.....	\$23,094	36
Transfer by Board of Estimate and Apportionment, Dec. 5, 1882..	3,000	00
	\$26,094	36
Vouchers transmitted to the Commissioner of Public Works—		
Pay-rolls of laborers, etc.....	\$10,638	30
Repairs to sewer in Ninety-fifth st., between Second and Third aves.	2,788	60
Special repairs.....	7,891	71
Transportation expenses.....	376	94
Materials and Sundries.....	3,236	47
Balance on hand December 31, 1882.....	1,162	34
	26,094	36
Salaries—Sewers—Repairing and Cleaning—		
Balance on hand September 30, 1882.....	\$452	71
Transfer by Board of Estimate and Apportionment, Oct. 31, 1882..	2,500	00
	\$2,952	71
Vouchers transmitted to the Commissioner of Public Works—		
Pay-rolls of inspectors, etc.....	\$2,951	89
Balance on hand December 31, 1882.....	82	
	2,952	71
Salaries—Sewerage System—		
Balance on hand September 30, 1882.....	\$2,202	27
Vouchers transmitted to the Commissioner of Public Works—		
Pay-rolls of engineers, etc.....	\$2,200	78
Balance on hand December 31, 1882.....	1	49
	2,202	27
Surveys, Maps, etc., for Street Openings—		
Balance on hand September 30, 1882.....	\$4,340	57
Vouchers transmitted to the Commissioner of Public Works—		
Pay-rolls of draughtsmen, etc.....	\$1,650	14
Transfer by Board of Estimate and Apportionment, Dec. 5, 1882..	1,400	00
Balance on hand December 31, 1882.....	1,290	43
	4,340	57
Restoring and Repaving—Special Fund—		
Amount received for 373 permits for street openings.....	\$4,466	00
Vouchers transmitted to the Commissioner of Public Works—		
For repaving, etc.....	\$7,232	00
Pay-rolls of inspectors, etc.....	289	03
Materials.....	273	75
	7,794	78
Street Improvement Fund—		
Vouchers transmitted to the Commissioner of Public Works.....	\$121,121	17
Pay-rolls of engineers, etc.....	\$7,533	64
Pay-rolls of inspectors on sewers.....	6,956	00
On contracts for sewers, etc.....	106,631	53
	121,121	17
Work done by Mechanics and Laborers—William Webb, Foreman—		
597 receiving-basins and culverts cleaned.		
7,575 linear feet sewer cleaned.		
871 " sewer rebuilt.		
40 " culvert rebuilt.		
105 " spur pipe laid.		
36 receiving-basins repaired.		
10 new basin heads put on.		
6 basin heads reset.		
7 new basin covers put on.		
2 new manholes built.		
182 manholes repaired.		
56 new manhole heads and covers put on.		
130 manhole heads reset.		
26 new manhole covers put on.		
82 linear feet of curb reset.		
12 " gutter stone relaid.		
121 square feet of flagging relaid.		
619 square yards of pavement relaid.		
3,007 cubic yards of earth excavated and refilled.		
1,442 cart loads of dirt removed.		

#### Work done by Contract—

11,559 linear feet of sewer built.  
 994 " culvert built.  
 31 receiving-basins built.  
 14,000 linear feet of piles driven.  
 100 " house connections built.  
 Making the present total length of sewerage in the city 2,065,631 linear feet (391 22-100 miles), with 4,692 receiving basins.

#### Statement of work done during the year ending December 31, 1882.

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

2,480 receiving-basins and culverts cleaned.  
 47,446 linear feet of sewer cleaned.  
 601 " new sewer built.  
 3,653 " sewer rebuilt.  
 1,556 " sewer repaired.  
 324 " culvert rebuilt.  
 379 " spur pipe laid.  
 37 receiving-basins rebuilt.  
 182 " " repaired.  
 156 new basin heads and covers put on.  
 23 basin heads reset.  
 51 new basin covers put on.  
 16 new manholes built.  
 5 manholes rebuilt.  
 756 manholes repaired.  
 271 new manhole heads and covers put on.  
 526 manhole heads reset.  
 289 new manhole covers put on.  
 376 linear feet of new curb set.  
 108 " curb reset.  
 28 " gutter-stone relaid.  
 37 square feet of new flagging laid.  
 704 " flagging relaid.  
 280 " new crosswalk laid.  
 40 " crosswalks relaid.  
 54 linear feet of box drain built.  
 50 " drain covered with heavy stones.  
 4 new bulkheads built.  
 3,821 square yards of pavement relaid.  
 300 cubic feet of stone wall built.  
 13,788 cubic yards of earth excavated and refilled, and  
 7,075 cart loads of dirt removed.

#### Work done by Contract—

40,443 linear feet of sewer built.  
 2,578 " culvert built.  
 98 receiving-basins built.  
 18 basin heads furnished and set.  
 154 manhole heads and covers furnished and set.  
 324 linear feet of new curb set.  
 364 square feet of new flagging laid.  
 210 cubic yards of new brick work laid.  
 37,458 linear feet of piles furnished and driven.  
 100 " house connections built, and  
 1,151 cubic yards of earth excavated and removed.

#### Credits to General Fund—

Amount received for 1,150 permits for sewer connections..... \$25,209 12

#### Restoring and Repaving—Special Fund—

Amount received for 1,594 permits for street openings..... \$18,352 50

#### Document "H."

NEW YORK, January 15, 1883.

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

SIR—In compliance with your instructions, I have the honor to submit herewith my report for the quarter ending December 31, 1882, of the work done, material used, and amount expended on the Macadam Boulevards, roads, streets, and avenues; also, on the unpaved roads, streets, and avenues under my charge.

Respectfully,

JAMES J. MOONEY, Superintendent of Streets.

The following is the statement of work done during the quarter ending December 31, 1882, on the Macadam roadways:

Repairing Fifth avenue, from Fifty-ninth to One Hundred and Tenth street—Material used on the above was,  
 102 cubic yards of trap-rock, and  
 36 cubic yards of gravel.  
 Repairing Seventy-second street, from Second to Fifth avenue—Material used on the above was,  
 73 cubic yards of trap-rock.  
 30 cubic yards of gravel, and  
 6 cubic yards of Telford.  
 Repairing Avenue A, from Fifty-seventh to Eighty-sixth street—Material used on the above was,  
 110 cubic yards of gravel.  
 Repairing Avenue St. Nicholas, from One Hundred and Twenty-fifth to One Hundred and Forty-fifth street—Material used on the above was,  
 166 cubic yards of sharp sand.  
 16 cubic yards row hook gravel, and  
 200 square feet of flagging laid.  
 Repairing One Hundred and Thirty-fifth street, from Eighth avenue to Boulevard—Material taken off the above was,  
 116 cubic yards of dirt.  
 Repairing One Hundred and Forty-fifth street, from Eighth avenue to the Boulevard—Material taken off the above was,  
 10 cubic yards of dirt.  
 Repairing One Hundred and Fifty-fifth street, from Avenue St. Nicholas to the Boulevard—Material used on the above was,  
 44 cubic yards of sand.  
 Repairing Tenth avenue, from One Hundred and Sixty-fifth to One Hundred and Seventy-fifth street—Material used on the above was,  
 123 square feet of gutter-stone.  
 9 cubic yards of Telford, and  
 70 cubic yards of dirt.  
 Laying bridge stone on Seventh avenue and One Hundred and Twenty-fifth street—  
 160 feet of Belgian bridge stone, and  
 10 loads of sand.  
 Laying bridge stone on Sixth avenue and One Hundred and Twenty-fifth street—  
 160 feet of Belgian bridge stone, and  
 10 loads of sand.  
 Repairing Sixth avenue, from One Hundred and Tenth to One Hundred and Forty-fifth street—Material used on the above was,  
 178 cubic yards of sand.

#### REPAIRING SEWER AND WATER CONNECTIONS.

On One Hundred and Twenty-third street, between Eighth and Mt. Morris avenues.  
 On One Hundred and Twenty-fourth street, between Seventh and Eighth avenues.  
 On One Hundred and Tenth street, between Third and Lexington avenues.  
 On Fifth avenue, between One Hundred and Twenty-fourth and One Hundred and Twenty-fifth streets.  
 On Seventy-second street, between Third and Lexington avenues.  
 On Fifth avenue, 30 feet north of Seventy-eighth street.  
 Material used on the above was—  
 42 cubic yards of trap-rock.  
 14 cubic yards of sharp sand.  
 11½ cubic yards of sharp gravel.  
 6 cubic yards of Telford, and  
 6 cubic yards of earth excavated.



There were 255 basins cleaned on the following streets, avenues, and roads :  
Fifth avenue, between Sixtieth and One Hundred and Ninth streets.  
Fifth, Sixth, and Seventh avenues, between One Hundred and Tenth and One Hundred and Forty-fifth streets.  
One Hundred and Tenth street, between First and Eighth avenues.  
One Hundred and Sixteenth street, between Seventh and Pleasant avenues.  
One Hundred and Twenty-fourth street, between Fifth and Pleasant avenues.  
One Hundred and Twenty-fourth street, between Sixth and Eighth avenues.  
One Hundred and Twenty-third street, between Eighth and Mt. Morris avenues.  
Avenue St. Nicholas, between One Hundred and Tenth and One Hundred and Twenty-fifth streets.

Avenue St. Nicholas, between One Hundred and Twenty-ninth street and Boulevard.  
And 919 cart loads of dirt taken from the same.  
The following streets, roads, and avenues were cleaned :  
Avenue A, from One Hundred and Nineteenth to One Hundred and Twenty-fourth street.  
First avenue, from One Hundred and Ninth to One Hundred and Sixteenth street.  
Fifth avenue, from Fifty-ninth to One Hundred and Thirtieth street.  
Sixth avenue, from One Hundred and Tenth to One Hundred and Forty-fifth street.  
Seventh avenue, from One Hundred and Tenth to One Hundred and Fifty-fourth street.  
Seventy-second street, from First to Fifth avenue.  
One Hundred and Tenth street, from First to Eighth avenue.  
One Hundred and Sixteenth street, from Seventh to Pleasant avenue.  
One Hundred and Twenty-third street, from Eighth to Mt. Morris avenue.  
One Hundred and Twenty-fourth street, from Fifth to Pleasant avenue.  
One Hundred and Forty-fifth street, from Sixth to Eighth avenue.  
And 565 cart loads of dirt taken from the same.  
The following roads, streets, and avenues were sprinkled :  
Boulevard, from Fifty-ninth to One Hundred and Fifty-fifth street.  
Avenue St. Nicholas, from One Hundred and Tenth to One Hundred and Forty-fifth street.  
Avenue A, from Fifty-seventh to Eighty-sixth street.  
First avenue, from One Hundred and Nineteenth to One Hundred and Twenty-fourth street.  
Fifth avenue, from Fifty-ninth to One Hundred and Thirtieth street.  
Tenth avenue, from One Hundred and Sixty-fifth to One Hundred and Seventy-fifth street.  
Seventy-second street, from First to Fifth avenue.  
One Hundred and Tenth street, from First to Fifth avenue.  
One Hundred and Sixteenth street, from First to Fifth avenue.  
One Hundred and Twenty-third street, from Eighth to Mt. Morris avenue.  
One Hundred and Twenty-fourth street, from First to Fifth avenue.  
One Hundred and Forty-fifth street, from Sixth to Eighth avenue.  
One Hundred and Fifty-second street, from Boulevard to Avenue St. Nicholas.  
One Hundred and Fifty-fifth street, from Boulevard to Avenue St. Nicholas.  
Repairing and painting two 2-horse rollers.  
Repairing and painting two road scrapers.  
Sharpening 236 picks.  
Steeling 145 picks.

The following is the amount appropriated for Boulevards, Roads, and Avenues—Maintenance of, for 1882 :

Amount appropriated .....	\$70,000 00
Amount expended for the first quarter .....	7,971 94
Balance April 1, 1882 .....	\$62,028 06
Amount expended for the second quarter .....	21,048 68
Balance July 1, 1882 .....	\$40,979 38
Amount expended for the third quarter .....	20,559 56
Balance October 1, 1882 .....	\$20,419 82

The following is the amount of the expenditure during the fourth quarter, ending December 31, 1882 :

Repairing sprinklers, August .....	\$20 35
“ “ September .....	16 85
“ “ October .....	16 15
“ “ November .....	9 75
“ “ December .....	16 05
“ harness .....	17 90
“ “ .....	9 45
Horse keep, July, August, and September .....	90 00
“ “ October, November, and December .....	90 00
“ shoeing, July, August, and September .....	13 50
“ “ October, November, and December .....	15 00
Coal for steam rollers and shop .....	24 00
“ “ .....	30 00
Horse blankets and covers .....	84 00
Paints, oil, and white lead .....	21 35
Wheels, axles, iron, etc. ....	338 77
Turpentine, vermilion, and R. and B. oils .....	52 90
Belgian bridge-stone .....	937 50
Sharp gravel .....	900 00
Broken stone .....	950 00
Pay-rolls of foremen, laborers, etc. ....	6,429 35
	20,082 87
Balance January 1, 1882 .....	\$336 95

The following is the amount appropriated for Boulevards, Roads, and Avenues—Maintenance of, Salaries Account, for 1882 :

Amount appropriated .....	\$2,400 00
Amount expended for the first quarter .....	350 00
Balance April 1, 1882 .....	\$2,050 00
Amount expended for the second quarter .....	700 00
Balance July 1, 1882 .....	\$1,350 00
Amount expended for the third quarter .....	350 00
Balance October 1, 1882 .....	\$1,000 00

The following is the amount expended during the fourth quarter, ending December 31, 1882 :

Pay-rolls, clerk, messenger, inspector .....	\$187 00
“ “ “ .....	253 00
“ “ “ .....	220 00
“ “ “ .....	286 00
	946 00
Balance January 1, 1883 .....	\$54 00

The following is the amount expended during the quarter ending December 31, 1882—Charge to Restoring and Repaving, Special Fund :

Trap-rock .....	\$600 00
-----------------	----------

The following is a statement of work done, and material used, on the unpaved roads, streets, and avenues, during the quarter ending December 31, 1882, as follows :

One Hundred and Third street, from Fourth to Fifth avenue.  
One Hundred and Eleventh street, from Fourth to Fifth avenue.  
One Hundred and Forty-second street, from Old Broadway to Western Boulevard.  
One Hundred and Forty-third street, from Old Broadway to Western Boulevard.  
One Hundred and Fifty-fifth street, from Ninth avenue to Avenue St. Nicholas.  
One Hundred and Fifty-eighth street, from Tenth avenue to Hudson river.  
One Hundred and Seventy-third street, from Tenth avenue to Kingsbridge road.  
Depot lane, from Hudson river to Kingsbridge road.  
Inwood lane, from Hudson river to Kingsbridge road.  
Farmers' Bridge road, from Harlem river to Kingsbridge road.  
Madison avenue, from Ninety-sixth to One Hundred and Seventh street.  
Eleventh avenue, from One Hundred and Fifty-fifth to One Hundred and Sixty-ninth street.  
Old Broadway, from One Hundred and Forty-fifth to One Hundred and Thirty-eighth street.  
Macadamizing, Eleventh avenue, from One Hundred and Fifty-fifth to One Hundred and Fifty-eighth street.  
Macadamizing, Kingsbridge road, from One Hundred and Fifty-fifth street to Spuyten Duyvil.

Excavating rock on Kingsbridge road, between One Hundred and Seventy-third and One Hundred and Seventy-fourth streets.

Rebuilding culvert on One Hundred and Forty-third street, between Old Broadway and Western Boulevard.

Repairing gutters on One Hundred and Fifty-eighth street, between Eleventh avenue and Hudson river.

#### Material—

670 cubic yards gneiss-stone.  
600 cubic yards limestone.  
193 cubic yards sharp gravel.  
1,300 cubic yards earth and clay.  
74 cubic yards sand.  
459 cubic feet cobble-stones.  
1,620 cubic feet building-stone.  
Excavating 76 cubic yards of rock.

The following is the amount appropriated for Roads, Streets, and Avenues, Unpaved—Maintenance of, for 1882 :

Amount appropriated .....	\$30,000 00
Amount expended for the first quarter .....	2,795 97
Balance April 1, 1882 .....	\$27,204 03
Amount expended for the second quarter .....	6,623 87
Balance July 1, 1882 .....	\$20,580 16
Amount expended for the third quarter .....	8,756 72
Balance October 1, 1882 .....	\$11,823 44

The following is the amount of the expenditure during the fourth quarter, ending December 31, 1882 :

Repairing tools, etc. ....	\$88 45
“ “ .....	86 25
“ “ .....	38 80
Horse keep and shoeing .....	99 00
“ “ .....	99 00
Limestone chips .....	920 00
“ “ .....	920 00
Earth filling .....	430 00
“ “ .....	430 00
Broken stone .....	760 00
Steel sledge and bars .....	92 89
Pay-rolls, foreman, laborers, etc. ....	7,428 98
Filling, earth .....	430 00
	11,823 37
Balance January 1, 1883 .....	\$0 07

## Document "I."

### REPORT OF SUPERINTENDENT OF LAMPS AND GAS.

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF LAMPS AND GAS,  
NEW YORK, January 8, 1883.

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

SIR—In compliance with the directions contained in your circular letter of November 20, I herein submit a report of the transactions of the Bureau of Lamps and Gas, for the three months ending December 31, 1882, with a summary of the same for the entire year.

In Exhibit "A" will be found a statement showing the amounts paid for gas to the various public markets, offices, armories, etc., and for the fitting up, lighting, and maintenance of the public lamps for the first, second, third, and fourth quarters, and the sums total for the whole year. In Exhibit "B" is a summary of the appropriation for "Lamps and Gas and Electric Lighting," and shows an expenditure during the fourth quarter of one hundred and eighty-eight thousand two hundred and forty-four dollars and forty-eight cents (\$188,244.48), and for the year of five hundred and sixty-two thousand five hundred and six dollars and forty-two cents (\$562,506.42), leaving an unexpended balance of twenty-one thousand six hundred and one dollar and fifty-eight cents (\$21,601.58), of which balance the sum of twenty-one thousand dollars (\$21,000.00) has been transferred by the Board of Estimate and Apportionment to various other accounts, leaving a surplus balance of six hundred and one dollar and fifty-eight cents (\$601.58). Exhibit "C" is a summary of the appropriation for "Salaries—Lamps and Gas and Electric Lighting," and shows an expenditure during the fourth quarter of fourteen hundred and ninety-eight dollars and ninety-eight cents (\$1,498.98), and for the year of fifty-eight hundred and eighty-nine dollars and forty-two cents (\$5,889.42), leaving a surplus balance of two dollars and fifty-eight cents (\$2.58). 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; two hundred and seventy-seven new gas-lamps having been lighted, thirty-two lamps relighted, and sixty lamps discontinued during the quarter; and eight hundred and sixty new gas-lamps lighted, one hundred and eighty old lamps relighted, and seven hundred and fifty-nine gas-lamps discontinued during the year. Of the discontinued gas-lamps five hundred and seven were displaced by the seventy-three new electric lamps which were erected by the United States Electric Illuminating Company. The total number of gas-lamps lighted on December 31, 1882, was twenty-three thousand seven hundred and forty-seven, being a net increase over the number lighted on December 31, 1881, of two hundred and eighty-one. Exhibit "E" is a statement showing the lowest, highest, and average illuminating power of the gases supplied to the city by the New York, Municipal, New York Mutual, Metropolitan, Manhattan, and Harlem Gas-light Companies during the quarter and the year. Exhibit "F" is a copy of the contract with the New York Gas-light Company for the lighting of the public lamps of this city, the contracts with the other gas companies being similar, except as to prices. Exhibit "G" is a copy of the conditions prescribed by the Gas Commission under which the Equitable Gas-light Company is to be permitted to lay gas-mains and pipes in the streets of this city. Exhibit "H" is a copy of the time table for lighting the public gas-lamps. The electric lamps are lighted from thirty to forty minutes after sunset, and are kept lighted until about thirty minutes before sunrise, according to the conditions of the weather.

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

BY WHAT GAS COMPANY.	New Lamps Fitted up.	Lamp-posts Removed.	Lamp-posts Reset.	Lamp-posts Straightened.	Columns Refitted.	Columns Relined.
New York Gas-light Co .....	31	57	54	286	69	241
Manhattan Gas-light Co .....	59	66	57	287	66	136
Metropolitan Gas-light Co .....	142	33	67	270	5	47
N. Y. Mutual Gas-light Co .....	2	1	4	35	3	13
Harlem Gas-light Co .....	228	41	57	303	32	45
Central Gas-light Co .....	105	65	59	194	1	19
Northern Gas-light Co .....	102	4	6	2	1	..
Yonkers Gas-light Co .....	187	2	2	..	..	..
Totals .....	856	269	306	1,377	177	501



The following table will show the number of new lamps lighted by the several gas companies in each year from 1876 to 1882, inclusive:

BY WHAT GAS COMPANY.	NEW LAMPS LIGHTED IN—						
	1876.	1877.	1878.	1879.	1880.	1881.	1882.
New York Gas-light Co.....	11	59	150	78	30	26	31
Manhattan Gas-light Co.....	4	112	72	131	58	41	67
Metropolitan Gas-light Co.....	187	67	148	110	137	126	146
New York Mutual Gas-light Co.....	5	1	....	152	1	....	3
Harlem Gas-light Co.....	235	130	130	134	138	99	219
Central Gas-light Co.....	2	55	89	115	42	65	105
Northern Gas-light Co.....	15	41	27	90	....	67	102
Yonkers Gas-light Co.....	....	72	....	....	16	14	187
*N. Y. and N. J. Globe Gas-light Co.	....	8	13	....	....	....	....
Totals.....	459	545	628	810	422	438	860
†Brush Electric Illuminating Co.....	....	....	....	....	23	....	32
†United States Electric Illuminating Co	....	....	....	....	....	....	73

\* Lighted by naphtha.

† Electric lamps.

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 1875 to 1882, inclusive:

BY WHAT COMPANY.	AVERAGE NUMBER OF LAMPS LIGHTED IN—							
	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.
New York Gas-light Co.....	3,009	2,638	2,830	3,148	3,381	3,560	3,565	3,461
Manhattan Gas-light Co.....	6,550	4,996	5,954	6,618	6,683	6,804	6,677	6,495
Metropolitan Gas-light Co.....	3,514	3,633	3,767	3,800	4,068	4,282	4,349	4,529
New York Mutual Gas-light Co.....	584	2,516	1,323	587	800	1,037	986	826
Harlem Gas-light Co.....	3,915	3,938	2,554	3,960	4,280	4,682	4,774	4,950
Central Gas-light Co.....	1,524	1,536	1,569	1,649	1,764	1,834	1,874	1,938
Northern Gas-light Co.....	932	932	969	989	1,026	1,090	1,117	1,181
Yonkers Gas-light Co.....	....	....	....	72	72	76	91	207
*N. Y. and N. J. Globe Gas-light Co.....	....	....	2,106	506	510	....	....	....
†Brush Electric Illuminating Co.....	....	....	....	....	....	23	....	55
†United States Electric Illuminating Co.....	....	....	....	....	....	....	....	73
Totals.....	20,028	20,159	21,203	21,419	22,590	23,365	23,433	23,715

\* Lighted by naphtha.

† Electric lamps.

The following shows the prices named in the proposals which were received on November 28, for furnishing gas during the year 1883 to such of the public buildings as are under the care of the Department of Public Works, also the illuminating or candle power of the gas each gas company proposes to furnish:

PROPOSAL OF—	PRICE PER 1,000 CUBIC FEET FOR 1883.	ILLUMINATING POWER OF GAS IN CANDLES.	CUBIC FEET OF GAS CONSUMED IN THE PUBLIC BUILDINGS IN 1882.	PRICE PAID PER 1,000 CUBIC FEET IN 1882.
New York Gas-light Co.....	\$1 50	18	7,209,171	\$1 75
Manhattan Gas-light Co.....	1 50	16	7,182,588	1 75
Metropolitan Gas-light Co.....	1 50	20 to 23	3,073,217	1 75
Municipal Gas-light Co.....	1 75	25	2,497	2 25
Harlem Gas-light Co.....	2 25	16	758,982	2 25
			18,228,459	

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

The prices charged to private consumers are as follows:

	Per 1,000 Cubic Feet.
By New York Gas-light Co.....	\$2 25
By Manhattan Gas-light Co.....	2 25
By Metropolitan Gas-light Co.....	2 25
By Harlem Gas-light Co.....	2 25
By New York Mutual Gas-light Co.....	2 25
By Municipal 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 Co. has mains in and supplies gas to that part of the city lying south of Grand street.

The Manhattan Gas-light Co. has mains in and supplies gas to that part of the city lying between Grand and Thirty-fourth street.

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

The Harlem Gas-light Co. has mains in and supplies gas to that part of the city lying between Seventy-ninth street and Harlem river.

The New York Mutual Gas-light Co. has mains in and supplies gas to various streets between Battery place and Sixty-sixth street.

The Municipal Gas-light Co. has mains in and supplies gas to various streets between Grand and Seventieth streets.

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

The Central Gas-light Co. supplies gas to the Twenty-third Ward, formerly Town of Morrisania.

The Northern Gas-light Co. supplies gas to the Twenty-fourth Ward, formerly Town of West Farms.

The Yonkers Gas-light Co. supplies gas to a small section of the Twenty-fourth Ward, in former Town of Kingsbridge.

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

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

Gas-mains have been laid during the year, as follows:

	Lineal Feet.
By New York Gas-light Co.....	27,350
By Manhattan Gas-light Co.....	2,845
By Metropolitan Gas-light Co.....	22,746
By New York Mutual Gas-light Co.....	8,100
By Municipal Gas-light Co.....	241
By Harlem Gas-light Co.....	23,943
By Knickerbocker Gas-light Co.....	3,999
By Central Gas-light Co.....	12,864
By Northern Gas-light Co.....	2,100
By Yonkers' Gas-light Co.....	30,622

Total miles laid in 1882.....

The New York Gas-light Co. has taken up.....	25,880
The Harlem Gas-light Co. has taken up.....	20,981
The Yonkers Gas-light Co. has taken up.....	976
	2,323

The total miles of gas-mains in the streets of this city on December 31, 1882, was as follows:

	Miles.	Feet.
New York Gas-light Co.....	115	2,265
Manhattan Gas-light Co.....	175	1,285
Metropolitan Gas-light Co.....	142	1,706
New York Mutual Gas-light Co.....	120	400
Municipal Gas-light Co.....	76	927
Harlem Gas-light Co.....	127	5,130
Knickerbocker Gas-light Co.....	66	4,897
Central Gas-light Co.....	47	1,525
Northern Gas-light Co.....	21	4,410
Yonkers Gas-light Co.....	9	3,324

Total miles of gas-mains in the city on December 31, 1882.....

Of these mains 824,770 miles are on Manhattan Island, and 82,320 miles are in the annexed territory north of Harlem river.

The total length of streets lighted is.....

The total length of piers lighted is.....

The total length of bridges lighted is.....

The total area of parks lighted is.....

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

OF WHAT COMPANY.	SULPHUR. (Grs. in 100 cu. ft.)	AMMONIA. (Grs. in 100 cu. ft.)	SULPHURETTED HYDROGEN.
New York Gas-light Co.....	9.00	0.23	None.
Manhattan Gas-light Co.....	21.70	6.61	"
N. Y. Mutual Gas-light Co.....	5.47	Trace.	Frequently present.
Metropolitan Gas-light Co.....	20.50	1.36	None.
Harlem Gas-light Co.....	23.32	10.82	Frequently present.
Municipal Gas-light Co.....	3.62	0.23	None.

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

The following shows the specific gravity of the several gases:

New York Gas-light Co., specific gravity.....	.630 to .684
Manhattan Gas-light Co., ".....	.415 to .460
New York Mutual Gas-light Co., ".....	.750 to .708
Metropolitan Gas-light Co., ".....	.532 to .568
Harlem Gas-light Co., ".....	.424 to .432
Municipal Gas-light Co., ".....	.630 to .646

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

New York Gas-light Co., water gas, "Tessie du Motay" process.  
Manhattan Gas-light Co., coal gas.  
New York Mutual Gas-light Co., from pine wood and naphtha, and coal gas.  
Metropolitan Gas-light Co., from coal and naphtha.  
Harlem Gas-light Co., coal gas.  
Municipal Gas-light Co., water gas, "Tessie du Motay" process.  
Knickerbocker Gas-light Co., water gas, "Tessie du Motay" process.  
Central Gas-light Co., coal gas.  
Northern Gas-light Co., coal gas.  
Yonkers Gas-light Co., water gas, Slade's process, and coal gas.

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

OF WHAT COMPANY.	AVERAGE MAXIMUM PRESSURE.	AVERAGE MINIMUM PRESSURE.	WHERE TAKEN.	DISTANCE FROM GAS-WORKS.
	Inches.	Inches.		Miles.
New York Gas-light Co.....	1.97	1.67	Cor. Bowery and Grand street..	2 1/10
Manhattan Gas-light Co.....	2.64	1.38	" " "	1 1/10
N. Y. Mutual Gas-light Co.....	2.77	2.01	" " "	1 1/10
Municipal Gas-light Co.....	3.48	1.51	" " "	3 1/10
Metropolitan Gas-light Co.....	1.59	0.85	{ Seventy-ninth street, between Second and Third avenues. }	3 1/10
Harlem Gas-light Co.....	3.36	1.05	{ Seventy-ninth street, between Second and Third avenues. }	1 1/10



Gas-mains have been laid and lamps erected during the year, in Riverdale avenue, from Mount St. Vincent to River avenue, and from the Presbyterian Church to the Port Morris and Spuyten Duyvil and New York City and Northern Railroad stations at Kingsbridge; also, on Broadway, from Riverdale avenue to near Tibbets' brook; on Church street or Kingsbridge avenue, from Riverdale avenue to Broadway; on MacComb street; and in the Old Riverdale road, from Thom's corner to the Hudson River Railroad Station at Spuyten Duyvil. By these means the residents of this (Kingsbridge) section of the Twenty-fourth Ward can now be supplied with illuminating gas, from which they have hitherto been deprived, in consequence of the absence of gas mains in that vicinity. By the lighting of Riverdale avenue there is now a continuous line of street-lamps in this city of nearly sixteen and one-half miles in length, extending from the South Ferry, by way of Broadway, the Boulevard, Avenue St. Nicholas, Kingsbridge road and Riverdale avenue, to the City of Yonkers, while the Yonkers City lamps extend on Riverdale avenue and Warburton avenue, north of the city line, over two and one-half miles, thus making a continuous line of street-lamps of nineteen and one-tenth miles in length.

The United States Illuminating Company, under its contract of April 27, 1882, has erected and lighted 73 electric "Arc" lamps, having 7-16 inch carbons. Of these, 17 are on Battery Park; 10 on City Hall Park; 15 on Washington Park; 24 on Broadway, from Canal to Fourteenth streets; and 7 on Fifth avenue, from Washington Square to Fourteenth street. These 73 electric lamps, at 70 cents per night each, displace 507 gas lamps at \$17.50 per year each.

The Brush Electric Illuminating Company, under its contract, has 55 "Arc" lamps. Of these 6 are on the mast in Union Park; 6 on the mast in Madison Park; 16 on Fifth avenue, from Fourteenth to Thirty-fourth street; 23 on Broadway, from Fourteenth to Thirty-fourth street; 1 on Fourteenth street, between Broadway and Fifth avenue; and 3 on Thirty-fourth street, between Broadway and Fifth avenue. All the street lamps have 7-16 inch carbons, while the 6 lamps in Union Park, and the 6 lamps in Madison Park, have 3/8 inch carbons; and for these large lights the company are allowed for 12 lamps in each park, thus making for this company 67 lamps at 70 cents per night each, which displace 427 gas lamps at \$17.50 per year each.

The United States Illuminating Company has 166 1/2 miles of wire conductors on poles, 553 "Arc" lamps on 31 circuits, and 5 stations.

The Brush Electric Illuminating Company has 150 miles of wire conductors on poles, 1,113 "Arc" lamps on 17 circuits, and two stations.

The Edison Electric Illuminating Company has over 15 miles of conductors underground, and 3,050 incandescent lamps lighted from one station.

In November last an application was received by the Gas Commission from the Equitable Gas-light Company of New York (incorporated in March, 1882), asking for permission to lay gas-mains and pipes in the streets of this city, under certain conditions named by said company. For this privilege the company promised to furnish gas of not less than 25 candle-power; to supply gas to and light the public street lamps at a rate not to exceed \$16 each per annum of 3,833 1/3 hours; to furnish gas to the public buildings of the city at \$1.75 per 1,000 cubic feet; and to the general public at \$2 per 1,000 feet; and gave the city authorities the right to order the company to lay its mains in any of the streets to an extent not exceeding \$10,000 per year.

After due consideration the Gas Commission, on December 23, prescribed and adopted the conditions under which said company might be permitted to lay its mains and pipes. The conditions as agreed to and accepted by the company are much more beneficial to the city and more favorable to the public than those named in the application. Under them the company is to light the public lamps at a rate not to exceed \$12 per annum of 4,000 hours; to furnish gas to all the public buildings of the city on the lines of its mains at \$1.50 per 1,000 cubic feet; and to the public at \$1.75 per 1,000 feet; to pay into the City Treasury the sum of 20 cents for each and every lineal foot of mains laid; and the city authorities have the right to order the company to lay its mains in any of the streets of the city to an extent not exceeding \$20,000 per annum. Stringent provisions are also inserted in regard to the trenches and replacing of the pavements, etc. A full copy of the conditions as agreed to and signed by the Mayor, Comptroller, and Commissioner of Public Works (the Gas Commission) and by the Equitable Gas-light Company, will be found in Exhibit "G."

In my report for the quarter ending December 31, 1880, attention was called to the very large consumption of gas in the armories of the National Guard as compared with the amount consumed in the same buildings in 1877, for which year and prior thereto the bills for gas were paid by the several organizations out of their regimental funds. It was to be hoped that the attention of the regimental commanders being thereby called to the matter, a large reduction in the consumption of gas would consequently be effected. The bills rendered, however, during the year 1882, show that the very large consumption is still maintained, as will be seen by the following

Comparative Statement of the Amounts of Gas Consumed in the Armories of the National Guard during the Years 1877 and 1882.

WHERE LOCATED.	OCCUPIED BY.	GAS CON-SUMED IN 1877.	GAS CON-SUMED IN 1882.	INCREASE IN 1882.
		Cubic feet.	Cubic feet.	Cubic feet.
Over Tompkins Market.....	Seventh Regiment.....	493,700	.....	.....
Over Tompkins Market.....	Sixty-ninth Regiment.....	.....	623,200	219,500
Corner Ninth avenue and Twenty-seventh street.....	Eighth Regiment.....	208,000	552,300	344,300
221 West 26th street.....	Ninth Regiment.....	288,000	774,600	486,600
Over Essex Market.....	Sixty-ninth Regiment.....	90,400	.....	.....
Over Essex Market.....	Eleventh Regiment.....	.....	258,700	168,300
Broadway and Forty-fourth street.....	Twelfth Regiment.....	218,800	350,700	131,900
West Fourteenth street.....	Twenty-Second Regiment.....	316,900	693,300	376,400
Broadway and Thirty-fifth street.....	Seventy-first Regiment.....	119,100	424,700	305,600
Broadway and Forty-fourth street.....	Gatling Battery.....	14,400	44,300	29,900
Fourth avenue and Sixty-seventh street.....	Seventh Regiment.....	.....	1,896,000	1,492,300
Total increase in 1882 over 1877.....				3,554,800

During the past two years several organizations have been disbanded, and hence the consumption of gas by them is not shown in the above statement; but in 1882 nine armories used 5,617,800 cubic feet of gas, while in 1877 thirteen armories used 2,062,420 "

Increase..... 3,555,380 "

From personal observations of the manner in which gas is used in some of the above buildings, I am convinced that the large consumption is entirely unnecessary, and that a large reduction can be made if the commanding officers will see that the armorers and janitors exercise proper care in the matter. It is due to the Seventh Regiment to say that a careful record is kept of all gas consumed in its armory on all occasions not strictly military, and that payment is made by it to the gas company for such gas.

All of which is respectfully submitted.

S. McCORMICK, Superintendent Lamps and Gas.

#### EXHIBIT "A."

Statement showing the Amounts on Vouchers drawn for Gas to the various Public Markets, Armories, Offices, etc., and for fitting up, repairing, and lighting the Public Lamps, etc., for the First, Second, Third, and Fourth Quarters of the year 1882, with the totals for the whole year.

	FIRST QUARTER ENDING MARCH 31.	SECOND QUARTER ENDING JUNE 30.	THIRD QUARTER ENDING SEPT. 30.	FOURTH QUARTER ENDING DEC. 31.	TOTAL.
Washington Market.....	\$458 32	\$356 12	\$319 90	\$453 08	\$1,587 42
Catharine Country Market.....	31 04	14 71	10 45	32 20	94 40
Catharine Meat Market.....	14 70	11 38	12 78	17 15	55 01
Fulton Meat Market.....	366 80	379 75	450 97	472 32	1,669 84
Fulton Country Market.....	300 45	74 37	72 44	89 42	536 68
Essex Market.....	306 43	236 00	225 05	290 85	1,058 33
Centre Market.....	186 19	134 02	127 22	189 53	637 96
Clinton Market.....	12 77	6 83	7 35	12 07	39 02
Union Market.....	126 00	99 39	40 61	.....	266 00
Jefferson Market.....	.....	.....	.....	.....	.....

	FIRST QUARTER ENDING MARCH 31.	SECOND QUARTER ENDING JUNE 30.	THIRD QUARTER ENDING SEPT. 30.	FOURTH QUARTER ENDING DEC. 31.	TOTAL.
Tompkins Market.....	\$324 62	\$228 55	\$189 18	\$303 10	\$1,045 45
First District Police Court.....	216 84	189 87	130 33	217 00	753 04
Second District Police Court.....	144 73	79 98	41 31	107 79	373 81
Third District Police Court.....	108 15	74 72	51 62	98 01	332 50
Fourth District Police Court.....	79 28	52 85	47 78	83 47	263 38
Fifth District Police Court.....	42 75	39 37	8 19	26 77	116 98
Court of Special Sessions.....	87	.....	.....	88	1 75
First District Civil Court.....	53	36	.....	1 22	2 11
Second District Civil Court.....	14 87	13 48	12 44	16 28	57 07
Fourth District Civil Court.....	19 08	17 50	9 62	15 40	61 60
Fifth District Civil Court.....	5 95	18 55	11 02	47 60	83 12
Sixth District Civil Court.....	5 77	4 02	6 84	5 60	22 23
Eighth District Civil Court.....	3 34	3 16	3 14	6 83	16 47
Ninth District Civil Court.....	4 50	3 39	2 26	3 38	13 53
Brown-stone (Court Room) Building.....	58 09	35 35	27 82	93 04	214 90
New Court-house.....	1,218 18	950 00	695 80	1,313 71	4,207 69
City Hall.....	467 42	358 22	262 68	439 60	1,527 92
Department of Public Works.....	250 94	102 63	137 36	208 07	700 00
Receiver of Taxes' Office.....	303 97	208 07	94 50	427 70	1,034 24
Corporation Attorney's Office.....	53 28	61 08	55 12	78 22	252 70
Assessment Commission Office.....	6 13	3 67	2 44	7 53	19 77
Pipe Yard, Rivington street.....	5 07	1 93	88	2 98	10 86
County Jail.....	569 45	477 22	337 39	565 99	1,951 05
South Gate-house.....	9 89	8 54	54 90	138 59	211 92
Engineer of Boulevards' Office.....	23	.....	.....	.....	23
Engine-house, Highbridge.....	147 14	111 82	106 64	113 40	479 00
Engine-house, Ninety-eighth street.....	216 91	188 77	178 42	218 25	82 35
Clock, Third District Court-house Tower.....	295 05	289 28	273 35	220 15	1,077 83
Photometrical Rooms, Grand street.....	14 28	11 71	5 90	15 33	47 22
Photometrical Rooms, Seventy-ninth street.....	28 87	18 98	1 25	15 35	64 45
Armory, Fifth Regiment.....	52 50	.....	.....	.....	52 50
Armory, Seventh Regiment.....	1,408 58	564 84	224 18	1,120 34	3,317 94
Armory, Eighth Regiment.....	241 51	256 38	179 90	288 75	966 54
Armory, Ninth Regiment.....	483 00	350 18	88 02	434 26	1,355 56
Armory, Eleventh Regiment.....	91 18	125 12	102 04	134 21	452 55
Armory, Twelfth Regiment.....	209 30	133 51	50 76	225 15	618 72
Armory, Twenty-second Regiment.....	389 02	310 10	201 42	302 75	1,203 29
Armory, Sixty-ninth Regiment.....	493 19	396 02	89 60	211 75	1,190 56
Armory, Seventy-first Regiment.....	229 77	173 42	73 85	266 18	743 22
Armory, Gatling Battery "E".....	91 35	57 58	28 87	96 43	274 23
Armory, Battery "B".....	7 18	.....	.....	.....	7 18
Armory, Battery "K".....	22 93	25 55	7 00	14 87	70 35
Public Bath, Battery.....	.....	3 07	27 13	7 10	37 30
Public Bath, Gouverneur Slip.....	.....	5 95	30 45	3 64	40 04
Public Bath, Light street, N. R.....	.....	.....	19 26	3 67	22 93
Public Bath, Bethune street, N. R.....	.....	4 55	32 03	5 78	42 36
Public Bath, Fifth street, E. R.....	.....	6 47	31 66	4 37	42 50
Public Bath, Nineteenth street, E. R.....	.....	1 03	26 43	5 60	33 06
Public Bath, Thirty-seventh street, E. R.....	.....	3 67	24 85	5 36	33 88
Public Bath, Fifty-first street, N. R.....	.....	3 75	25 73	3 92	33 40
Public Bath, One Hundred and Twelfth street, E. R.....	.....	3 60	34 43	9 23	47 26
Lighting Public Markets, Pay-rolls.....	435 00	439 00	439 00	435 00	1,748 00
Cleaning Photometrical Rooms.....	15 00	15 00	15 00	15 00	60 00
New Lamp-posts.....	1,583 54	2,337 50	1,241 25	920 00	6,082 29
New Lamp-posts, Twenty-third and Twenty-fourth Wards.....	630 00	682 50	1,102 50	630 00	3,045 00
New Street-lamps, Twenty-third and Twenty-fourth Wards.....	1,050 00	1,451 00	1,408 50	1,050 00	5,559 50
New Boulevard-lamps.....	450 00	825 00	150 00	300 00	1,725 00
New Cross-roads.....	1,150 00	1,125 00	404 00	840 00	3,519 00
New Lamp-rooms.....	225 00	.....	.....	.....	225 00
New Lamp-rooms, Twenty-third and Twenty-fourth Wards.....	150 00	.....	21 30	207 50	378 80
New Lamp-brackets.....	150 00	.....	48 75	.....	198 75
New Street Signs.....	.....	.....	1,028 05	48 51	1,076 56
New Street Signs, Twenty-third and Twenty-fourth Wards.....	.....	.....	484 50	.....	484 50
Supplies for Photometrical Rooms.....	.....	149 47	.....	54 50	203 97
Gas-mans at New Farmers' Market.....	.....	.....	.....	175 40	175 40
Drawing Materials.....	.....	16 90	.....	7 79	24 69
Gas Regulators.....	250 77	.....	.....	.....	250 77
Iron Bolts.....	.....	4 00	.....	.....	4 00
Granite Bases and setting same.....	.....	.....	35 00	195 00	230 00
Traveling Expenses.....	62 50	62 50	62 50	62 50	250 00
Gas Examinations.....	312 00	312 50	312 50	312 00	1,249 00
Photometrical Rooms, Grand street (Rent).....	150 00	150 00	150 00	150 00	600 00
Photometrical Rooms, Seventy-ninth street (Rent).....	90 00	90 00	90 00	90 00	360 00
Flags of City.....	25 00	.....	.....	480 00	505 00
Fitting-up New Lamps.....	450 00	1,292 00	1,054 00	1,074 00	3,870 00
Fitting-up New Lamps, Twenty-third and Twenty-fourth Wards.....	.....	1,310 00	726 00	1,490 00	3,526 00
Resetting and Repairing Lamp-posts.....	604 00	2,333 50	1,672 00	1,911 00	6,520 50
Resetting and Repairing Lamp-posts, Twenty-third and Twenty-fourth Wards.....	6 00	115 50	665 50	317 50	1,104 50
Lighting Public Lamps.....	60,941 68	91,754 47	91,042 61	120,911 14	364,656 90
Lighting Public Lamps, Twenty-third and Twenty-fourth Wards.....	15,836 51	24,056 10	25,224 47	34,910 82	100,027 90
Lighting Electric Lamps.....	1,172 22	2,673 52	7,086 10	11,568 90	22,500 74
Total.....	\$95,592 61	\$138,811 24	\$139,858 09	\$188,244 48	\$562,506 42

#### RECAPITULATION.

Gas to Public Buildings.....	\$9,853 39	\$7,615 78	\$5,324 46	\$9,487 92	\$32,281 55
Supplies for Public Lamps.....	5,498 81	6,152 87	5,270 20	5,043 20	22,565 08
Supplies to Public Lamps, Twenty-third and Twenty-fourth Wards.....	1,230 00	1,507 50	1,785 75	930 00	5,453 25
Fitting-up New Lamps.....	450 00	1,292 00	1,054 00	1,074 00	3,870 00
Fitting-up New Lamps, Twenty-third and Twenty-fourth Wards.....	.....	1,310 00	726 00	1,490 00	3,526 00
Resetting and Repairing Lamp-posts.....	604 00	2,333 50	1,672 00	1,911 00	6,520 50
Resetting and Repairing Lamp-posts, Twenty-third and Twenty-fourth Wards.....	6 00	115 50	665 50	317 50	1,104 50
Lighting Public Lamps.....	60,941 68	91,754 47	91,042 61	120,911 14	364,656 90
Lighting Public Lamps, Twenty-third and Twenty-fourth Wards.....	15,836 51	24,056 10	25,224 47	34,910 82	100,027 90
Lighting Electric Lamps.....	1,172 22	2,673 52	7,086 10	11,568 90	22,500 74
Total.....	\$95,592 61	\$138,811 24	\$139,858 09	\$188,244 48	\$562,506 42

#### EXHIBIT "B."

Summary of the Appropriation for "Lamps and Gas and Electric Lighting" for 1882, showing the Amounts expended during the year, with the Balance standing to the Credit of the Appropriation.

Amount appropriated for "Lamps and Gas and Electric Lighting" for year 1882.....	\$584,108 00
Amount of vouchers drawn in first quarter, ending March 31.....	\$95,592 61
Amount of vouchers drawn in second quarter, ending June 30.....	138,811 24
Amount of vouchers drawn in third quarter, ending September 30.....	139,858 09
Amount of vouchers drawn in fourth quarter, ending December 31.....	188,244 48

Total amount expended during the year 1882..... 562,506 42

Balance..... \$21,601 58

Less amounts transferred by "Board of Estimate and Apportionment" to other accounts, as follows:

By resolution of August 24, 1882.....	\$4,000 00
By resolution of December 5, 1882.....	17,000 00

21,000 00

Surplus balance..... \$601 58



## EXHIBIT "C."

Summary of the Appropriation for "Salaries—Lamps and Gas and Electric Lighting" for 1882, showing the Amount expended during the year, with the Balance standing to the Credit of the Appropriation.

Amount appropriated for "Salaries—Lamps and Gas and Electric Lighting, 1882".....	\$5,892 00
Amount of vouchers drawn in first quarter, ending March 31, 1882.....	\$1,444 98
Amount of vouchers drawn in second quarter, ending June 30, 1882.....	1,450 98
Amount of vouchers drawn in third quarter, ending September 30, 1882.....	1,494 48
Amount of vouchers drawn in fourth quarter, ending December 31, 1882.....	1,498 98
Total amount of vouchers drawn during the year 1882.....	5,889 42
Surplus balance.....	\$2 58

## 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, 1882, with a Recapitulation for the Year.

NEW YORK GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1882.....	3,365
Number of new lamps lighted during the quarter.....	4
Number of old lamps relighted during the quarter.....	9
Less lamps discontinued during the quarter.....	3,378
Number of Lamps lighted December 31, 1882.....	3,368
MANHATTAN GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1882.....	6,414
Number of new lamps lighted during the quarter.....	51
Number of old lamps relighted during the quarter.....	8
Less lamps discontinued during the quarter.....	6,473
Number of lamps lighted December 31, 1882.....	6,449
METROPOLITAN GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1882.....	4,559
Number of new lamps lighted during the quarter.....	17
Number of old lamps relighted during the quarter.....	3
Less lamps discontinued during the quarter.....	4,579
Number of lamps lighted December 31, 1882.....	4,574
NEW YORK MUTUAL GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1882.....	763
Number of new lamps lighted during the quarter.....	1
Number of old lamps relighted during the quarter.....	3
Less lamps discontinued during the quarter.....	767
Number of lamps lighted December 31, 1882.....	765
HARLEM GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1882.....	5,010
Number of new lamps lighted during the quarter.....	34
Number of old lamps relighted during the quarter.....	6
Less lamps discontinued during the quarter.....	5,050
Number of lamps lighted December 31, 1882.....	5,049
CENTRAL GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1882.....	1,960
Number of new lamps lighted during the quarter.....	49
Number of old lamps relighted during the quarter.....	3
Less lamps discontinued during the quarter.....	2,012
Number of lamps lighted December 31, 1882.....	2,011
NORTHERN GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1882.....	1,198
Number of new lamps lighted during the quarter.....	61
Number of old lamps relighted during the quarter.....	0
Less lamps discontinued during the quarter.....	1,259
Number of lamps lighted December 31, 1882.....	1,242
YONKERS GAS-LIGHT COMPANY.	
Number of lamps lighted September 30, 1882.....	289
Number of new lamps lighted during the quarter.....	0
Number of old lamps relighted during the quarter.....	0
Less lamps discontinued during the quarter.....	289
Number of lamps lighted December 31, 1882.....	289
Total number of gas-lamps lighted December 31, 1882.....	23,747
ELECTRIC LAMPS.	
BRUSH ELECTRIC ILLUMINATING COMPANY.	
Number of lamps lighted September 30, 1882.....	55
Number of new lamps lighted during the quarter.....	0
Number of old lamps relighted during the quarter.....	0
Less lamps discontinued during the quarter.....	55
Number of lamps lighted December 31, 1882.....	55
UNITED STATES ILLUMINATING COMPANY.	
Number of lamps lighted September 30, 1882.....	73
Number of new lamps lighted during the quarter.....	0
Number of old lamps relighted during the quarter.....	0
Less lamps discontinued during the quarter.....	73
Number of lamps lighted December 31, 1882.....	73
Total number of electric lamps lighted December 31, 1882.....	128
RECAPITULATION FOR QUARTER.	
Number of gas-lamps lighted September 30, 1882.....	23,558
Number of electric lamps lighted September 30, 1882.....	128
Number of new gas-lamps lighted during the quarter.....	217
Number of gas-lamps relighted during the quarter.....	32
Less gas-lamps discontinued during the quarter.....	23,935
Total number of gas and electric lamps lighted December 31, 1882.....	23,875

## Statement of the "Lamp Account" for the Year 1882.

NEW YORK GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1881.....	3,572
Number of new lamps lighted during the year 1882.....	31
Number of old lamps relighted during the year 1882.....	23
Less lamps discontinued during the year.....	3,626
Number of lamps lighted December 31, 1882.....	3,368
MANHATTAN GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1881.....	6,573
Number of new lamps lighted during the year.....	67
Number of old lamps relighted during the year.....	20
Less lamps discontinued during the year.....	6,660
Number of lamps lighted December 31, 1882.....	211
METROPOLITAN GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1881.....	4,439
Number of new lamps lighted during the year.....	146
Number of old lamps relighted during the year.....	32
Less lamps discontinued during the year.....	4,617
Number of lamps lighted December 31, 1882.....	43
NEW YORK MUTUAL GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1881.....	891
Number of new lamps lighted during the year.....	3
Number of old lamps relighted during the year.....	7
Less lamps discontinued during the year.....	901
Number of lamps lighted December 31, 1882.....	136
HARLEM GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1881.....	4,821
Number of new lamps lighted during the year.....	219
Number of old lamps relighted during the year.....	44
Less lamps discontinued during the year.....	5,084
Number of lamps lighted December 31, 1882.....	35
CENTRAL GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1881.....	1,911
Number of new lamps lighted during the year.....	105
Number of old lamps relighted during the year.....	31
Less lamps discontinued during the year.....	2,047
Number of lamps lighted December 31, 1882.....	36
NORTHERN GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1881.....	1,157
Number of new lamps lighted during the year.....	102
Number of old lamps relighted during the year.....	23
Less lamps discontinued during the year.....	1,282
Number of lamps lighted December 31, 1882.....	40
YONKERS GAS-LIGHT COMPANY.	
Number of lamps lighted December 31, 1881.....	102
Number of new lamps lighted during the year.....	187
Number of old lamps relighted during the year.....	0
Less lamps discontinued during the year.....	289
Number of lamps lighted December 31, 1882.....	0
BRUSH ELECTRIC ILLUMINATING COMPANY.	
Number of lamps lighted December 31, 1881.....	55
Number of new lamps lighted during the year.....	0
Number of old lamps relighted during the year.....	0
Less lamps discontinued during the year.....	55
Number of lamps lighted December 31, 1882.....	0
UNITED STATES ILLUMINATING COMPANY.	
Number of lamps lighted December 31, 1881.....	0
Number of new lamps lighted during the year.....	73
Number of old lamps relighted during the year.....	0
Less lamps discontinued during the year.....	73
Number of lamps lighted December 31, 1882.....	0
Total number of gas and electric lamps December 31, 1882.....	23,875
RECAPITULATION FOR YEAR.	
Number of gas-lamps lighted December 31, 1881.....	23,466
Number of electric lamps lighted December 31, 1881.....	55
Number of new gas-lamps lighted during the year.....	23,521
Number of new electric lamps lighted during the year.....	860
Number of gas-lamps relighted during the year.....	73
Less gas-lamps discontinued during the year.....	180
Total number of gas and electric lamps December 31, 1882.....	1,113
Less gas-lamps discontinued during the year.....	24,634
Total number of gas and electric lamps December 31, 1882.....	759
Total number of gas and electric lamps December 31, 1882.....	23,875

## EXHIBIT "E."

Statement giving the Illuminating Power of the Gas supplied by the several Gas-light Companies during the Quarter ending December 31, 1882, 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. 7.....	23.40	26.41	24.79	27.44	28.92	28.50	25.31	27.04	26.26	22.11	22.59	22.39	17.78	18.23	18.01	17.12	18.70	17.85
" 14.....	19.51	24.85	23.02	27.17	28.74	27.82	26.56	27.41	27.11	21.30	21.93	21.68	16.52	18.43	17.65	17.11	18.11	17.61
" 21.....	22.48	26.50	24.40	26.74	27.99	27.39	25.41	27.40	26.33	21.72	23.03	22.24	18.35	18.89	18.43	17.54	19.25	18.27
" 28.....	22.40	24.82	23.27	26.42	29.08	28.16	26.42	28.64	25.90	21.55	21.94	21.78	15.29	19.98	18.99	16.80	18.76	18.31
Nov. 4.....	20.56	26.99	23.61	27.57	29.99	29.87	24.84	27.04	26.11	23.79	22.79	21.79	18.52	19.82	19.19	18.46	19.41	19.10
" 11.....	21.75	27.49	23.38	28.36	30.11	28.83	26.38	24.48	23.28	20.78	21.65	21.29	18.31	19.84	19.04	18.16	19.87	17.76
" 18.....	21.29	24.23	23.21	28.19	30.00	29.02	23.77	27.57	26.18	21.62	22.21	21.90	17.63	19.84	18.88	18.26	18.73	18.43
" 25.....	21.02	24.69	23.44	28.71	29.57	29.19	24.70	28.17	26.18	20.50	22.13	21.52	18.68	20.00	19.11	18.63	19.17	18.83
Dec. 2.....	20.30	25.14	22.68	28.53	28.90	28.72	22.66	26.92	25.30	20.95	21.63	21.29	17.62	18.64	18.16	19.01	19.78	19.32
" 9.....	20.87	26.79	24.09	29.20	30.69	30.12	23.37	27.09	25.85	20.45	22.70	21.34	15.78	20.04	19.05	19.55	19.95	19.71
" 16.....	22.52	26.07	24.06	28.43	30.68	29.70	23.78	26.56	25.05	19.56	20.56	20.17	18.40	20.49	19.57	18.90	20.16	19.55
" 23.....	23.50	26.17	24.42	28.28	29.74	28.99	23.54	28.64	26.00	20.21	21.08	20.46	18.25	19.14	18.62	18.29	20.16	19.60
" 30.....	21.50	23.48	22.42	27.56	28.91	28.38	24.80	27.09	26.27	20.42	21.03	20.74	17.30	18.81	18.27	19.10	19.41	19.24



Average Illuminating Power, in Candles, for the Year 1882.

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.....	21.36	28.31	23.87	23.38	27.61	26.05	21.44	28.56	24.95	23.38	25.80	23.97	17.35	19.73	18.42	17.40	19.43	18.60
February.....	19.50	27.59	22.39	25.17	28.35	26.81	21.52	26.87	24.74	22.60	24.36	23.37	16.75	19.62	18.24	17.42	18.84	18.22
March.....	18.88	25.58	21.78	26.23	29.59	27.85	22.65	28.33	25.94	20.95	24.15	23.19	17.10	19.15	18.32	17.64	19.29	18.72
April.....	18.83	24.17	21.95	26.90	29.25	27.03	23.06	28.72	25.05	20.89	24.51	23.04	16.62	19.24	18.06	17.84	19.39	19.17
May.....	19.25	26.46	21.95	26.84	29.62	28.03	22.28	29.37	25.78	21.87	23.62	22.87	16.32	18.71	17.86	18.06	19.59	18.73
June.....	19.82	25.62	22.43	26.29	30.84	28.53	23.98	29.08	26.39	22.13	24.91	22.69	16.36	19.71	17.88	18.09	20.04	18.85
July.....	18.96	25.11	21.70	27.04	30.24	28.24	22.53	26.39	24.61	21.52	24.40	25.08	16.58	18.91	17.67	17.61	19.52	18.59
August.....	18.92	23.84	20.65	26.34	28.89	27.20	21.08	24.45	22.71	21.03	24.21	22.47	16.18	18.21	17.39	17.63	18.84	18.20
September.....	18.53	25.70	23.56	26.39	28.98	27.77	20.58	27.75	24.57	20.43	23.77	22.04	16.42	18.17	17.33	16.74	18.50	17.58
October.....	19.51	26.50	23.87	26.42	29.08	27.97	25.31	28.64	26.40	21.30	23.09	22.02	15.29	19.08	18.27	16.80	19.25	18.01
November.....	20.56	27.49	23.41	27.57	30.11	29.29	20.38	28.17	25.44	20.50	22.79	21.62	17.63	20.09	19.04	18.16	19.87	18.78
December.....	20.30	26.79	23.53	27.56	30.69	29.18	22.66	28.64	25.69	19.56	22.70	20.79	15.78	20.49	18.73	18.29	20.18	19.48
Year.....	Average 22.56			Average 27.91			Average 25.19			Average 22.76			Average 18.10			Average 18.53		
Distance from Gas Works.	2.1 Miles.			3.4 Miles.			1.7 Miles.			3.3 Miles.			1.8 Miles.			1.5 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 Motay).			Water gas (Tessie Motay).			Pine wood and naphtha.			Coal and naphtha.			Coal gas.			Coal gas.		

## EXHIBIT "F."

## Contract with the New York Gas-light Company.

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

A. Witnesseth, That the said party of the second part hereto has agreed, and by these presents does agree, with the said parties of the first part, for the consideration hereinafter mentioned; and under the penalty expressed in a bond bearing even date with these presents and hereunto annexed, to furnish illuminating gas to, and to light and extinguish the public lamps belonging to the parties of the first part in the portion of the City of New York bounded and described as follows, to wit:

In the district lying south of the centre of Grand street, from the East river to Sullivan street; through Sullivan street to Canal street, and through Canal street to the Hudson river, for and during the term of one year, commencing on the first day of May, A. D. 1882, and ending on the 30th day of April, A. D. 1883, both days inclusive. And during the same period to repair and paint the lamp-posts and lanterns of such lamps, and replace the cocks, tubes, and burners, cross-heads, lamp-irons, and lanterns thereof, and clean and reglaze such lanterns; and to fit up, light and extinguish such new lamps as may be required by the said parties of the first part in said portion of said city, and to repair, paint, clean, reglaze, and replace such new lamps and the appurtenances thereof.

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

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

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

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

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

## Specifications:

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

2. Illuminating Material, Quality of.—If the material to be furnished under this agreement shall be illuminating gas, then such gas shall have an illuminating power of not less than sixteen candles, when tested at a distance of not less than one mile from the place of manufacture, on the improved form of the Bunsen photometer, by a Sugg-Letheby 15-hole argand burner, calculated on a consumption of five cubic feet of gas per hour. The regular daily tests, however, will be made with a burner that will obtain from the gas the greatest amount of light, and practicable for use by the consumer, and consuming at the rate of five cubic feet of gas per hour; the testing candle shall be of sperm, of six to the pound, and consuming, as near as possible, one hundred and twenty grains of spermaceti per hour; and no candle shall be used for testing which consumes less than one hundred and fourteen or more than one hundred and twenty-six grains of spermaceti per hour. And, as regards purity, the gas shall be free, within limits not injurious to the public health, from ammonia, sulphuretted hydrogen, and other sulphur and noxious compounds. In case the illuminating material shall

be oil or naphtha, then the quantity of light produced by the burner used for such material shall be equal to the quantity (by photometrical test) produced by the sixteen-candle coal gas, above described, consumed by the 3-feet gas burners called for in this agreement. But in case the lamps, or any of them, should be lighted by what is known as the incandescent system of electric lighting, then the quantity of light furnished by each of such lamps shall be equal to the light furnished by a 3 feet gas burner, such as is used in the public gas-lamps of this city, when burning the sixteen-candle gas called for by this agreement. If, however, the lamps, or any of them, shall be lighted by the "voltaic arc" system of electric lighting, then the quantity of light produced by each of such lamps shall not be less than the light produced by 2,000 of the standard sperm candles by which illuminating gas is tested, and the light shall be measured on a Bunsen photometer.

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

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

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

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

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

7. Painting.—The lamp-posts, lamp-irons, brackets, and lanterns used for gas or naphtha, are to have one heavy coat of best paint, ground in oil, as follows: The lamp-posts, cross-heads, and stand-pipes of bracket lamps to have one coat of dark green paint, blue shade. The square lamp-irons, brackets, and outside of lanterns to have one coat of green paint, pea green shade; the design being to make a strong contrast between lamp-posts and lanterns. The tin work on inside of lanterns to be painted in all their parts with one heavy coat of best white lead paint; the round lamp-irons and underside of the reflectors of the globe lamps to be painted with one coat of the best white lead paint, and so much of the stand-pipes as project above the lamp-posts to be painted in the same manner as the lamp-posts. The ornamental lamp-posts to be painted at least three colors. All the material shall be of the best quality, and prepared so to present a gloss finish. All the paintings to be completed by the first day of November next.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

I. And it is further agreed, that the said party of the second part shall have the right to lay pipes or conductors at any time between May 1, 1882, and April 30, 1883, upon giving forty-eight hours' written notice to the Department of Public Works, of its intention to break up or open any street, avenue, or public place, or part thereof, or to remove any part of the pavement thereof, for the purpose of laying or repairing the pipes or conductors, to conduct the said gas, or other illuminating material. And the party of the second part shall, whenever it shall break up or open any street, avenue, or public place, replace the earth which may be removed in so doing, before



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

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

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

L. And it is further provided, that these presents are upon the express condition, that if the said party of the second part, or its successors, shall not well and truly observe, perform, fulfill, and keep all and singular the covenants and conditions hereinbefore mentioned and contained, on its part and behalf to be observed, performed, fulfilled, and kept according to the true intent and meaning of these presents, then and in that case it shall and may be lawful for the Commissioner of Public Works, on the part of the said parties of the first part, to declare this contract annulled and vacated, and thereupon it shall become and be thenceforth null and void.

M. And it is further agreed, that on or after the first day of each and every month from the month of June, 1882, to the month of May, 1883, both months inclusive, the party of the second part shall furnish proof, to the satisfaction of the Commissioner of Public Works, that it has fully performed and fulfilled this contract in all the particulars and conditions aforesaid during the preceding month, and particularly that it has furnished the illuminating material of the quality hereinbefore specified, and that all the lanterns have been cleaned three times in each week of said month, and also that the gas burners have consumed three cubic feet of gas each, per hour, during all the time that the lamps were required to be kept lighted. Upon so doing the Commissioner shall certify the fact, and in his certificate state the amount to which the party of the second part shall be entitled for all the duties performed by it during such preceding month, and annex thereto a requisition upon the Comptroller to pay the party of the second part 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.

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

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.

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

P. And the parties hereto declare that this contract is made with reference to the proposals hereto annexed, which are to be taken as part and parcel of these presents.

In witness whereof, the said Mayor, Comptroller, and Commissioner of Public Works have hereunto set their hands and seals, on behalf of the said parties of the first part, and the said party of the second part has caused its corporate seal to be hereunto affixed, and its President and Secretary hereto to set their hands, and said parties hereto have executed triplicate copies hereof, one of which is to remain with the Commissioner of Public Works, one other to be filed with the Comptroller of the City of New York, and the third to be delivered to the said party hereto of the second part, the day and date herein first above written.

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

Witness:  
B. J. DOURAS.

## EXHIBIT "G."

*Permission given to the Equitable Gas-light Company, of New York, for the Laying of its Mains and Pipes in the Streets of this City.*

Whereas, The following resolution has been adopted by the Common Council, viz.:

Resolved, That permission be and is hereby given to all incorporated gas-light companies to lay gas-mains and pipes in the streets, avenues, and public places of this city for the purpose of supplying gas to this city and its inhabitants upon such conditions as may be prescribed and approved by his Honor the Mayor, the Comptroller, and the Commissioner of Public Works, who are now by law authorized to make provision for lighting the streets of the city.

Adopted by the Board of Aldermen December 21, 1876.

Approved by the Mayor, December 23, 1876.

And whereas, The Equitable Gas-light Company of New York (a company duly incorporated under the laws of the State of New York) has made application in writing for permission to lay gas-mains and pipes in the streets, avenues and public places of this city, upon such conditions as may be prescribed and approved, as in said resolution provided;

Now, we, the Mayor, Comptroller, and Commissioner of Public Works of the City of New York, in pursuance of the foregoing resolution, do hereby prescribe, approve and establish the following as the conditions upon which the said Equitable Gas-light Company of New York may lay its gas-mains and pipes in the streets, avenues and public places in the City of New York for the purpose of supplying gas to the city and its inhabitants, to wit:

1. That the manufactory or works for the purpose of producing and furnishing gas shall be so constructed as not to be in any way detrimental to the public health nor otherwise create a nuisance.

2. That the gas furnished shall be of the best quality of illuminating gas, and of an illuminating power not less than twenty-five candles when tested at a distance of not less than one mile from the place of manufacture; and as regards purity, the gas shall be free within limits not injurious to the public health, from ammonia, sulphuretted hydrogen, and other sulphur and noxious compounds.

3. That gas shall be supplied to the public lamps situated on the line or lines of the mains of said company, and said lamps shall be lighted when required by the city at a rate not to exceed the maximum of twelve dollars for each lamp burning four thousand hours, and consuming gas through a burner consuming three feet of gas per hour under a pressure of one inch; the said rate to include the gas, lighting, extinguishing, cleaning, repairing, reglazing, and painting the lamp-posts and lanterns, replacing the cocks, tubes, burners, cross-heads, lamp-irons, and lanterns. Also, that the prices for fitting up and repairing lamp-posts, which may at any time be required, shall not exceed the following rates, to wit:

For fitting up each lamp-post, ten dollars.  
For straightening each lamp-post, one dollar and fifty cents.  
For relighting each column, one dollar and fifty cents.  
For refitting each column, three dollars and fifty cents.  
For removing each lamp-post, three dollars and fifty cents.  
For resetting each lamp-post, ten dollars.

And whenever the Mayor, Comptroller and Commissioner of Public Works shall issue a call for proposals or estimates for supplying illuminating gas to and for lighting and maintaining the public lamps, then the Equitable Gas-light Company, or its successors, shall submit to said officers an estimate or proposal for furnishing the gas to and lighting and maintaining such of the public lamps as are situated on the line or lines of the gas-mains of said company at rates not to exceed the rates specified in this condition.

4. That if at any time during the continuance of the permission given under the resolution of the Common Council of said city adopted by the Board of Aldermen December 21, 1876, and approved by the Mayor December 23, 1876, it shall be considered by the Commissioner of Public Works that the cost of production or manufacture of gas shall be reduced to an extent to admit of the lighting of the public lamps at a rate less than twelve dollars per annum, then and in that case arbiters shall be appointed, one by the Mayor, Comptroller and Commissioner of Public Works, (parties of the first part) and the other by the said company (parties of the second part), and the two so appointed to designate a third, which three shall determine upon a fair and equitable rate below the said twelve dollars.

5. That gas shall be supplied to the public buildings, markets, armories, or offices of the Corporation of the City of New York situated on the line or lines of the mains of said company whenever said company may be required so to do by the proper officer or officers of said city at a rate not to exceed one dollar and fifty cents per one thousand cubic feet. And whenever the Commissioner of Public Works, or the Commissioner or Commissioners of any Department of the city, shall issue a call for proposals or estimates for furnishing illuminating gas to any of the public buildings, markets, armories, or offices of the Corporation of the City of New York, then the Equitable Gas-light Company or its successor shall submit to said Commissioner or Commissioners an estimate or proposal for furnishing gas to such of the buildings as are situated on the line or lines of the mains of said company at a rate not to exceed the rate specified in this condition.

6. That gas shall be supplied to all persons residing or doing business on the line or lines of the mains of said company, who may desire the same, at a rate not to exceed \$1.75 per 1,000 cubic feet; and no consumer shall be deprived of gas upon refusal to pay or in consequence of or on account of a dispute as to the bill rendered, until such consumer shall have been served with an affidavit of the inspector of said company as to the correctness of the register of the meter through which such gas has passed, provided that leaving such affidavit upon the premises where gas has been furnished, with some person of suitable age and discretion, shall be a sufficient service thereof on such consumer.

7. That the Common Council of the City of New York, or the Commissioner of Public Works, shall have the right to order the mains or pipes of said company to be extended in or along any of the streets, avenues or public places of the city, provided that said company shall not be compelled to expend in the laying of such mains or pipes a yearly sum exceeding twenty thousand dollars.

8. The gas mains or pipes shall be laid so as not to interfere with the public sewers or sewer connections, or with the Croton-water mains or water connections which are now laid or may hereafter be laid in any of the avenues, streets or public places of this city.

All trenches or excavations shall be filled immediately after the mains or pipes shall be laid, the earth to be thoroughly rammed as the same is thrown into the trench or excavation, and the pavement to be replaced in a good and workmanlike manner, and to the entire satisfaction of the Commissioner of Public Works; and shall be maintained in good order by the Equitable Gas-light Company or its successors for the term of one year after such pavement shall have been relaid. And in case the said company or its successor shall fail or neglect to replace the pavement or pavements, or to keep the same in good order for one year, to the satisfaction of the Commissioner of Public Works, then the Commissioner of Public Works shall have the right to cause such pavement to be taken up and replaced in a good and workmanlike manner, by a person or persons appointed by the said Commissioner for that purpose, and the expense of such repaving shall be paid by the said company to the Comptroller, as a special deposit for repairs, subject to the order of the Commissioner of Public Works. No pavement shall be removed or opening made in any of the public streets or places, for the purpose of laying mains or pipes, until the said company shall have made application to the Commissioner of Public Works for a permit for laying such mains or pipes, nor until a permit shall have been obtained from said Commissioner, authorizing the removal of the pavement and the opening of the street.

Said company shall also be governed by the laws and ordinances of the Common Council of the City of New York, and by such rules and regulations as the Commissioner of Public Works, his successor or successors in office, may prescribe for the laying of the mains or pipes and the proper protection and filling of the trenches or excavations, for the taking up, replacing and repaving of the pavements, and the lighting, care and maintenance of the public lamps.

9. The Equitable Gas-light Company, or its successor, shall render a report weekly to the Commissioner of Public Works of all openings made in the pavements during the preceding week, such report to cover all openings made for the laying or repairing of service pipes, the repairing of gas-mains or the discovery and stoppage of leaks. It shall also render a report monthly of all gas-mains laid during the preceding month, stating on which side of the street the mains were laid and from and to what streets, the distance from the curb, the depth of the trench and the diameter of the mains laid.

10. The Equitable Gas-light Company, or its successor, shall commence the erection of gas-works within six months from the date of the signing of these conditions, and shall not lay more than one mile of gas-main until it shall have expended not less than \$200,000 in the construction of such works before the laying of gas-mains shall be commenced.

11. The Equitable Gas-light Company, or its successor, shall commence the manufacture and distribution of illuminating gas within two years from the date of the signing of these conditions.

12. The permission given by the said resolution of the Common Council, unless sooner revoked as hereinafter provided, shall continue for a period of thirty years from the date of the signing of these conditions by the Mayor, Comptroller, and Commissioner of Public Works; provided, all the conditions herein prescribed shall be fully performed by the said company. Neither said permission nor any right conferred on said company by said resolution, shall be assigned or transferred, without the previous consent of the Mayor, Comptroller, and Commissioner of Public Works.

13. The Common Council may repeal, annul, and revoke the said resolution or the permission thereby given, upon the failure of the said company to perform any of the conditions herein contained, and thereupon all rights of said company under said resolution and these conditions shall cease, and said company shall thereupon, when ordered so to do, remove all its pipes and mains from the streets, avenues, and public places of the city.



14. That it shall be expressly provided that nothing herein, nor in said resolution contained, shall be construed as granting to said company any sole or exclusive right or privilege, or as preventing the granting privileges similar to these hereby and by said resolution given to any other company, person or parties whatsoever, or as preventing any person or persons from erecting in or upon his or their own premises, any building or apparatus to light with gas his or their own houses, stores, manufactory or premises.

15. The said Equitable Gas-light Company, its successor or successors, shall pay into the city treasury the sum of twenty cents for every lineal foot of trench opened for mains, such sum to be paid monthly and to be accompanied by a certificate from the Commissioner of Public Works that the sum paid is full payment at such rate, for all trenches for mains opened during the month for which such payment is made.

16. The Equitable Gas-light Company, its successor or successors, shall not make or enter into any combination, arrangement, or agreement with any other company or companies in regard to the amount of gas-mains to be laid or to the streets in which mains are to be laid, nor in regard to the quantity of illuminating gas to be manufactured or the price for which gas is to be sold exceeding the prices fixed in these conditions, and in the event of their so doing this permission shall *ipso facto*, become null and void.

17. The permission given in said resolution of the Common Council shall not become operative or take effect until the Equitable Gas-light Company shall have signified in writing and over its corporate seal, its assent ( ) and acceptance of each and all of the conditions herein prescribed, and such assent shall be given to the Mayor, Comptroller, and Commissioner of Public Works within thirty days after having been served with a copy of these conditions.

18. The grant or franchises to be approved by the Counsel to the Corporation in triplicate, and shall be signed by the Mayor, Comptroller, and Commissioner of Public Works, on behalf of the Mayor, Aldermen, and Commonalty; and by the President and Secretary of the Equitable Gas-light Company, with the corporate seal, on behalf of said company.

Dated New York, 26th day of December, 1882.

W. R. GRACE, Mayor.  
ALLAN CAMPBELL, Comptroller.  
HUBERT O. THOMPSON, Commissioner of Public Works.

The Equitable Gas-light Company hereby assents to all the above conditions, and accepts the permission given by the above resolution of the Common Council of the City of New York, upon such conditions.

Dated New York, December 26, 1882.

THE EQUITABLE GAS-LIGHT COMPANY,  
Per JAMES R. KEENE, Vice-President.

Attest:

[SEAL] JOHN D. ARCHBOLD, Secretary pro tem.

#### EXHIBIT "H."

Time Table for Lighting and Extinguishing the Public Lamps, for the Year 1883.

DATE.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.	DATE.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.
	H. M.	H. M.		H. M.	H. M.
Jan. 1.....	4.30	6.35	July 2.....	7.30	3.15
" 8.....	4.40	6.35	" 9.....	7.30	3.15
" 15.....	4.50	6.30	" 16.....	7.20	3.15
" 22.....	5.00	6.30	" 23.....	7.20	3.15
" 29.....	5.05	6.20	" 30.....	7.10	3.30
Feb. 5.....	5.10	6.15	Aug. 6.....	7.10	3.45
" 12.....	5.20	6.00	" 13.....	6.55	4.00
" 19.....	5.30	6.00	" 20.....	6.45	4.10
" 26.....	5.30	5.50	" 27.....	6.30	4.20
Mar. 5.....	5.40	5.40	Sept. 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	Oct. 1.....	5.30	5.00
" 9.....	6.25	4.40	" 8.....	5.20	5.10
" 16.....	6.30	4.30	" 15.....	5.10	5.20
" 23.....	6.40	4.20	" 22.....	5.00	5.30
" 30.....	6.45	4.00	" 29.....	4.45	5.35
May 1.....	6.45	4.00	Nov. 5.....	4.40	5.45
" 7.....	6.55	3.40	" 12.....	4.30	6.00
" 14.....	7.00	3.30	" 19.....	4.25	6.00
" 21.....	7.10	3.15	" 26.....	4.20	6.10
" 28.....	7.15	3.15			
June 4.....	7.25	3.15	Dec. 3.....	4.20	6.15
" 11.....	7.25	3.15	" 10.....	4.20	6.20
" 18.....	7.30	3.15	" 17.....	4.20	6.20
" 25.....	7.30	3.15	" 24.....	4.20	6.25

#### INSTRUCTIONS TO LAMP-LIGHTERS.

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

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

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

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

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

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

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

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

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

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

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

S. McCORMICK, Superintendent of Lamps and Gas.

#### Document "J."

#### REPORT OF SUPERINTENDENT OF REPAIRS AND SUPPLIES.

CITY OF NEW YORK—DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF REPAIRS AND SUPPLIES,  
SUPERINTENDENT'S OFFICE, 31 CHAMBERS STREET, ROOM 15,  
NEW YORK, 188.

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

SIR—In compliance with your instructions I have the honor to submit the following report of the transactions of this Bureau, for the three months ending December 31, 1882.

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

Among the principal items are the following:

New Court House.—The boilers and engines have been overhauled, cylinders bored out, new valves and boxes put in, new steam pipes put in where needed, air chambers and tubular heater repaired, and the latter enlarged.

The steam-heating apparatus in the Finance Department has been repaired.

City Hall.—In accordance with a resolution of the Board of Aldermen, an iron ash can has been constructed to receive ashes of the building.

A set of stationary book-cases for the safe-keeping of documents, etc., has been put up in the office of CITY RECORD.

Eight galvanized iron tops have been put on chimneys.

Brown-stone Building.—An opening for doorway through brick wall has been made, to admit of passage from front to rear office.

The counters in room recently occupied by the Deputy Commissioners of Taxes have been raised and added to, for use of Receiver of Taxes.

An unsafe flue in the basement has been furred with iron lath, plastered, and made secure.

Six galvanized iron tops have been placed on chimneys.

The desks and railings in the office of Receiver of Taxes have been changed and altered.

The furnace in basement has been repaired and made safe.

31 Chambers street.—The iron rolling shutters have been repaired.

Corporation Counsel.—New signs have been put up and lettering changed.

Department of Taxes and Assessments.—All office furniture, safes, books, stationery, etc., have been moved from the Brown-stone Building to Staats Zeitung building on Tryon row. To make the newly-assigned offices suitable for the business of the Department, it was necessary that general alterations should be made. Stationary desks and counters were put up, the walls have been painted and the ceilings frescoed, the furniture has been repaired, carpets and linoleum furnished, and shades and rollers put on windows.

County Jail.—The steam-pipes and radiators have been thoroughly overhauled and repaired. A steam pump and automatic feeder with necessary connections, valves, and gauges, have been put in.

Fifth District Court-house.—The ceilings and walls of halls have been washed, the ceilings kalsomined, and the walls painted.

A cutting has been made in the roof and galvanized iron smoke pipe carried through, with necessary safety-collar and cap on top.

Seventh District Court-house.—The steam-heating apparatus has been repaired.

Washington Market.—New floors have been laid in passages and central gangway, and new steps placed to entrances.

Centre Market.—Tin and gravel roof repaired and gutters relined, all new tin painted, smoke-jack on roof repaired.

The roof trusses, braces and stairs have been repaired, new sash and sash frames put in on upper stories, and new flashing and safety collars put around smoke pipes on roof.

Clinton Market.—Dangerous portion of roof on northeast corner of building has been taken down, framing of roof, roof building and roofing made new, and all shored up and made secure. The ceilings have been plastered.

Ninth Regiment.—The radiators have been connected with steam and return pipes, and one new radiator, with necessary pipes, air, and stop-valves, put in new extension.

Eleventh Regiment.—Flues have been changed, galvanized iron tops put on chimneys, and the roof on Ludlow street side repaired.

A new and needed fire-escape has been provided on north side of building, with all necessary balconies and ladders.

Free Floating Baths.—The nine free swimming-baths have been towed from summer stations and safely beached and stored in the basin, Gowanus bay. The following statements show the number of bathers during the season:

	MALES.	FEMALES.	TOTAL.
Gouverneur street, East river.....	277,692	96,848	374,540
Fifth street, East river.....	271,351	88,569	359,920
Nineteenth street, East river.....	273,172	100,099	373,271
Thirty-seventh street, East river.....	195,832	88,242	284,074
One Hundred and Twelfth street.....	135,004	48,225	183,229
Bethune street, North river.....	176,430	43,874	220,304
Fifty-first street, North river.....	157,794	54,894	212,688
Battery, North river.....	226,810	99,863	326,673
Laight street.....	152,762	74,407	227,169
	1,866,847	602,021	2,561,868

Not the least of the duties of the Bureau has been the furnishing of the several courts, offices, armories, etc., with fuel, furniture, office and cleaning supplies.

Experience of the last year has shown me that the appropriation, "Supplies for Cleaning Public Offices," has been entirely inadequate to get and maintain the buildings, etc., in care of this Department in the cleanly condition that is desired.

With regard to contract work on Fulton and Jefferson markets, being done under direction of this Bureau and under the supervision of Douglas Smith, Esq., Architect, I have the honor to refer you to annexed report of Douglas Smith, Esq.:

THOMAS H. MCAVOY, Esq., Superintendent Repairs and Supplies:

SIR—I have the honor to state that in regard the building contract under my charge:

1. The contract for Fulton Market is within a few days of completion. A subsequent contract has been made for flooring, outer doors and windows on South street, window guards, etc., work on which is partly done.

2. The contract for Jefferson Market is about two-thirds done. The contractor has been allowed, by resolution of the last Board of Aldermen, an extension of time to the 15th of April next. Drawings are in preparation for adding a second story to the Greenwich avenue front.

Respectfully yours,

DOUGLAS SMITH.

Very respectfully submitted.

THOMAS H. MCAVOY, Superintendent Bureau of Repairs and Supplies.

#### Document "K."

#### REPORT OF SUPERINTENDENT OF INCUMBRANCES.

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF INCUMBRANCES—ROOM 16, NO. 31 CHAMBERS STREET,  
NEW YORK, January 4, 1883.

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

SIR—I submit herewith the following report of the operations of this Bureau for the quarter ending December 31, 1882, together with a condensed statement of the entire business during the same year:

Number of complaints received and notices issued therefor, against obstructions and incumbrances on streets and sidewalks, 527.

Number of removals of merchandise, wagons, stands, stones, dirt, etc., to the Corporation yard or other suitable place, 114.



Expense of such removals (including 681 loads of dirt, stones, etc.), from various parts of the city ..... \$1,245 35  
Total expenses of the quarter ..... 1,473 85

Received from owners for redemption of seized articles ..... \$27 75  
Received from sale at Corporation Yard, held November 10, 1882 ..... 304 50  
Total ..... \$332 25

Which amount was duly paid over to the City Chamberlain.

Number of permits issued to builders ..... 1,348  
" " for special purposes ..... 106  
" notices issued to repair sidewalks ..... 72  
" notices issued to repair vault covers ..... 3  
During the year 1882 the total number of complaints received and notices issued were ..... 3,315  
Removals to the Corporation Yard ..... 955  
" of loads of stone, dirt, etc. .... 4,972  
Number of builders' permits issued ..... 6,823  
" special ..... 683  
" permits issued to cut down trees ..... 13  
" notices issued to repair sidewalks ..... 352  
" notices issued to repair vault covers ..... 5  
Total expenditure for the year ..... \$7,995 70

Receipts for articles redeemed by owners ..... \$143 50  
Receipts from sales at Corporation yard ..... 438 95  
Receipts from sale of houses, iron, etc., May 16, 1882 ..... 507 50

Total ..... \$1,089 95

All of which was duly paid over to the City Chamberlain.

The number of removals of obstructions, as well as of stones and dirt, during 1882, has been largely in excess of any previous year, and shows the necessity for all the means at the command of this Bureau to enable it to discharge even its most urgent requirements. Considerable has been and very much remains to be done in the matter of ridding our streets of unsightly and objectionable objects. With your concurrence I shall endeavor to clear some of our leading thoroughfares of the vehicles that are now left thereon, instead of being properly housed or stabled when not in use. The Telegraph and Electric-light pole nuisance is also a very grievous one, which I hope the Legislature will speedily find means to abolish by compelling the laying of the wires underground, thereby doing away with the present and ever-increasing, cumbersome and objectionable poles on the sidewalk, etc. The feasibility of so doing is no longer a question of doubt, and the sole matter at issue is the expense to the companies which the change may involve, and which must give way to the public feeling against this aggression upon public and private rights.

It only needs the wise comprehension and active co-operation of the legislative branch of our city government to check the increasing obstruction of our streets by the many demands of corporate and private interests. We should all realize that the granting of especial privileges and questionable powers to corporations or individuals, is subversive of the rights of the general public, and thereby of the public good and welfare.

Respectfully,  
JOSEPH BLUMENTHAL, Superintendent of Incumbrances.

#### Document "L."

#### REPORT OF WATER REGISTER.

BUREAU OF WATER REGISTER, 31 CHAMBERS STREET,  
NEW YORK, December 30, 1882.

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

SIR—I herewith transmit statement of moneys received for water rents, penalties, taps, etc., for the quarter ending December 31, 1882:

	Principal.	Penalties.	Taps.
October .....	\$91,883 80	\$1,818 25	\$906 00
November .....	75,636 10	3,162 60	888 50
December .....	104,580 07	2,274 35	677 00
Total .....	\$272,099 97	\$7,255 20	\$2,471 50

Total ..... \$281,826 67

Deposit to the credit of Special Meter Stock—

October .....	\$866 02
November .....	419 75
December .....	537 43
Total .....	\$1,823 20

Special Fund—Repairing Streets—

October .....	\$766 00
November .....	998 00
December .....	659 00
Total .....	\$2,423 00

Respectfully submitted,  
J. H. CHAMBERS, Water Register.

BUREAU OF WATER REGISTER, No. 31 CHAMBERS STREET,  
NEW YORK, January 3, 1883.

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

SIR—I herewith transmit statement showing the number of permits issued for taps, building purposes and street openings for the year ending December 31, 1882, also other details relative to the workings of this bureau for the same period of time, with the statement of moneys received and placed to the credit of the several accounts.

#### TOTAL RECEIPTS.

Regular water rates and penalties .....	\$1,299,995 06
Water by meter measurement .....	309,959 09
Permits for water for building purposes .....	26,904 60
Regular water rates returned in arrears .....	\$81,740 85
Water by meter measurement returned in arrears .....	11,811 71
Pipe-tapping receipts .....	10,324 50
Restoring pavements .....	10,984 00
Total .....	\$1,751,719 81

Collections from meters and meter settings .....	\$19,595 19
Amount returned to the Bureau of Arrears for meters and meter settings .....	5,444 07
Total .....	\$25,039 26

The special meter account of \$25,039.26 is deposited with the Comptroller and set apart to reimburse the city for meters and meter settings.

The receipts for water rates and penalties, including water by meter measurement and building purposes, show an increase over last year amounting to \$137,397.28, and a further increase of \$15,819.84 was returned to the Bureau of Arrears in excess of last year's returns, showing a total increase of the product of the Croton water from collections and returns in arrears of \$153,217.12.

The measures adopted by the Commissioner of Public Works during the past year to arrest waste of Croton water, though scarcely apparent to the public eye, have nevertheless produced beneficial results. The great outlets of waste have been checked by the introduction of meters and by a systematic inspection, the aggregate leakage by defective jets with basins beneath have been in a measurable degree abated.

The investigation intended to give the Department a thorough knowledge of all waste by defective plumbing, open faucets, etc., etc., has proved to be very satisfactory. Incalculable quantities of water formerly allowed to run for no useful purpose whatever have been stopped.

Respectfully submitted,  
J. H. CHAMBERS, Water Register.

#### 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 March 24, 1883.

#### Barometer.

DATE	MARCH.	7 A. M.	2 P. M.	9 P. M.	Mean for the Day.	MAXIMUM.		MINIMUM.	
		Reduced to Freezing.	Reduced to Freezing.	Reduced to Freezing.	Reduced to Freezing.	Reduced to Freezing.	Time.	Reduced to Freezing.	Time.
Sunday,	18	29.682	29.648	29.676	29.669	29.700	9 A. M.	29.618	6 P. M.
Monday,	19	29.708	29.600	29.436	29.581	29.710	9 A. M.	29.310	12 P. M.
Tuesday,	20	29.442	29.538	29.636	29.539	29.664	12 P. M.	29.200	3 A. M.
Wednesday,	21	29.748	29.742	29.862	29.784	29.902	12 P. M.	29.664	0 A. M.
Thursday,	22	29.942	29.834	29.810	29.862	29.942	9 A. M.	29.800	5 P. M.
Friday,	23	29.784	29.708	29.748	29.746	29.810	0 A. M.	29.692	3 P. M.
Saturday,	24	29.878	29.886	29.982	29.915	29.982	9 P. M.	29.772	0 A. M.

Mean for the week ..... 29.728 inches.  
Maximum " at 9 P. M., March 24 ..... 29.982 "  
Minimum " at 3 A. M., March 20 ..... 29.200 "  
Range " ..... .782 "

#### Thermometers.

DATE.	MARCH.	7 A. M.	2 P. M.	9 P. M.	MEAN.	MAXIMUM.		MINIMUM.		MAXIMUM.
		Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.	
Sunday,	18	40	34	60	48	53	44	51.0	42.0	60
Monday,	19	40	36	49	41	51	44	46.7	40.3	53
Tuesday,	20	26	22	27	24	21	25	22.3	15.3	53
Wednesday,	21	19	17	29	25	26	23	24.7	21.7	32
Thursday,	22	17	17	30	25	31	27	26.0	23.0	34
Friday,	23	26	24	33	30	31	27	30.0	27.0	35
Saturday,	24	25	24	37	31	32	28	31.3	27.7	38

Mean for the week ..... 33.6 degrees.  
Maximum for the week, at 3 P. M., 18th ..... 60. " at 3 P. M., 18th ..... 48. "  
Minimum " at 6 A. M., 22d ..... 17. " at 6 A. M., 22d ..... 17. "  
Range " ..... 43. " ..... 31. "

#### Wind.

DATE.	MARCH.	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.	7 A. M.	2 P. M.	9 P. M.
Sunday,	18	SW	SSE	SSW	95	97	81	273	3/4	1/4
Monday,	19	NNE	NE	SSE	40	85	80	205	0	2
Tuesday,	20	NW	NNW	NNW	156	124	100	380	1 1/4	2
Wednesday,	21	NNW	NW	NW	107	78	72	257	0	0
Thursday,	22	WNW	WSW	SW	119	61	52	232	1/4	0
Friday,	23	E	ENE	NE	38	55	49	142	0	0
Saturday,	24	NW	NNW	NW	64	106	114	284	0	4 1/2

Distance traveled during the week ..... 1,773 miles.  
Maximum force " ..... 12 pounds.

DATE.	MARCH.	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.
Sunday,	18	.118	.177	.170	47	34	42	2 Cir.	0	0
Monday,	19	.160	.153	.196	64	44	52	1 Cir. Cu.	1 Cir.	9 Cir. Cu.
Tuesday,	20	.072	.095	.075	51	64	61	2 Cir.	8 Cu.	0
Wedn'day,	21	.071	.089	.089	69	55	63	4 Cir. Cu.	4 Cir. Cu.	0
Thursday,	22	.094	.078	.101	100	46	58	0	3 Cir. Cu.	0
Friday,	23	.106	.132	.101	75	70	58	0	10	9 Cu.
Saturday,	24	.117	.105	.108	87	47	39	0	2 Cir. Cu.	0

Total amount of water for the week ..... 10 inch.

DANIEL DRAPER, PH. D., Director.



## BUREAU OF VITAL STATISTICS.

REPORTED MORTALITY\* for the week ending March 17, 1883, together with the ACTUAL MORTALITY for the week ending March 10, 1883.

W. DE F. DAY, M. D., Sanitary Superintendent and Register:

SIR—There were 739 deaths reported to have occurred in this city during the week ending Saturday, March 17, 1883, which is an increase of 70, as compared with the number reported the preceding week, and 12 less than were reported during the corresponding week of the year 1882. The actual mortality for the week ending March 10, 1883, was 693, which is 72.8 above the average for the corresponding week for the past five years, and represents an annual death-rate of 27.60 per 1,000 persons living, the population estimated at 1,305,876.

Table showing the Reported Mortality for the week ending March 17, 1883, and the Actual Number of Deaths each day, from the Principal Causes, with the Age of Decedents, for the week ending March 10, 1883.

METEOROLOGY.			Week ending Mar. 17.	Week ending Mar. 10.	ACTUAL NUMBER OF DEATHS EACH DAY DURING THE WEEK ENDING SATURDAY, MARCH 10, 1883.										AGE BY YEARS.																		Sex.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Mean temperature (Fahr.) for the week was.					34.6	24.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
" reading of barometer					29.696	29.928																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
" humidity for the week was.....					57	72																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Number of miles traveled by the wind was..					2,169	1,709																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Total rain-fall, in inches, for the week.....					.....	.83																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
CAUSES OF DEATH.					Total Deaths reported during the week ending Mar. 17, 1883.	Total Deaths reported during the week ending Mar. 10, 1883.	DATE.										Total Actual Mortality during the week ending March 10, 1883.	Actual number of Deaths for the corresponding week of 1882.	Average number of Deaths in the corresponding week of the past five years.	Annual Death-rate per 1,000, during week (population estimated at 1,305,876).	Under 1 year.																		Total under 5 years.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 and over.	Male.	Female.	COLOR.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
					Mar. 4.	Mar. 5.	Mar. 6.	Mar. 7.	Mar. 8.	Mar. 9.	Mar. 10.							1 to 2.	2 to 3.	3 to 4.	4 to 5.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</