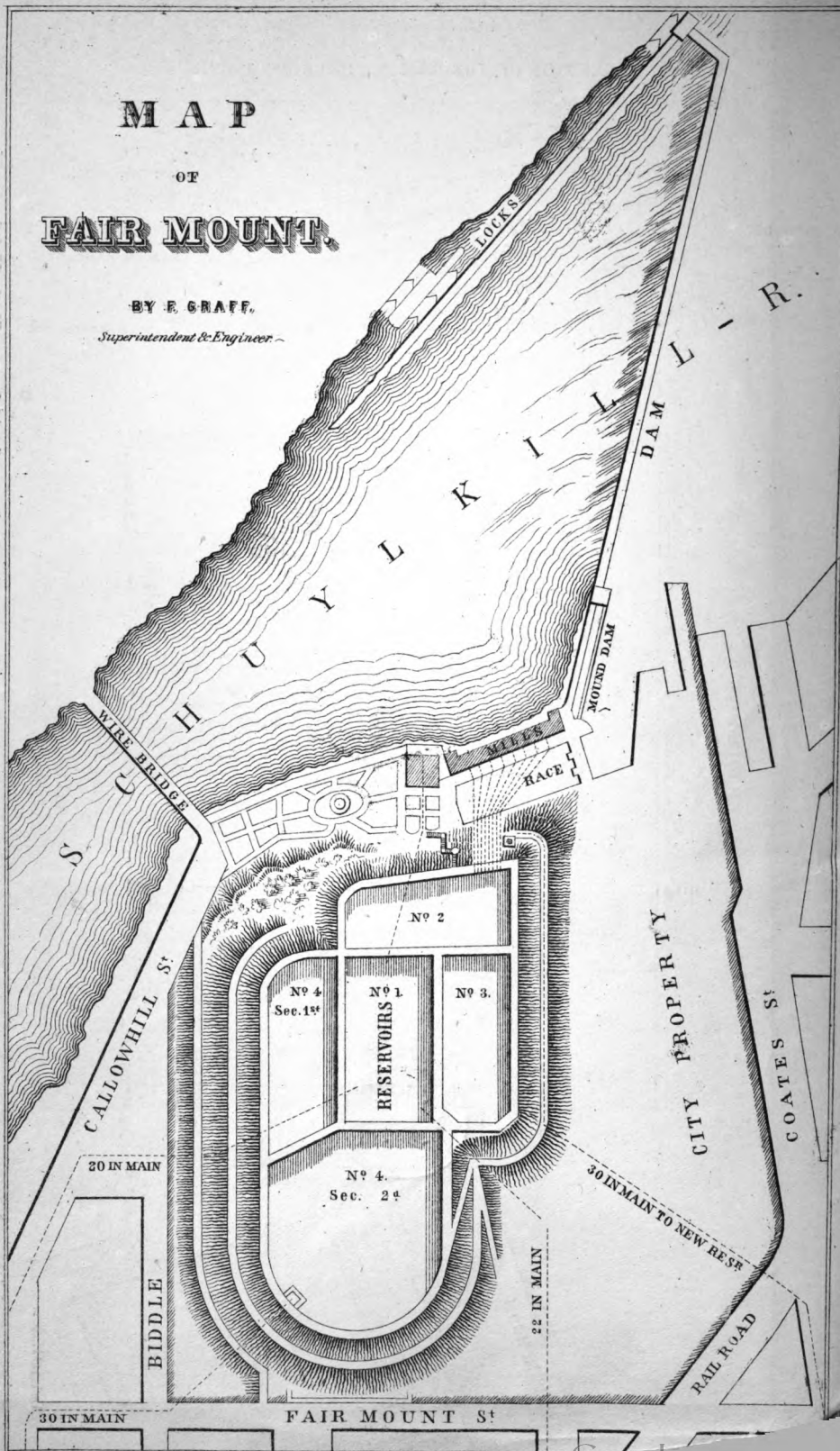
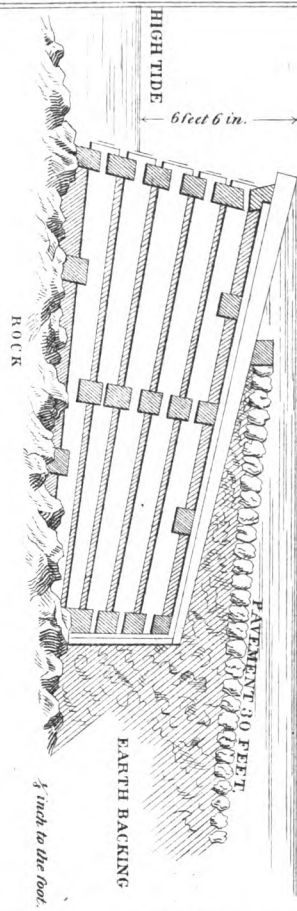
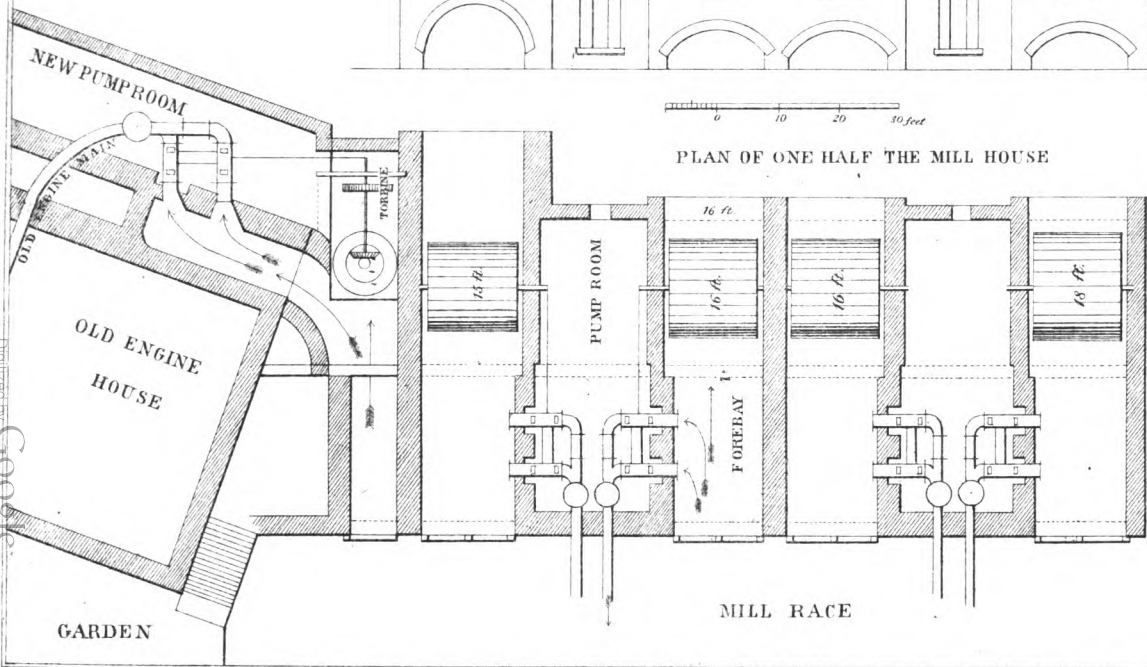
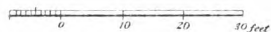
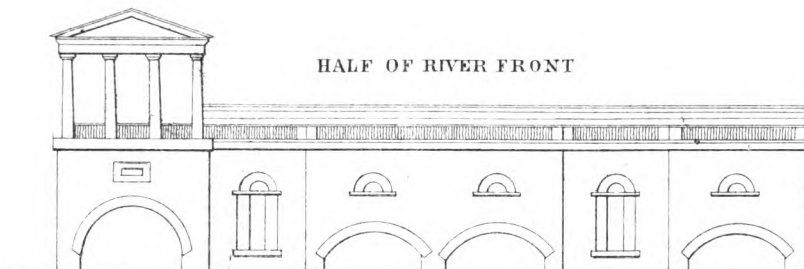


MAP OF FAIR MOUNT.

BY E. GRAFF,
Superintendent & Engineer.





SECTION OF THE DAM IN SHALLOW WATER.

ANNUAL REPORT

OF THE

WATERING COMMITTEE,

FOR THE YEAR 1852,

TO THE

SELECT AND COMMON COUNCILS

OF THE

CITY OF PHILADELPHIA. *k*

JANUARY 6, 1853.

PHILADELPHIA:

CRISSY & MARKLEY, PRINTERS, GOLDSMITHS HALL, LIBRARY STREET.

1853.



WATERING COMMITTEE.

JACOB E. HAGERT, *Chairman*, JOHN AGNEW,
JOSEPH M. THOMAS, CHARLES ABBEY,
A. G. WATERMAN, JOHN H. DIEHL,
ROBERT HUTCHINSON, GEORGE GRISCOM.

ENGINEER AND SUPERINTENDENT,

FREDERICK GRAFF.

REGISTER AND SECRETARY,

GEORGE W. McMAHAN.

MESSENGER,

GEORGE W. HARVEY.

ANNUAL REPORT.

To the Select and Common Councils:

IN compliance with the requisition of Councils, the Watering Committee present their Annual Report of the expenditures and proceedings, with an estimate of the probable amount of money that will be required to defray the expenses of this department of the public service, for the year 1853.

The most important work of the year, has been the finishing of the internal part of the new Reservoir, the embankments for which, were raised during the year 1851; owing to the backwardness of the season, this work could not be safely commenced until the fourteenth day of May, since which time, it has been pushed forward as rapidly as circumstances would permit, and completed, and the water admitted December 22nd, 1852; some seven feet depth of water has been pumped into it, the gradual increase of which is intended.

Your Committee congratulate Councils, upon the triumph-

ant success of this great undertaking, which, although a matter of calculation, was to a very considerable extent, an experiment. The accomplishment of this object, has been effected mainly through the skill and great industry of the Superintendent of the Works, Frederick Graff, Esq., to whom great credit is due. A description of the work may not be considered out of place here. The reservoir is formed by raising embankments of earth, excavated from the middle of the reservoir, so as to form it partly in excavation and partly in embankment. The amount of excavation being only sufficient to supply the quantity of earth required to form the embankments. These have been made twenty feet wide upon the top, in order that they may be raised, should the introduction of more powerful machinery than that now employed at Fairmount, (or other causes,) make it expedient hereafter so to do. The inside of the reservoir is lined from twelve to fifteen inches in depth, with a most excellent quality of brick clay, well tempered by tempering machines, and carefully tramped into its place by the feet of the men; upon this is placed a layer of mortar three inches in depth, made from common lime and red gravel, which, from experience, at Fairmount, is found to be possessed of considerable hydraulic qualities, when unexposed to the atmosphere; upon this good paving, bricks are laid, flat upon the bottom, and upon their edges on the sides; the joints of those upon the bottom being afterwards grouted. The inside slopes have an inclination of one and one half feet horizontal, to one foot perpendicular. These latter it is intended to sod with grass during the next season.

The reservoir covers an area of about six and five-eighths acres, and will have a water surface of about four acres and eighty-seven perches, it will contain, when full, 16,655,867 ale gallons, which will make the amount of storage in this, and the four old reservoirs together, equal to 38,687,867 ale gallons. The water level, when the reservoir is full, will be $66\frac{24}{100}$ above the highest, and $98\frac{14}{100}$ feet above the lowest curb in the City. The cost of the work up to December 31st, 1852, exclusive of the land, was \$46,030,47. The cost of the land it occupies, was \$22,588, which, together, makes \$68,618,47. 1,122,050 bricks were employed, and 9,757 cubic yards of puddle clay used. In order to supply this reservoir, a stand pipe of cast iron has been erected at Fairmount, it is four feet diameter, and fifty feet high, surrounded by a tower of brick to protect it from the frost, the ascending mains from the pumps, are connected with the stand pipe in such a manner, as will enable all, or part of them, to force their supply into the stand pipe or into the reservoirs at Fairmount, as may be found necessary. From the base of the stand pipe, a main of thirty inches diameter, and 3,747 feet long, is carried to the new reservoir. By the adoption of the stand pipe, the momentum of a column of water of this length, which, without such aid, would be continually operating upon the pumps, is avoided; it also affords a ready method of attaching all the pumps to the main, and is found to answer its intended purpose perfectly.

The new reservoir is intended to be used as a compensating supply, and will be employed upon such days of the week as from excessive demand will require a greater head of water

to compensate for the virtual off head, caused by great draft through small mains. The turbine water wheel has been running daily for almost a year, with perfect satisfaction; it is found to be a most valuable auxiliary to the power of the works, and has been tested in several freshets, through which it continued to run without loss of time; whilst upon one occasion, the old wheels could not be used at all for a period of over forty hours. This fact alone, fully shows the great usefulness of the wheel, where the serious inconvenience to which we are sometimes subjected by the continuance of freshets is considered.

The supply of water during the year has not much exceeded that of 1851. The average per day being as follows:

In the month of

January,	an average of 3,689,939	ale gallons per day.
“ February,	“ “ 3,553,098	“ “
“ March,	“ “ 4,251,820	“ “
“ April,	“ “ 4,523,499	“ “
“ May,	“ “ 6,224,786	“ “
“ June,	“ “ 6,252,155	“ “
“ July,	“ “ 7,283,406	“ “
“ August,	“ “ 6,739,227	“ “
“ September,	“ “ 6,612,077	“ “
“ October,	“ “ 6,251,163	“ “
“ November,	“ “ 5,652,310	“ “
“ December,	“ “ 4,778,484	“ “

The average throughout the whole year, being 5,731,744 ale gallons per day, which was supplied to 19,459 tenants,

who pay for the water in the City, and about 3000 families who receive a supply from the public hydrant pumps.

Together in the City	-	-	22,459	tenants.
And by private hydrants in Southwark,	-	5,357	“	
“	“	“	Moyamensing,	2,776
				“
Together,	-	-	-	30,592

From experiments made during the summer, it is found that the greatest consumption of water takes place between the hours of nine and twelve in the morning, and two and four in the afternoon; the minimum supply between the hours of nine in the morning, and six in the evening, being between twelve and one o'clock, during which hour, most of the factories and steam engines are stopped. By an experiment made in May last, the supply of water was found to be 1,272,268 ale gallons from six o'clock evening, to six next morning, and 3,392,522 ale gallons from six o'clock morning, to six next evening. The greatest supply is required on Saturday, and the least of course on Sunday; the average supply for each of three days of the week, for the months of January and July, is given below, namely: Sunday, Thursday and Saturday, from which it may seem that the supply on Thursday in July, exceeded that of Sunday by 2,023,856 gallons, which may probably be considered as the quantity used in manufactories and like uses. The average supply on the days named in January, was, Thursday 3,877,278, Saturday 3,967,851, Sunday 3,186,446. In July, Thursday 7,620,371, Sunday 5,596,515, Saturday 8,185,909.

The supply of water in June last, was to the City and lower districts, by Fairmount Water Works, - -	6,252,155
To Spring Garden and Northern Liberties, by Schuylkill Works, - - - -	3,716,666
To Kensington, by Kensington, - - -	1,546,137
	11,515,137

Equal to $33\frac{86}{100}$ gallons for each individual of the population of the City and districts mentioned. As the purity of the water supplied to our citizens from the Schuylkill has been frequently discussed, and many incorrect comparisons made with waters supplied to other Cities, it may be that a correct comparison would not be uninteresting; the result of the analysis of several waters is therefore given below. The first has been extracted from a report made to the water Commissioners of Boston, by Prof. B. Silliman, Jr., October 29th, 1845. The locality from which the water was taken being unknown to him at the time he made the analysis, the result with three of the waters submitted to him, are given below.

	Grains solid matter in one gallon.	Cubic in. carbonic acid gas in 1 gallon.
Water taken from upper reservoir Croton Works,	10 93-100 grains	17,418 inches.
“ “ Schuylkill, 200 ft. above the dam,	5 50-100 “	3,879 “
“ “ Long Pond, Boston Works,	3 37-100 “	5,163 “

Water from the river Thames supplied by the London water works, is said to have 28.00 grains to one gallon, and water from the New River, supplied by the London water works, 19.20 grains to one gallon, and that from the Artesian wells, supplied by the Hemstead water works, 40 grains to one gallon.

Since the date of Prof. Silliman's analysis given above, Prof. Boye, of our City, has analysed the Schuylkill water, and found but 4.08 grains solid matter in one gallon, the components of which were as follows:

Water taken from Reservoir Fairmount October 4, 1852.

Alkaline Chlorids,	-	-	0.153	grains in one gallon.
“ Sulphates,	-	-	0.560	“ “ “
“ Carbonates,	-	-	0.185	“ “ “
Carbonate of Lime,	-	-	2.195	“ “ “
“ “ Magnesia,	-	-	0.484	“ “ “
Alumina and Oxide Iron,	-	-	0.077	“ “ “
Silica,	-	-	0.395	“ “ “
Organic Matter,	-	-	0.036	“ “ “
			4.080	

It will be seen from the above, that the water supplied from Fairmount will compare favorably with that supplied to other large Cities, and that any fears of the impurity of our supply, are entirely chimerical. The iron pipes laid during the year, amount to 12,620 feet; together in the city $85\frac{1}{8}$ miles; pipes now laid in district of Southwark, $18\frac{1}{8}$ miles, and in Moyamensing, 13 miles, making the total length of iron pipes supplied from Fairmount works in the City and lower districts, $117\frac{1}{8}$ miles. There are now in the City 670 fire plugs, in Southwark 207, and in Moyamensing 138, together 1015, being one fire plug to every 26 houses. In the City there are 276 hydrant pumps.

*The Amounts placed to the credit of the Watering Committee, for
the year 1852, were as follows:—*

As per estimate in Report of 1851,	\$24,583 63
Special appropriation made De- cember, 1852, - - -	2,500 00
Unexpended balance of amount authorized to be raised by loan, per Ordinance, April 3, 1851,	45,263 46
	<hr/> \$72,347 09

The amount expended in 1852, was
as follows:—

Distribution, - - -	\$3,486 60
Iron Pipes, - - -	7,809 48
Fairmount Works, - - -	5,687 73
Water Power, - - -	2,801 62
Incidentals, - - -	2,343 92
Salaries, - - -	4,000 00
	<hr/> \$26,129 35
Additional Reservoir, - - -	31,595 43
Thirty inch Main, No. 2, - - -	9,065 90
Wheel and Pump, No. 9, - - -	4,455 19
	<hr/> \$45,116 52
	<hr/> 71,245 87
	<hr/> 1,101 22
	<hr/> <hr/>

Balance of amount authorized to be raised by loan as above mentioned, - - - -	\$45,263 46
Amount expended on account of loan as above,	45,116 52
	<hr/>
Balance of loan unexpended, - - -	\$146 94
	<hr/> <hr/>

The amount of Duplicate for 1852, as per Register's Account, No. 8, without deducting commissions, &c., is - - - - 150,038 67

The amount paid into the Treasury, after deducting commissions, &c., \$8,915 18, and adding the fractional water rents for 1852, as per balance sheet of Register, No. 1, is - - - - 151,323 05

The Amount of revenue, per Duplicate for 1853, as per Register's Account, No. 8, is as follows :

City, - - - - -	\$119,202 25
Southwark, - - - - -	27,048 67
Moyamensing, - - - - -	14,869 50
	<hr/>
Together, - - - - -	161,120 42
	<hr/>
Amount carried forward,	161,120 42

Amount brought forward,	\$161,120 42
• From which deduct amount of Appropriation to Sinking Fund, per ordinances of Councils,	\$46,908 70
Add Estimated amount of Expenses for 1853, - - - -	39,224 57
	<hr/> 86,133 27
Balance, - - - -	<hr/> <hr/> \$74,987 15

Increase of Water Rents, by new Permits in 1852, as per Register's Account, No. 8, is as follows :

City, - - - - -	\$8,528 75
Southwark, - - - - -	2,508 00
Moyamensing, - - - - -	2,357 50
	<hr/> \$13,394 25
Deduct rents declined and allowed in City and Districts, - - - - -	2,312 50
Increase in 1852, - - - - -	<hr/> <hr/> \$11,081 75

Amount of Loan still due on account of Fairmount Works.

Loans at 5 per cent, amount to \$391,700, Interest on which, is - - - - -	19,585 00
Loans at 6 per cent, amount to \$281,000, Interest on which, is - - - - -	16,860 00
	<hr/> \$36,445 00

Water Rents, per Duplicate of 1853,	-	-	\$161,120	42
Amount carried to Sinking fund,	-	-	37,620	00
As per estimate for 1853,	-	-	39,224	57
Interest on the Loans due as above,	-	-	36,445	00
			<u>113,289</u>	<u>57</u>
Leaving a balance of	-	-	\$47,830	85

ESTIMATE FOR THE YEAR 1853.

Distribution,	-	-	\$3,500	00
Water Power working Machinery,	-	-	3,100	00
Fairmount works, for payment of taxes, rebuilding wharves, new fence on Reservoir, new steps up the hill S. E. corner, painting all the works, new roof on old engine house, dwelling rent and general repairs,	-	-	11,000	00
Salaries,	-	-	4,000	00
Incidentals,	-	-	2,800	00
			<u>\$24,40</u>	<u>000</u>
Iron pipes for supplying new improvements,			8,000	00
New Reservoir, for sodding outside of banks, fence at the foot of the banks, and for amounts due for work done in 1852, for repaving over the main, work at stand pipe, &c.,	-	-	6,824	57
			<u>\$39,224</u>	<u>57</u>

In conclusion, your Committee takes pleasure in stating, that the works are in a good condition generally. Some repairs to fences, &c., and a new roof on the old engine house, and repairs to wharf property, are, however, much needed, and the amount necessary for the purpose, is embraced in the above estimate.

The painting of the works is progressing, under the authority given the Committee some short time since, and is also embraced in the estimate for the year.

JACOB E. HAGERT, *Chairman.*

JOSEPH M. THOMAS,

A. G. WATERMAN,

ROBERT HUTCHINSON,

JOHN AGNEW,

CHARLES ABBEY,

JOHN H. DIEHL,

GEORGE GRISCOM.

SUPERINTENDENT'S REPORT.

The Fairmount Water Works being now finished, as far as was intended by the original design, and, in fact, as far as the bounds will admit, it is thought that the present is a suitable time to include in the annual report, a short history of the different works which have been employed to supply the citizens of Philadelphia with water. Benjamin Franklin was, it is believed, the first who publicly called the attention of the citizens to the very important subject of watering the City from some other source than the wells then universally used; urging, that the afflictions from the ravages of contagious disease, rendered it necessary that a more copious supply of water should be procured, to insure the health, comfort, and preservation of the citizens. This was about the year 1793 or 4, just after the City had been visited by the yellow fever; and in Franklin's will, dated June 23, 1789, is the following clause:

“And having considered that the covering of the ground plot of the City with buildings and pavements, which carry off most of the rain, and prevent its soaking into the earth,

and renewing and purifying the springs, whence the water of the wells must gradually grow worse, and in time be unfit for use, as I find has happened in all old Cities, I recommend, that at the end of the first hundred years, if not done before, the corporation of the City employ a part of the hundred thousand pounds, in bringing by pipes, the water of the Wissahiccon Creek into the town, so as to supply the inhabitants, which I apprehend may be done without great difficulty, the level of that creek being much above that of the City, and may be made higher by a dam, I also recommend making the Schuylkill completely navigable."

No action was had upon Franklin's suggestions until the year 1797, when petitions were presented to Councils, asking that some means should be devised to accomplish the purpose. In consequence, information as to the sources of supply, modes of execution and expense, was sought by that body, and various schemes and inventions of machinery were proposed and submitted, but almost all were deemed ineligible for adoption by Councils. The first plan which occupied the serious attention of the Committee appointed for the purpose, was for bringing into the City the water of the Delaware and Schuylkill Canal Co., now known as the Union Canal Co., who, by charter, dated April 10, 1792, were authorized, if they found it their interest so to do, to supply such citizens with water as might be disposed to use and purchase it.

The following extract from the report communicated to the Councils by the managers of the Delaware and Schuylkill Canal, will give an idea of the nature of this plan. The Canal, they state, "is intended to answer a double purpose,

viz: Form a capital link in the great chain of inland navigation between our Metropolis and Ohio, and the western lakes, and as furnishing the best and most practicable means of introducing an abundant supply of wholesome water into all parts of the City and its suburbs. It is proposed to conduct the water of the Canal into a grand reservoir, situate in Broad street a little to the northward of Callowhill, from which a Canal was to be cut along Broad street the whole width of the City, and be bridged over at the crossings of each street; this Canal, it was calculated would discharge about half a million of cubic feet of water into the different streets in one hour, which calculating only ten streets at a time, would send fifty thousand cubic feet into a single street or its gutters, in that time; not only far more than sufficient to fill all the gutters, but to overflow and wash the streets, as well as to extinguish fires by night or day. This, the first object of cleansing the streets and subduing fire, may be accomplished in a few months at inconsiderable expense. The distribution of the water in pipes of conduit, which may be accomplished by means of pipes fed from the Canal, and run into private cisterns and public fountains, from which it could be pumped by ordinary pumps, will follow of course at ten per cent clear profit, for if twenty five hundred families or houses only, on an average, were supplied at five and a third dollars per house, an income of 5000£ would be produced." By the charter, the Company was to be at the cost of supplying the City, and if the City was inclined to take upon itself the conducting of the water from the grand reservoir, and the distribution of it through the City at their own expense, the

Company was not to receive a greater price for the water to supply the City and neighborhood, than would create an annual profit of ten per cent on the capital expended for that particular purpose; exclusive of the general expenses of the Canal.

This plan was so well approved by the Committee of Councils, that it offered the Company the sum of £50,000 for one half of the water of the Canal, or as much as would pass out of the proposed grand reservoir, through a water way of twelve and a-half feet wide, and three and a-half feet deep, to be constructed at the expense of the corporation. The offer was rejected by the Company. The Committee then reported to Councils the expediency of purchasing the whole stock of the Company, with all its privileges and emoluments, and submitted the following resolutions :

First, That a joint Committee be appointed to draft a memorial to the Senate and House of Representatives of the State, praying them to grant to the Mayor, Aldermen and Citizens, the duties upon sales at auction, in order to enable the corporation to accomplish the great and important object of supplying the City with a sufficient quantity of wholesome water; which, if granted, the corporation was to bind itself to endeavour to purchase the stock of the Canal, and to undertake to complete the work. The duties above mentioned, amounted at that time, to about \$16,000 per annum. This resolution was reported to Councils January 31, 1798, but they, considered it inexpedient to undertake it. In July, 1798, a Committee examined spring mill creek (a small stream about twelve miles above Philadelphia, running into the

Schuylkill river,) and subsequently employed Mr. B. H. Latrobe to examine it, and to give his views generally upon the supply of the City with water; also to ascertain by what means it could be introduced to the greatest advantage. With this view, Mr. Latrobe examined several streams running into the Schuylkill and Delaware rivers; and reported upon bringing in spring mill creek, recommending for the purpose, a close elliptical culvert of three by six feet section, at least three feet under the surface of the ground; to be carried across all the vallies, on light aqueducts of segment arches. The distance he estimated at twelve miles, and the expense \$275,000. If spring mill was not sufficient, other springs were to be collected into the aqueduct on its route; by this plan, the water was to be conducted into the centre of the City, where it was to be raised into reservoirs by steam power. Mr. Latrobe, however, proposed in preference to the above, the plan which was afterwards carried out by him, and about to be described. Councils considered the plan proposed by Mr. Latrobe, and entered into contract with him to design and superintend the works. Great difficulty was experienced in finding some one capable of erecting such large engines and pumps as were necessary for the purpose; a contract was eventually made with Nicholas 'Rosevelt, of Soho Works, on the river Passaic in New Jersey, for making and erecting the steam engines of sufficient power to raise three million gallons per day fifty feet high, and to keep the engines in maintenance and repairs for five years. At this time, the only steam engines of any considerable power in the United

States, were an imported engine put up in 1763, by a son of Hornblower, at the Schuyler Copper Mine on the Passaic; one at a saw mill in New York; and a small engine in Philadelphia, used to grind plaster, by O. Evans. Contract being made with Latrobe, the works were commenced and built according to the following description. A basin was formed on the river Schuylkill at the foot of Chesnut street, extending from low water mark two hundred feet eastwardly, and eighty-four feet wide, provided with a set of tide lock gates. The bottom of this basin was three feet below low water mark; from this the water passed through a sluice to a second basin—or rather an open canal, forty feet wide, and one hundred and sixty feet long: the sides of both those basins, were inclined, paved and coped with marble; at the head of the Canal, was a sluice gate set in marble, which admitted the water into a subterraneous tunnel of oval form, six feet in its greatest diameter, and three hundred feet long, cut nearly its whole distance through solid rock, with its bottom placed level with low water, and emptying into a well in which were placed the pumps of the lower Schuylkill engine, situated at the north-west corner of Chesnut and Schuylkill Front streets. This shaft or well was thirty-nine feet deep, and ten feet diameter; in it was placed the pump, the bottom chamber on a level with low water, by which the water was raised into a brick tunnel six feet diameter, and three thousand one hundred and forty-four feet in length, which passed up Chesnut street to Broad, and thence to the Centre Square engine house. The Schuylkill engine house was sixty-

six feet by fifty-four, built in the most substantial and solid manner, and was intended to contain two engines and pumps, though only one was ever put into it.

The Centre Square engine house was an exceedingly handsome building of marble, the lower story being in form a square of sixty feet, twenty-five feet high, with two porticos containing committee rooms, offices and engineer's room, and surrounding a circular building forty feet diameter, and sixty feet high, covered by a dome, from the centre of which was carried the chimney of the steam engines. The engines in both the buildings were very defective in every respect; the lever-beams, fly-wheel, shafts and arms, cold water pumps and cisterns, being all made of wood. The boilers to both engines were wooden boxes, nine feet high, nine feet wide, and fifteen feet long; made of five inch white-pine plank, securely bolted through and braced on the outside. The fire box inside of the boiler, was of wrought iron, with vertical flues of cast iron; subsequently, a cast iron boiler was substituted. At this time, not any wrought iron could be obtained in larger sheets than fifteen inches by three feet, when it was squared, which had to be done by the purchaser; all the castings were patched by gun boring, cement and hard solder; the important parts of the pumps had to be lined with sheet copper, before they could be made air tight. The main steam cylinder of the Centre Square engine, was cast in two pieces, united by copper, the joints being secured externally by a cast iron band eighteen inches wide, and although it was but six feet six inches long, and thirty-six inches in diameter, nearly four months were consumed in boring it out fit for use. The

pumps were double acting force pumps, and at first were without air chambers; this necessary article was, however, added to the Centre Square pump in 1810, but could not be made useful until it was lined with sheet lead.

The engine at Schuylkill engine house, was forty inches diameter and six feet stroke; the pump attached to it being seventeen and a-half inches diameter, and six feet stroke. The engine run sixteen revolutions per minute, and pumped, by actual experiment, 1,474,560 ale gallons of water in twenty-four hours, with a consumption of seventy bushels of bituminous coal. The Centre Square engine, had a cylinder of thirty-six inches diameter and six feet stroke, a pump of eighteen inches diameter and six feet stroke, and by experiment pumped 962,520 gallons of water in twenty-four hours, with a consumption of fifty-five bushels of coal. The water was pumped by this engine, into two wooden tanks in the top of the building, fifty feet above the bottom of the brick tunnel, leading from the Schuylkill engine house; one of these tanks was ten feet diameter and twelve feet deep, and the other, fourteen feet diameter and twelve feet deep, containing together, about 17,094 ale gallons. The engine was able to pump these full in about twenty-five minutes, and they were exhausted in about the same time. Therefore, if the pumps were not constantly at work, the citizens suffered for water; and from the very defective work about the engine and pump, this was frequently the case. The water from the tanks was conducted into a cast iron distributing-chest, from which was carried two wooden logs of six inch bore down High street to Front street, one of four and a-half inch bore

down Arch street to Front street, and one of four and a-half inch down Chesnut street to Front street, from which the water was distributed through logs of four and a-half and three inch diameter. These works commenced supplying the City, January 27th, 1801; much difficulty was experienced in raising the money for the erection of the works by loan, and the Committee was several times obliged to get its joint or individual notes discounted, in order to raise funds to carry on the works. The subscribers to the water loan, received a supply of water without charge, for three years from January, 1801.

The works at Centre Square at length become so very deficient, that the Committee was directed to cause inquiry to be made, as to the best method of securing a better supply of water, and in consequence, again turned its attention to the Delaware and Schuylkill Canal. It found, upon examination, that the level of the Canal was only about six inches above the highest point of the City; this project was therefore a second time abandoned, and Mr. Frederick Graff and Mr. John Davis were directed to make examinations, with a view to the erection of works yielding a more certain supply. They consequently examined several sources, and reported various plans, one of which was for a water power works, to be supplied from the Wissahiccon Creek, by a race or canal from the Creek to the machinery, to be erected at the foot of Simes' hill, upon which they proposed to form two large reservoirs, and from which, iron pipes of eighteen inches diameter, were to conduct the water to the iron distributing chest, at Centre Square. Simes' hill was reported to be one

hundred and ten feet above high tide, and by running the proposed race to the Falls of Schuylkill, a head of thirty feet could have been obtained.

They also in this report, dated December 18th, 1811, were the first to propose water power works at Fair Mount, in the following words: "If the Canal, already commenced, should ever be completed, and it is found that a portion of its waters can be spared for the use of watering the City, a water power machinery could be erected near to Morris hill, (the present Fair Mount) to pump or elevate the necessary quantity of water into reservoirs, constructed upon said hill." The reasons for not adopting either of the water power plans proposed, appear to have been the fear of impediments to such works, from ice and frequent freshets in the river, which it was thought would render such works almost as uncertain as steam engines. They then proposed the steam engine plan at the Morris hill, (afterwards carried out) upon the following plan, which was entirely designed by and executed under the direct supervision of Frederick Graff. A substantial stone building was erected (now occupied as a public saloon and dwellings,) at the foot of the hill at Fair Mount, in which was at first erected a Bolton and Watt steam engine, of forty-four inch cylinder and six feet stroke, working a vertical double acting pump of twenty inches diameter and six feet stroke, raising the water through a sixteen inch iron main, two hundred and thirty-nine feet long, into the reservoir, one hundred and two feet above low water in the Schuylkill. This engine had a boiler with a cast iron case, and vertical flues or heaters of wrought iron, and upon trial

pumped 1,733,632 ale gallons in twenty-four hours, with seven cords of wood, carrying from two and one-half to four pounds pressure of steam. These works were commenced August 1st, 1812, and started September 7th, 1815. Before the starting of the works, contract was made with Oliver Evans, for one of his high pressure engines, then just coming into notice, and one was accordingly put up of the following dimensions:—Steam cylinder, twenty inches diameter and five feet stroke, with a pump twenty inches diameter and four feet stroke. This engine was supplied by four cylinder boilers, thirty inches diameter and twenty-four feet long, upon which a pressure of two hundred and twenty pounds of steam was sometimes carried. The engine, upon trial, raised 3,072,656 gallons in twenty-four hours, running twenty-four and three-quarter revolutions per minute, and carrying one hundred and ninety-four pounds of steam, with a consumption of thirteen cords of wood. This engine was put to work, December 15th, 1817, and the cost at that time to raise 2,300,000 ale gallons per twenty-four hours, was \$84 50 per day. The reservoir then erected, contained about 3,266,126 ale gallons, and the water was conducted from it to the distributing chest, at Centre Square, by six ranges of wooden logs, five of six inches diameter, and one of four and a-half inches, carried along the bed of the old Union Canal to Broad street, and thence to the distributing chest, a distance of 9,537 feet. Although at the time of starting these works, considerable improvement had been made in making machinery, yet not a single furnace could be found, large enough to cast the steam cylinder of the Bolton and Watt engine, with its nessel pipes

entire, although its weight was but one and three-quarter tons; and the latter mentioned appendages had to be cast separately and bolted on. Most of the castings were made at Weymouth blast furnace, in New Jersey, but the smaller ones were cast at the Eagle works, the ruins of which are now standing at the corner of William and Callowhill streets,—a foundry where, it is believed, the first cannon cast in this country during the revolution, was made.

The supply of water by the steam engines becoming inadequate to the demand, and being very expensive, the Committee turned its attention to some more economical means of furnishing the City with water, and now being in a position to avail itself of the suggestions and plans proposed for water-power machinery by Messrs. Graff and Davis in their report made in December, 1811, it set about accomplishing this desirable end. To Joseph S. Lewis, Esq., the then Chairman of the Watering Committee, much credit is due, for his great exertions in getting the matter passed in councils, and for the negotiations which followed with the Navigation Company, and in the settlement of damages to the owners of property upon the river, overflowed by raising the dam. This Company had succeeded in bringing their canal from Pottsville to the Falls of Schuylkill, where, for want of funds, they were obliged to stop, although the intention then was to terminate the canal at the point where it now terminates. The Committee saw that by the erection of a dam at Fairmount, the double object of completing the navigation and the erection of a water-power works, could be accomplished; agreements were therefore entered into for the pur-

chase of the water power at the Falls of Schuylkill, which were destroyed by backing the water in the erection of the dam at Fairmount, and also with the Schuylkill Navigation Company, for the use of the water which had been granted to them by their charter. These ends having been accomplished, councils passed a resolution to build the present works, April 8, 1819. Plans for building the dam required, were made by Thomas Oaks, Messrs. Briggs and Lehman, Lewis Wernwag, (who had just finished building the bridge across the Schuylkill, at Fairmount) Fred'k Graff and Ariel Cooley. The Committee upon examination of these several designs, adopted that of Mr. Cooley, and entered into contract with him to erect the dam, build the head arches, and excavate the mill-race from the solid rock, for the sum of \$150,000, which contract was faithfully fulfilled. Mr. Cooley's dam was built in the following manner: cribs of hemlock timber were sunk across the river; in the deep water, they were fifty feet long up stream, and from seventeen to twenty feet wide, sunk in some parts, through eleven feet of mud to the rock, in water thirty feet deep at high tide. These cribs were sunk to a distance of about four hundred and fifty feet from the eastern pier, to which point the deep water continued; the remainder of the dam was built upon the rocks which are dry at low tide; this part of the dam is only twenty feet wide, but is securely fastened to the rock by iron bolts and ties. At the eastern end, is built a mound dam of earth and stone, in consequence of the great depth at which the rock was found there; this mound dam is thirteen feet higher than the top of the overfall of the dam, and is terminated where it meets the dam by

a cut stone pier twenty-eight feet square, founded upon a crib sunk in twenty-eight feet depth of water. The situation of Mr. Cooley's dam was chosen with great judgment; anticipating heavy freshets, he gave the dam as much overfall as possible, by carrying it diagonally across the stream, thus presenting an oblique surface to the thread of the current. The whole length of the overfall, as originally built, was twelve hundred and four feet, the mound dam two hundred and seventy feet, and the head arches of the forebay, one hundred and four feet, making the whole dam, with its piers, about sixteen hundred feet long, and backing the water up the river about six miles. The dam was commenced April 19, 1819, and the water flowed over it for the first time, July 25, 1821. The original dam being built of hemlock timber, become rotten above low-water mark, and was entirely rebuilt from low water upward, in 1842 and 1843; in the deep water, the new work (made of white pine timber), was placed upon the old cribs, which were of course perfectly sound where they had been constantly covered with water. From the point where the dam reaches the rocks, (which are dry at low tide,) the old structure was entirely removed and replaced by a more substantial work. In the new work, the form of the section of the dam was changed; it now has on the front face, a batter of three inches to the foot, the timbers forming it being all squared, and so placed as to have a space of two and one-half inches between them, to admit of free ventilation; the ties running up stream, are securely dovetailed into the front and cross logs, and firmly bolted with iron bolts, the whole being filled with stone well packed in. The top of

the dam is first covered with a deck of white pine, two-inch plank, upon which is a deck of white oak plank, ten inches in thickness at the upper, and five inches at the lower ends ; this deck has an inclination of about three inches to the foot, and upon it (commencing at a distance of seven feet from the front face of the over-fall) is a pavement of stone extending some thirty or forty feet up stream. The dam has withstood, successfully, some exceedingly severe freshets, having upon one occasion as much as ten feet ten inches of water flowing over it. The overfall of the dam is now eleven hundred and forty-eight feet ten inches in length, (450 feet in deep water, and 698 feet 10 inches on rock dry at low tide,) is thirteen feet six inches in height, above low tide in the deep water ; that portion upon the rock being at the lowest point, about eight feet above the rocks.

From the eastern end of the mound dam, is formed the race to supply the wheels with water ; it is two hundred and fifty-three feet long, and ninety feet wide ; containing about six feet depth of water at the lowest stage of water on the dam : it is provided with head gates, by which means the water can be shut off, should it be necessary for repairs to any portion of the work. On the western side of this race, are erected the mill-houses ; substantial buildings of stone, two hundred and thirty-eight feet long, and fifty-six feet wide. The lower part is divided into twelve apartments, eight of which contain the wheels and the forebays supplying them with water, and the remaining four, eight double acting force pumps. The building is terminated at each end by porticos of doric order, and along the eastern front is a terrace paved with brick,

extending the whole of its length. The first three wheels are made of wood, two of them are sixteen feet diameter, and fifteen feet wide, and the other is fifteen feet diameter and the same width. These three wheels were taken down and replaced by new wheels, July 1846, after having been in constant use for twenty-four years; the remainder of the wheels are made of cast iron, with buckets of wood; four of these are eighteen feet diameter, and fifteen feet wide, weighing about twenty-two tons; the remaining wheel is sixteen feet diameter and fifteen feet wide. All the wheels have cast iron shafts, and are all breast wheels, working under one foot head, and seven feet six inches fall, when the dam is just full and the tide low. The tide rises, however, upon them, about two feet above their lower edges, and prevents their use from four to six hours each day. The pumps driven by these wheels, are all alike, double acting force pumps, sixteen inches diameter. The one driven by the wheel of fifteen feet diameter, having a stroke of four feet six inches, is run at a speed of fourteen revolutions per minute; the sixteen feet wheels drive their pumps which have a stroke of five feet, at a speed of thirteen revolutions per minute; and the eighteen feet wheels work pumps of six feet stroke, at eleven revolutions per minute. In addition to the above, is a "Jonval Turbine" water wheel, erected in 1851; this wheel is seven feet diameter, with a bucket ten inches deep and about thirteen inches wide. It transmits its motion (through two bevel and two spur wheels,) to a force pump similar in size to those already described, with a six feet stroke, driving it at a speed of twelve revolutions per minute. This wheel works under a

head and fall of six feet six inches at high tide, and ten feet at low tide; it is not stopped by the rise of the tide, and can be worked twenty-four hours per day. The pump attached to this wheel, pumps its water through to the old main formerly used by the steam engines.

The ascending mains to all the pumps are sixteen inches diameter; the shortest, being one hundred and eighty-three feet long—and the longest, (that to which the Turbine is attached,) four hundred and thirty-three feet long. The pumps are each provided with an air chamber to relieve them from the shock produced by the momentum of the water—the pump valves are of brass, fitting upon seats of iron, and have an area considerable larger than that of the pump barrel. The pumps are all placed almost horizontally, and feed under a head of about two feet above the highest valve chamber. The lift of the pumps is nearly ninety-six feet perpendicular.

The first wheel and pump were put into operation July 1, 1822, and the last, (the Turbine,) December 16, 1851. This wheel has been worked during several freshets in the river, without disadvantage. The perfect success of this wheel, affords the means of increasing the power of the works at Fairmount, (by substituting "Turbines" for the breast-wheels now in use,) to the extent of from four and one-half to six million of gallons per day.

The cost of running the nine wheels and pumps in 1852, (which includes all repairs to them, oil, tallow, packing, wages of men attending them, and fuel to prevent their freezing in the winter,) was \$7₁₀⁶⁷ per day, equal to \$1₁₀³³ per million gallons of the average quantity raised per day throughout

the year. The hill at Fairmount is now entirely covered with reservoirs, which have been built from time to time, as they were required by the increased demand for water in the City. The first one was commenced in 1812, for the use of the steam engines; No. 2 was finished in 1821; No. 3 in 1827; and No. 4 in 1836. They are all built with stone walls—eleven feet six inches high, four feet six inches thick at the base, and three feet at the top; these have a puddle wall of good clay, two feet in thickness behind them, retained by an embankment twenty feet wide on the top; sodded with grass on the outside: the bottoms of the reservoirs are paved with brick, laid upon lime mortar upon a bed of puddled clay eighteen inches in thickness. The last reservoir built, was placed upon an artificial embankment forty feet high, supported by a retaining wall twenty seven feet high, and upwards of four hundred feet in length; the reservoirs all contain twelve feet three inches depth of water when full.

The sizes, contents, and first cost of each, are as follows:

	Size.	Contents.	Cost.
No. 1,	167 by 317 feet, contains	3,917,659 ale gallons,	\$32,508
No. 2,	140 " 316 " "	3,296,434 " "	2,572
No. 3,	160 " 317 " "	2,707,295 " "	24,521
No. 4, first sec. }	136 " 350 " "	3,658,016 }	67,214
No. 4, second " }	392 " 358 " "	8,452,572 }	
	Together,	22,031,976	\$133,822

From these reservoirs, three mains are now laid into the City: one of twenty-two inches diameter, commenced in the year 1819, the pipes for which were partly imported from England, there being no one at that time willing to make them in this country. In 1820, however, Mr. S. Richards

undertook to cast them; these were the first iron pipes of any considerable size made in America. The main passing from the north-east corner of the reservoirs to the rail-road, and thence to Schuylkill Second street, is twenty-two inches in diameter, and twenty-six hundred and sixty-one feet long; at which point it is reduced to twenty inches diameter, and continues down Callowhill to Broad, and down Broad across the whole City to Cedar street; a distance of nine thousand five hundred and sixteen feet, making the entire length of the twenty and twenty-two inch main, twelve thousand one hundred and seventy-seven feet. The second main, laid in 1829, is twenty inches diameter, passes from the south side of the reservoir down Callowhill street to Schuylkill Eighth street, and down Schuylkill Eighth to Spruce street, where it is reduced to sixteen inches, and carried of that size to Cedar street; the length of this main to Cedar street, is ten thousand five hundred and ninety-six feet, of twenty inch diameter, and twelve hundred and twenty seven feet of sixteen inch diameter: together, eleven thousand eight hundred and twenty-three feet. This main, and the one in Broad street, pass across the City upon its summit, those streets being the highest in the City.

The third main is thirty inches diameter; passes out of the reservoir at the south-east corner, down Hamilton street to Schuylkill Front, and down Front to Arch street; thence to Delaware Second street, a distance of thirteen thousand eight hundred and twenty-one feet; this main was laid in 1850, from these mains the water is distributed in the City through the following sizes and length of pipes.

The number of feet of Iron Pipes now laid in the City, of each size, is as follows:—

Of $1\frac{1}{2}$ in diameter.	2,258 feet.
3 “ “	120,516 “
4 “ “	25,407 “
6 “ “	178,589 “
8 “ “	9,745 “
10 “ “	40,668 “
12 “ “	23,646 “
16 “ “	10,553 “
20 “ “	20,245 “
22 “ “	2,661 “
30 “ “	18,735 “

Together, 453,023 feet.

From the year 1826 to December 31st, 1844, the Fair Mount works supplied, in addition to the City proper, the Districts of Spring Garden, Northern Liberties, Kensington, Scuthwark and Moyamensing; but the northern districts, (the first three mentioned above,) improving rapidly, and spreading their bounds over higher grounds than could at that time be conveniently and perfectly supplied from Fair Mount, concluded jointly to erect water works; and the Districts of Spring Garden and Northern Liberties are now supplied from steam power works, erected upon the Schuylkill river above Fair Mount. The District of Kensington is also supplied by independent steam power works, situate

upon the Delaware river. The Districts of Southwark and Moyamensing are still amply supplied from Fair Mount.

Since the erection of the dam, the Schuylkill has been visited by numerous severe freshets, the highest of which took place as follows :

Feb. 21, 1822,	there was	9 feet 1 inch	of water	over the dam.
Jan. 26, 1839,	“	10 feet 2 inches	“	“
Jan. 7, 1841,	“	8	“	“
Dec. 24, 1844,	“	6 feet 2 inches	“	“
March 14, 1846,	“	7 feet 1 inch	“	“
July 19, 1850,	“	8	“	“
Sept. 2, 1850,	“	10 feet 10 inches	“	“

During the latter freshet, the sixteen feet wheels were entirely submerged by the rise of the water below the dam at high tide ; no injury, however, was done to the works.

Six of the water wheels and pumps were erected by Messrs. I. P. Morris & Co., and two by Messrs. Merrick & Towne, all from the plans of the late Frederick Graff, who designed and directed to the time of his death, all of the works at Fair Mount, including the steam as well as the water power works ; with the exception of the dam and three of the original water wheels, now removed.

The Turbine wheel was erected from the designs of E. Geyelin, the patentee for this kind of wheel in this country. The space upon which it was possible to build reservoirs at Fair Mount, being completely occupied, and the demand for water warning Councils that more reservoir room was required by the works, induced them to purchase ground at some other point, and 13 acres 115 perches of ground was accordingly

purchased in the year 1850. Upon a portion of said ground, situate between Schuylkill Front street and Corinthian avenue, and Poplar and Parish streets, in the District of Spring Garden, a reservoir has been erected. The level of the ground being somewhat higher than that at Fair Mount, advantage was taken of it to raise the water level of the new work some sixteen feet higher than the old; in order to compensate for the virtual loss of head, which takes place upon days when there is an unusual amount of water used in the City.

The new reservoir is of the embankment kind, occupying a space outside at the foot of the banks, of 721 feet by 400 feet, and a bottom surface at the foot of the slopes inside, of 577 feet by 258 feet; the contents of this reservoir, when full, will amount to 16,646,247 ale gallons, equal to 20,321,392 wine gallons. The embankment has a slope outside, of one and a third feet horizontal to one foot perpendicular, and inside, of one and a half feet horizontal to one foot perpendicular; or on an angle of little over thirty-three degrees. This inclination is lined with good brick clay, from twelve to fifteen inches in thickness, tempered by tempering machines, and carefully tramped into its place; upon this is a strata of gravel and lime mortar, upon which are laid bricks upon their edges; the bottom of the slope is supported by an abutment of bricks placed upon their ends. The bottom of the reservoir is lined with clay similar to the sides, upon which, however, the bricks are laid flat, and the joints afterward grouted. The water level of this reservoir when full, will be $66\frac{24}{100}$ feet above the highest curb in the City, and $98\frac{14}{100}$ feet above the

lowest. The cost of the work to December 31st, 1852, exclusive of the land it occupies, is \$46,030,47. There is sufficient ground left of the new purchase, upon which to erect another reservoir, almost as large as the one just completed. In order to fill the reservoir, a stand pipe of cast iron was erected at Fair Mount, to which the ascending mains from the pumps have been attached, in such manner that any or all of them may throw its supply into the new or old reservoirs, as may be found necessary. This stand pipe is of cast iron, four feet diameter in the clear, and fifty feet high from its base; thirty feet above the level of Fair Mount reservoir when full, and fourteen feet above the new reservoir when full. The pipe has been surrounded by an ornamental tower of brick work, to protect it from the frost. The pump mains are connected to a lateral taper pipe, twenty inches diameter at one end and four feet at the other; the total weight of the stand and this lateral pipe, is twenty-four tons nine hundred weight; from the base of the pipe is carried a thirty inch main to the new reservoir, a distance of thirty-seven hundred and forty-seven feet. The water was admitted to this reservoir, Dec. 22d, 1852.

The following table exhibits the consumption of water, etc., etc., during the past year.

Consumption of Water, &c., during the year 1852.

	Total quantity of water pumped during the year.	Average quantity pumped each day.	Total number of hours, the eight old wheels worked in one month.	Average number of hours each wheel worked per day.	Total number of hours the Turbine wheel ran.	Average daily work of the Turbines.
January, -	114,388,110	3,689,989	1,846	7.41		
February, -	103,039,860	3,553,098	1,680	7.21		
March, -	131,806,435	4,251,820	2,122	8.55	32	12.81
April, -	135,704,994	4,523,499	1,831	7.63	384½	20.17
May, -	192,968,380	6,224,786	2,424	9.77	625½	14.53
June, -	187,564,650	6,252,155	2,509	10.45	437	15.64
July, -	225,847,585	7,283,406	3,165½	12.76	485	13.13
August, -	208,916,032	6,739,227	2,960½	11.93	407	13.83
September, -	198,362,326	6,612,077	2,680½	11.16	415	13.20
October, -	193,786,050	6,251,163	2,704½	10.90	409½	11.63
November, -	151,569,325	5,052,310	2,090	8.7	343	12.87
December, -	148,132,943	4,778,482	1,977	7.96	399	
Totals, -	2,092,086,690	5,731,744	27,990	9.58 106	3937½	14.106

	Hottest day in the month.	State of Thermometer.	Cooldest day of the month.	State of the Thermometer.	Average Temperature of the month.	Quantity of water pumped on the hottest day of the month.	Quantity pumped on the coldest day of the month.
January	29, Thursday	44°	20, Thursday	Zero.	27.5	4,415,760	3,986,450
February	8, Sunday	43°	19, Thursday	16°	34.0	3,281,155	3,041,835
March	13, Saturday	63°	3, Wednesday	31°	40.7	6,316,990	3,557,140
April	26, Monday	61°	5, Monday	34°	46.6	no pumping.	3,011,170
May	25, Tuesday	79°	1, Saturday	56°	63.3	ditto	no pumping.
June	16, Wednesday	89°	11, Friday	60°	71.8	8,500,305	6,373,980
July	1, Thursday	88°	17, Saturday	68°	77.0	7,310,675	7,089,060 S
August	15, Sunday	83°	4, Wednesday	67°	72.2	5,385,740	5,363,550 W
September	2, Thursday	79°	30, Thursday	60°	64.8	8,019,450	5,770,465
October	8, Friday	76°	20, Wednesday	52°	58.2	7,808,275	5,888,565
November	2, Tuesday	59°	22, Monday	34°	43.2	6,588,635	4,910,535
December	7, Tuesday	54°	22, Wednesday	26°	41.9	5,644,325	4,206,554

The average consumption throughout the whole year, was equal to 187 ale gallons each water tenant, $30\frac{9}{10}$ gallons per each individual of the population of the City and Districts, supplied from Fair Mount.

The average supply in the month of July, equalled 238 gallons per water tenant, $38\frac{9}{10}$ gallons per each of the population, 271 gallons per each house.

By the late census, it appears that there are in the City proper,	- - - - -	16,274 houses.
In Southwark,	- - - - -	6,451 “
In Moyamensing,	- - - - -	4,096 “
		<hr/>
Together,	- - - - -	26,821 “

There are now upon the books of the Fair Mount works, in the City,	- - - - -	19,459 water tenants.
In Southwark,	- - - - -	5,357 “
In Moyamensing,	- - - - -	2,776 “
		<hr/>
Together,	- - - - -	27,592 water tenants,

who pay for a supply of water. The amount of water rents paid into the City by the above tenants in 1852, was \$151,323,05, equal to an average rent of $\$5\frac{4}{10}$ for each water tenant.

There are now erected in City, 670 fire plugs.

In Southwark,	- -	207 “
In Moyamensing,	- -	138 “
		<hr/>

1015 fire plugs, equal to one fire plug to every twenty-six houses.

The total cost of all the works, from the first old steam works at Centre Square, commenced March, 1799, with the yearly expenditure added to Dec. 31st, 1852, \$3,247,894 04

Cost of Centre Square works, with yearly expenses added, from March, 1799 to Sept. 7th, 1815, when steam was started at Fair Mount, - - - - - \$657,398 91

Cost of steam works at Fair Mount, with yearly expenses added, from August, 1812, to July 1st, 1822, when the water power works were started, - - - - - \$809,318 04

Cost of water power works, from July 1st, 1822, with yearly expenses added, to December 31st, 1851, \$1,781,177 09

\$3,247,894 04

The above cost includes cost of the old wooden logs, of which about thirteen miles were laid, all the iron pipes and mains, and in fact all expenses belonging to the works mentioned above, up to December 31st, 1852.

The following is the amount, &c., of the Loans still due at Fairmount Water Works.

Title of Ordinances making the Loan, and purposes of Loan.	Rate per cent.	When passed.	Redeemable.	Amount.	Amount cancelled by Ordinance May 9, '39	Still due.
For Iron Pipes, - - - -	5 per cent.	Oct. 24, 1822,	Jan. 1, 1854,	25,000		25,000
Ditto - - - -	5 per cent.	Nov. 27, 1823,	Nov. 1, 1854,	26,000	25,000	26,000
Ditto - - - -	5 per cent.	Feb. 23, 1826,	July 1, 1856,	55,000	12,000	30,000
Reservoirs, wheels and pumps, -	5 per cent.	Sep. 14, 1826,	Jan. 1, 1854,	26,000		14,000
Iron Pipes, - - - -	5 per cent.	March 22, 1827,	July 1, 1857,	50,000	2,900	50,000
Ditto - - - -	5 per cent.	Jan. 24, 1828,	July 1, 1858,	50,000	34,200	47,200
Ditto - - - -	5 per cent.	March 26, 1829,	July 1, 1859,	55,000		20,800
Purchases at Fairmount, - - -	5 per cent.	April 10, 1828,	July 1, 1860,	67,500		67,500
Iron Pipes, - - - -	5 per cent.	April 14, 1831,	Jan. 1, 1861,	36,200		36,200
Improvements at Fairmount in the years 1829, '30, '31, '32, -	5 per cent.	April 18, 1833,	July 1, 1865,	100,000		100,000
Total amount of Loans at five per cent. - . .						416,700
30 inch main, &c., - - - -	6 per cent.	Nov. 22, 1849,	Jan. 1, 1880,	166,000		166,000
New Reservoirs, &c., - - - -	6 per cent.	April 8, 1851,	Jan. 1, 1881,	115,000		115,000
Total amount of Loans at six per cent. - . .						281,000
Together, - - - -						697,000
The amount required to pay the yearly interest on the above Loans, is						\$ 36,445 00
" " carried to Sinking Fund, per Ordinance, - - - -						46,908 70
" " of Estimated Expenses for the year 1853, - - - -						39,224 57
" " of water rents, per duplicates for 1853, is \$161,120 42.						\$122,578 27

STATISTICS RELATING TO FAIRMOUNT WATER WORKS.

Y E A R .	A M O U N T of Water Rents.	A M O U N T of Expenditures.	N U M B E R of Tenants.	F E E T of Wood Pipes Laid.	F E E T of Iron Pipes Laid.	A V E R A G E Daily Supply of Water. Ale Gallons.	N O . G A L L O N S Supplied to each Tenant.	C H A I R M A N O F C O M M I T T E E .	E N G I N E E R A N D S U P E R I N T E N D E N T .
1801	278 00	-	34	7,000	-	-	-	J. Miller, Jr.,	B. H. Latrobe,
1802	537 60	-	152	29,963	-	-	-	Ditto	Ditto
1803	961 00	295,352 09	267	18,000	-	-	-	S. Wetherill,	John Davis,
1804	1,800 00	34,213 06	345	30,472	-	-	-	J. Vanuxum,	Ditto
1805	3,260 00	41,168 17	685	28,200	-	-	-	Ditto	F. Graff, Sr.,
1806	5,050 00	57,623 05	1,166	12,000	-	-	-	Ditto	Ditto
1807	4,987 17	26,164 93	1,181	2,000	-	-	-	Ditto	Ditto
1808	6,207 01	24,629 62	1,284	2,164	-	-	-	Ditto	Ditto
1809	9,105 00	29,467 13	1,590	5,630	-	-	-	Ditto	Ditto
1810	10,931 50	26,906 48	1,922	7,891	-	-	-	Ditto	Ditto
1811	12,163 00	29,702 26	2,127	5,015	-	-	-	Ditto	Ditto
1812	15,629 00	27,946 85	2,396	6,718	-	-	-	Ditto	Ditto
1813	16,638 00	30,359 58	2,637	7,426	-	-	-	Ditto	Ditto
1814	17,883 00	33,865 69	2,850	4,441	-	793,250	278	Ditto	Ditto
1815	18,499 00	183,289 62	2,983	9,395	-	840,000	281	George Vaux,	Ditto
1816	19,974 50	51,219 63	3,227	14,410	-	-	-	Ditto	Ditto
1817	19,922 00	51,389 26	3,248	6,399	400	879,688	270	J. S. Lewis,	Ditto
1818	21,120 50	34,771 33	3,488	-	-	-	-	Ditto	Ditto
1819	21,998 50	119,063 68	3,847	3,000	-	-	-	Ditto	Ditto
1820	23,016 50	149,700 75	4,170	3,588	9,570	-	-	Ditto	Ditto
1821	24,584 50	116,746 36	4,690	5,803	8,475	-	-	Ditto	Ditto
1822	25,485 50	106,517 82	4,758	3,397	16,035	-	-	Ditto	Ditto
1823	26,013 09	69,268 54	4,844	3,754	14,993	1,616,160	333	Ditto	Ditto
1824	26,574 20	82,208 94	5,061	3,072	2,0500	1,473,200	291	Ditto	Ditto
1825	27,299 18	44,307 37	5,470	5,895	11,394	1,280,700	234	Ditto	Ditto
1826	29,764 64	73,517 40	5,879	4,913	27,496	1,400,000	238	Thomas Hale.	Ditto
1827	37,558 27	80,749 92	6,204	2,197	41,044	1,340,000	216	Ditto	Ditto
1828	46,475 61	64,150 64	6,775	2,275	23,285	1,600,000	249	Ditto	Ditto
1829	52,313 17	81,180 06	9,633	600	16,868	1,800,200	186	Ditto	Ditto
1830	68,918 27	35,660 84	10,143	850	26,675	2,020,100	199	W. J. Duane,	Ditto
1831	65,694 62	63,009 57	11,386	1,131	15,630	2,420,000	212	Ditto	Ditto
1832	73,019 81	65,195 58	11,643	220	16,296	3,000,200	257	J. P. Wetherill,	Ditto
1833	79,437 01	37,354 06	13,472	-	9,497	3,288,100	222	Ditto	Ditto
1834	85,258 15	65,163 33	14,204	-	13,597	3,400,100	239	Ditto	Ditto
1835	92,116 82	73,288 38	18,704	-	17,637	3,364,625	179	Ditto	Ditto
1836	101,266 39	71,706 51	19,674	-	17,283	3,422,664	174	Ditto	Ditto
1837	105,870 92	49,730 10	20,462	-	8,050	3,456,383	168	Ditto	Ditto
1838	109,826 06	50,642 29	21,947	-	11,893	3,850,647	175	Ditto <i>pro tem.</i>	Ditto
1839	121,099 87	24,742 39	22,636	-	5,255	3,978,357	175	Ditto	Ditto
1840	126,074 51	22,452 44	23,482	-	2,618	4,034,638	171	Ditto	Ditto
1841	134,634 67	24,701 75	24,828	-	1,865	4,445,630	179	Ditto	Ditto
1842	139,682 97	63,911 40	25,816	-	3,083	4,297,480	166	Ditto	Ditto
1843	144,765 74	63,171 84	26,540	-	5,373	4,422,400	166	Ditto	Ditto
1844	151,501 37	29,713 35	28,082	-	6,618	5,330,455	189	Ditto	Ditto
1845	92,226 76	25,891 93	20,165	-	5,520	4,117,559	204	Ditto	Ditto
1846	100,200 26	50,771 29	21,551	-	15,421	3,492,963	162	Ditto	Ditto
1847	110,505 17	34,316 18	22,789	-	9,279	4,075,682	178	Ditto	Ditto
1848	117,976 36	49,580 32	24,230	-	17,781	4,275,555	176	Ditto	F. Graff,
1849	125,511 41	84,576 74	25,670	-	11,342	4,421,190	172	Ditto	Ditto
1850	122,592 31	131,826 22	27,550	-	22,253	4,785,338	174	Ditto	Ditto
1851	140,313 50	92,380 19	29,014	-	7,867	5,690,744	196	Ditto	Ditto
1852	151,323 05	72,347 09	30,592	-	12,620	5,731,744	271	Ditto	Ditto
	\$3,094,844 8	\$3,246,614 05		241,604	457,401*				

* The Pipes laid in 1804 and 1817, were taken up, and should be deducted from the above amount.

The Water Works of Philadelphia, was the first of any size erected in the United States, its experience has been sought after, and it has served as a model for almost every City, since supplied in this country.

A map, showing a ground plan of the Fairmount estate, and a section of the present dam, with a ground plan of the mill buildings, will be found appended to this report; a statement showing the purity of the water supplied from the works, will be found in the annual report of the Committee.

*Date of important events connected with the Water Works
of Philadelphia.*

<i>Month.</i>	<i>Year.</i>	
April 10,	1792,	Delaware and Schuylkill Canal Co. incorporated, with right to supply the City with water.
	1797,	First petition handed to Councils, asking for the introduction of water into the City.
Jan. 31,	1798,	Councils offered £50,000, for one-half of the water of Delaware and Schuylkill Canal.
July	1798,	Latrobe surveyed Spring Mill Creek, reported to Councils.
Jan.	1799,	Latrobe's plan for the Centre Square and Schuylkill Chesnut street Works—adopted.
Feb. 7,	1799,	Ordinance passed, authorizing loan of \$150,000, for purpose of supplying the City with water.
May 2,	1799,	Centre Square and Schuylkill Works commenced—and
Jan. 21,	1801,	The first water was supplied from them.
	1803,	Public hydrant pumps and iron fire plugs first introduced, up to and including which time, the cost of the works was \$295,452 09. The first iron pipes laid as an experiment in Water street.
	1809,	Expense of keeping steam engines going, was for Schuylkill Engine \$6,254 86, and Centre Engine, \$7,552 87, together, \$13,807 23.
	1811,	Up to this time, there was 230 hydrant pumps, and 185 fire plugs in the City.
Oct. 24,	1811,	Councils directed the Watering Committee to enquire for a better method of supplying the City. Up to this time, the cost of the works was for engine building, canals, tunnels, &c., - - - 248,985 59 For distribution, logs, &c., - - - 259,525 92
		Together, - - - \$508,511 51

Month.	Year.	
Dec.	18,	1811, Frederick Graff and John Davis made surveys of Wissahickon and Spring Mill Creeks, and the east side of the Schuylkill, from Upper Ferry Bridge to the Falls, and reported in favor of steam works at Fairmount, which report was adopted—and
June	28,	1812, First purchase made at Fairmount, for \$16,666 67.
Aug.		1812, The steam works at Fairmount were commenced.
Feb.	16,	1813, Bill authorizing City to lay pipes through the streets of the district, passed Legislature. The cost of keeping the engines going, was for Schuylkill engine, \$11,900 07 for Centre Square engine, \$13,740 18, together, \$25,640 25, to raise 793,250 gallons per day.
Sept.	7,	1815, Started steam works at Fairmount, and finished Reservoir No. 1, when Centre Square Works were discontinued.
		1817, First iron pipes, similar to those now in use, were laid, imported from England.
		1818, Committee resolved to lay iron pipes in future, Cherry street work shop erected.
June	20,	1818, The boiler of Oliver Evans engine burst.
Jan.	26,	1819, Committee approved of the plan of distribution of iron pipes as devised by Frederick Graff.
April	8,	1819, Councils resolved to erect water power works at Fairmount.
April	19,	1819, Building of the dam was commenced.
July	20,	1819, Authority to raise the dam 18 inches higher than was first contemplated was obtained.
June	25,	1820, First iron main laid, 22 and 20 inch diameter.
July	23,	1821, Last crib sunk.
Jan.		1821, Water flowed over dam first time.
April	28,	1821, Register water rents adopted.
July	1,	1821, Corner stone of Mill Buildings laid on Saturday.
Oct.	25,	1822, First water wheel started to work to supply City, Monday.
Jan.	14,	1822, Use of steam works at Fairmount discontinued.
		1824, Extra water power purchased for Navigation Company, for \$26,000.
April	26,	1826, Contracted to supply Spring Garden.
June	6,	1826, " " " Northern Liberties.
June	1,	1826, " " " Southwark.
Nov.	10,	1827, Wheel No. 4 started, Reservoir No. 3 finished.
		1829, Second main laid from Fairmount.
		1829, Centre Square engine building taken down.
Feb.	13,	1829, Bill to prevent passage of streets through Fairmount, passed Legislature.
Oct.	10,	1831, Second contract to supply western part of Spring Garden.
June	6,	1832, Contract to supply Moyamensing.
March	26,	1832, Building guard pier.
April	5,	1832, Wheel No. 5 started.
		Twenty-two inch main taken up, and relaid on the Rail Road.
Oct.	5,	1833, Contract to supply Kensington signed.
Nov.	5,	1834, Wheel No. 6 started.
Dec.	20,	1834, Bill for protection of purity of Schuylkill water, passed the Legislature.

<i>Month-</i>	<i>Year.</i>	
Nov.	4,	1835, First section of Reservoir No. 4 finished.
		1835, Pavilion at end of dam built, and old engine building altered to a public saloon.
Nov.	12,	1836, Second and third, " " "
		1837, Retaining wall on Fairmount street, built.
		1840, New set of Forebay Head gates put in.
May	2,	1842, Re-Building the dam from low tide up, commenced.
Dec.	7,	1843, " " " " finished, cost \$56,216 85.
Aug.	24,	1843, Started wheels No. 7 and No. 8.
		Put in new set of Head Gates to all the flooms.
Dec.	31,	1844, Supply of water discontinued to Spring Garden, Northern Liberties and Kensington.
Jan.	1,	1845, New contract to supply Moyamensing and Southwark for ten years, from this date.
July	14,	1846, Started wheels No. 1, 2, 3, which had been re-built with their pumps.
		1846, Took up 3 inch pipes in Water street, and relaid it with 6 inch, per Girard's will.
March	9,	1847, Bill to vacate Biddle street, passed Legislature.
		1847, Enlarged the garden and put up iron railing.
Nov.	11,	1848, Supplied the Northern districts for two weeks, whilst they repaired their reservoir, which was partly carried away.
July	5,	1849, Councils authorized the laying of 30 inch main.
Aug.	30,	1849, Councils agreed to purchase lot for new reservoir.
		1850, Thirty inch main laid.
April	21,	1851, New reservoir commenced.
		Cleansed reservoirs No. 1 and 3, and one section No. 4.
Dec.	16,	1851, Turbine started.
		Cleansed reservoir No. 2.
Dec.	22,	1852, Water admitted to new reservoir.

The water rents are payable in advance, from the first day of January in each year. Five water rent collectors are employed, and all parties who have not paid their rents before the first day of June in each year, are returned as delinquent, and the water pipe is detached from the main, unless they pay the years rent due, and the succeeding years in advance, properties thus delinquent, and the pipe cut off, cannot at any time thereafter receive a supply of water, unless the delinquent water rent be first paid.

The following rates have been fixed by the Watering Committee.

Rates of Water Rents in the City and Districts.

Charges for Dwelling Houses.

	Per Annum.
For Dwellings, with hydrant in yard or kitchen, or both, - - - - -	\$ 5 00
Dwellings in Courts, with hydrant in yard,	2 50
Dwellings in Courts, with hydrant in yard and kitchen, - - - - -	5 00
Small Dwellings, occupied exclusively as such, fronting on public streets, corresponding in size to ordinary Court houses, and having but one room on a floor, with hydrant in yard or in kitchen, - - - - -	2 50
*Small Dwellings corresponding as above, with one room on a floor, having one story kitchen back,	3 75
Baths, each - - - - -	3 00
Baths, if supplied by a separate attachment from the main, - - - - -	5 00
Wash basins in the chambers and in pantries, each, - - - - -	1 00
Water closets and urinals, in dwellings, - -	1 00
Biddets or foot tubs, each, - - - - -	1 00
Wash pavements of every description, or for hose attached to the hydrant for that purpose,	3 00

* This charge takes effect on and after January 1, 1854.

Charges for Stores.

	Per Annum.
For hydrant in the yard or store, - - -	\$5 00
Each basin or sink additional, - - -	2 00
Water closets, (self-closing,) - - -	1 00
Urinals, (self-closing,) - - -	2 00
Water closets and urinals of other descriptions,	3 00

Charges for Hotels, Boarding Houses and Public Buildings.

For family keeping the Hotel, - - -	5 00
Boarders, over 5, and up to 10 persons, -	5 00
Boarders, over 10, and up to 25 persons, -	10 00
Boarders, every 25 persons additional, - -	5 00
Tavern and Hotel Bars, with water either in or out of bar, - - - - -	10 00
Water closets and urinals, (self-closing,) with reser- voir, - - - - -	3 00
Water closets and urinals of other descriptions,	5 00
Wash basins in Hotels, each, - - -	2 00
Slop sinks, - - - - -	3 00
Baths, each, - - - - -	6 00
Wash tubs in washing room, - - -	1 00
Use of kitchen generally, \$5 to \$25, according to capacity.	
Horse troughs for watering horses, each, -	10 00

Charge for Stables.

For livery stables, per stall, - - -	1 00
Each four wheeled carriage, - - -	1 00
Each two wheeled carriage, - - -	0 50
Country stables, per stall, - - -	0 50

Public Bathing Establishments.

	Per Annum.
For each bath tub, - - - - -	6 00
Bakeries, for common family bakers, in addition to charge for dwelling, - - - - -	3 00
Barber shops, private attachment, 1 basin, -	3 00
Each additional basin, - - - - -	1 00
Barber shops, public attachment, 1 basin, -	5 00
Each additional basin, - - - - -	1 00
Drug stores, private attachment, one opening,	2 50
Drug stores, public attachment, one opening,	5 00

For Public Schools.

For hydrant in yard, - - - - -	5 00
Each basin additional, - - - - -	2 00
Water closets and urinals, (if self-closing,) each,	3 00
Each 100 scholars, - - - - -	3 00

For Hatters Planks.

For fours, per set, - - - - -	8 00
Sixes, per set, - - - - -	10 00
Eights, per set, - - - - -	12 00

And the dye houses assessed in accordance with their capacity.

For Building Purposes, for Mixing Mortar.

For bricks, 5 cents per thousand.

Stone, 2 cents per perch.

For supplying packet ships or other vessels with water, 5 cents per cask of 100 gallons each.

Steam Engines.

	Per Annum.
High pressure steam engines, per horse power, -	\$3 00
Low pressure steam engines, per horse power, for boiler only, - - - - -	4 00

All establishments not rated or enumerated in the above list, will be examined and assessed in proportion to the quantity of water used.

Each water tenant is at the expense of conducting the water from the main pipe in the street, to his dwelling or factory, and is obliged to keep the same in repairs; and shall have upon their service pipe leading from the mains in the street, and at every separate branch thereof, a suitable and proper stop cock, fixed in such manner as to be readily got at for the purpose of stopping the water in case of accident to the pipes.

In case of fraudulent misrepresentations on the part of the applicant, or in the uses of the water, not embraced in his application or permit, the Watering Committee have the right to forfeit his payment, and stop off the supply of water immediately upon the discovery of such fraudulent use or waste of water.

Water tenants wishing to discontinue the water, are required to call at the Register's office on or before the 30th day of November, of the year for which the payment shall have been made, and pay the cost of cutting off the pipe or detaching ferrule, otherwise they are held for the succeeding year.

FREDERICK GRAFF,

Superintendent Fairmount Water Works.

January 3, 1853.

LIST OF CERTIFICATES

FOR MONNEYS DRAWN BY THE WATERING COMMITTEE, FOR

FAIRMOUNT WATER WORKS,

From December 3, 1851, to December 31, 1852.

No.	1852.					Dolls.	C.
1	Jan.	7,	In favor of Frederick Graff,			200	00
2	Feb'y	4,	Ditto ditto - - -			3394	32
3	Feb'y	4,	Ditto ditto - - -			943	39
4	March	3,	Ditto ditto - - -			2849	88
5	April	7,	Ditto ditto - - -			1075	12
6	April	7,	Ditto ditto - - -			3572	86
7	April	16,	Ditto ditto - - -			3148	83
8	May	5,	Ditto ditto - - -			1811	33
9	May	5,	Ditto ditto - - -			360	41
10	June	2,	Ditto ditto - - -			1547	48
11	June	2,	Ditto ditto - - -			8850	20
12	July	7,	Ditto ditto - - -			4200	61
13	July	7,	Ditto ditto - - -			4859	13
14	July	15,	Ditto ditto - - -			759	53
15	August	4,	Ditto ditto - - -			3136	41
16	August	4,	Ditto ditto - - -			754	03
17	Sept.	1,	Ditto ditto - - -			4097	38
18	Sept.	1,	Ditto ditto - - -			1064	89
19	Oct.	6,	Ditto ditto - - -			5397	40
20	Oct.	6,	Ditto ditto - - -			1554	82
21	Nov.	3,	Ditto ditto - - -			8350	66
22	Nov.	3,	Ditto ditto - - -			711	23
23	Dec.	1,	Ditto ditto - - -			2881	46
24	Dec.	20,	Ditto ditto - - -			708	06
25	Dec.	27,	Ditto ditto - - -			2081	11
26	Dec.	27,	Ditto ditto - - -			2212	17
27	Dec.	27,	Ditto ditto - - -			723	16
						\$71245	87

ABSTRACT OF PAYMENTS MADE UNDER THE FOREGOING CERTIFICATES.

Distribution.

No.	1852.		Dolls.	C.	Dolls.	C.
2	Feb'y	4,	Wages of workmen, for January, - - - - -	186	75	
			S. Land, for twenty-one cwt. of hay, - - - - -	18	90	
			F. Graff, for cash paid, for 100 bundles of straw, - - - - -	59	88	
3	Feb'y	4,	Estate of M. L. Adams, for 6 months ground rent on shop lot, due February 1, 1852, - - - - -	13	33	
4	March	3,	Wages of workmen, for February, - - - - -	185	40	
5	April	7,	Wages of workmen, for March, - - - - -	167	25	
			Diehl & Duff, for lard oil, - - - - -	9	25	
8	May	5,	Wages of workmen, for April, - - - - -	204	50	
			George Stockham, for 10,171 feet white pine boards, - - - - -	279	70	
			R. Hutchinson, for 207½ lbs pump-leather, - - - - -	45	59	
10	June	2,	Wages of workmen, for May, - - - - -	212	25	
			Harker & Brother, for packing cloth, - - - - -	7	80	
12	July	7,	Wages of workmen, for June, - - - - -	191	85	
			W. Watson, for twenty-one three quarters cwt. of hay, - - - - -	21	75	
			Wetherill & Brother, for paints, oils, &c., &c., - - - - -	15	79	
			C. Smith, for wrought iron, - - - - -	9	78	
			Reeves, Buck & Co., for nails, spikes, &c., - - - - -	9	30	
13	July	7,	W. H. Knight, for hardware, to July 1, 1852, - - - - -	5	26	
			Harbert & Davis, for lumber, to July 1, 1852, - - - - -	55	06	
			J. & H. Jones, for brass castings, to July 1, 1852, - - - - -	46	00	

15	Aug.	4,	Wages of workmen, for July,	-	-	-	-	-	-	176	25
			G. W. Briggs, for poor tax on shop-lot,	-	-	-	-	-	-	7	28
			G. Fithian, for state and county tax on shop lot,	-	-	-	-	-	-	32	40
17	Sept.	1,	Wages of workmen, for August,	-	-	-	-	-	-	220	50
			Estate of M. L. Adams, for 6 months ground rent on shop-lot, due August 1, 1852,	-	-	-	-	-	-	13	33
			D. R. Erdman, for pump-boxes and nozzles,	-	-	-	-	-	-	18	00
			F. Graff, for cash paid for sundries for the use of the work, per bill,	-	-	-	-	-	-	13	06
18	Sept.	1,	J. Cook, for hauling gravel, shop yard,	-	-	-	-	-	-	6	30
19	Oct.	6,	Wages of workmen, for September,	-	-	-	-	-	-	162	50
21	Nov.	3,	Wages of workmen, for October,	-	-	-	-	-	-	187	50
			R. Hutchinson, for 108½ lbs pump-leather,	-	-	-	-	-	-	25	98
22	Nov.	3,	James Harper, for bricks,	-	-	-	-	-	-	24	50
23	Dec.	1,	Wages of workmen, for November,	-	-	-	-	-	-	181	25
			J. Henckle, for 18½ cwt of hay,	-	-	-	-	-	-	22	57
			S. Huse, for one water-meter, and freight,	-	-	-	-	-	-	230	00
			H. Sailor, for two tons of coal, Cherry street office,	-	-	-	-	-	-	9	00
25	Dec.	27,	Wages of workmen, for December,	-	-	-	-	-	-	169	00
			William H. Knight, for Hardware,	-	-	-	-	-	-	12	23
			H. English, for shoeing cart horse,	-	-	-	-	-	-	13	42
			Wetherill & Brother, for paints, oils, &c.,	-	-	-	-	-	-	6	09
			C. Smith, for wrought iron, per bill,	-	-	-	-	-	-	27	89
Amount carried forward,										3304	44

No.	1852.		Dolls.	C.	Dolls.	C.
		Amount brought forward,	3304	44		
		J. Lancaster, for horse feed, per bill,	77	06		
26	Dec. 27,	F. Graff, for cash paid for 766 bundles straw, for packings plugs,	65	63		
27	Dec. 27,	Harbert & Davis, for lumber,	27	17		
		Reeves, Buck & Co., for nails and spikes,	12	30		
<hr/>						
Iron Pipes.						
2	Feb'y 4,	Wages of workmen, for January,	65	50		
3	Feb'y 4,	G. W. Metz & Son, for one pair smith bellows,	25	00		
5	April 7,	Wages of workmen for March,	119	50		
6	April 7,	Colwell & Co., for iron pipes and castings,	167	04		
8	May 5,	Wages of workmen, for April,	110	50		
		H. Gaston, for 50 bushels smith's coal,	50	00		
		R. B. Antrem & Co., for two dozen pick handles,	4	50		
10	June 2,	Wages of workmen, for May,	174	06		
		G. Magee, for sheathing cork spindles,	18	00		
11	June 2,	Colwell & Co., for iron pipes and castings,	1566	00		
12	July 7,	Wages of workmen, for June,	404	50		
		C. Smith, for wrought iron,	85	60		
		C. Cresswell, for iron pipes and castings, for fire plugs, &c.,	167	96		
		L. Chester, for chandlery, to July 1, 1852,	15	09		
					3486	60

13 July	7,	Reeves, Buck & Co., for nails, &c.,	-	-	-	-	930
		W. H. Knight, for hardware, to July 1, 1852,	-	-	-	-	3548
		Harbert & Davis, for lumber, to July 1, 1852,	-	-	-	-	10510
		J. & H. Jones, for brass castings, to July 1, 1852,	-	-	-	-	3925
		Colwell & Co., for iron pipes and branches,	-	-	-	-	192915
15 Aug.	4,	Wages of workmen, for July,	-	-	-	-	34975
		Diehl & Duff, for lard oil,	-	-	-	-	879
16 Aug.	4,	Colwell & Co., for iron pipes and Castings,	-	-	-	-	24289
17 Sept.	1,	Wages of workmen, for August,	-	-	-	-	9637
		F. Graff, cash paid for sundries for use of works, per bill,	-	-	-	-	549
19 Oct.	6,	Wages of workmen, for September,	-	-	-	-	27425
		Diehl & Duff, for lard oil,	-	-	-	-	1000
		Lewis James & Co., for pig lead,	-	-	-	-	6828
20 Oct.	6,	Colwell & Co., for iron pipes and castings,	-	-	-	-	38881
		S. J. Cresswell, for iron castings,	-	-	-	-	11940
21 Nov.	3,	Wages of workmen, for October,	-	-	-	-	15325
22 Nov.	3,	Colwell & Co., for iron pipes and castings,	-	-	-	-	2164
23 Dec.	1,	Wages of workmen, for November,	-	-	-	-	23925
25 Dec.	27,	Wages of workmen, for December,	-	-	-	-	20687
		L. Chester, for chandlery,	-	-	-	-	3465
		R. & H. Jones, for brass castings,	-	-	-	-	18531
		William H. Knight, for hardware,	-	-	-	-	2477
		C. Smith, for wrought iron,	-	-	-	-	4328

Amounts carried forward,

756458

348660

(57)

No.	1852.		Dolls.	C.	Dolls.	C.
		Amounts brought forward,	7564	58	3486	60
26	Dec. 27,	Smith & Taylor, for lumber, - - - - -		96		
27	Dec. 27,	Harbert & Davis, for lumber, - - - - -		122		
		S. J. Cresswell, for iron castings, - - - - -		26		
					7809	48
<hr style="border: 1px solid black;"/>						
Fairmount Works.						
4	March 3,	Wages of workmen, for February, - - - - -		54		22
		E. Smith, for four barrels hydraulic cement, - - - - -		7		00
5	April 7,	Wages of workmen, for March, - - - - -		18		75
		C. B. Rodgers, for grass seed, - - - - -		12		50
		J. Shaughney, for trimming trees, - - - - -		25		50
8	May 8,	Wages of workmen, for April, - - - - -		153		38
		Coleman & Kelton, for one 24 inch pipe, - - - - -		36		00
		J. Agnew, for 542 feet hickory plank, - - - - -		16		26
10	June 2,	Wages of workmen, for May, - - - - -		384		86
		H. Sailor, for five tons of coal, - - - - -		21		25
12	July 7,	Wages of workmen, for June, - - - - -		170		35
		Reeves, Buck & Co., for nails, spikes, &c., - - - - -		3		10
13	July 7,	W. H. Knight, for hardware, - - - - -		7		63
		Harbert & Davis, for lumber, - - - - -		67		30

14 July	15,	J. Brown, for state tax on Fairmount lot, Second and Callowhill, and new reservoirs, less 5 per cent.,	759 53
15 Aug.	4,	Wages of workmen, for July,	57 80
17 Sept.	4,	Wages of workmen, for August	35 59
19 Oct.	6,	Wages of workmen, for September,	34 25
20 Oct.	6,	H. Swartzingrover, for lime,	7 15
21 Nov.	3,	Wages of workmen, for October,	78 00
		J. Brown, for county, corporation and poor tax, on Fairmount, and Second and Callowhill,	3360 50
23 Dec.	1,	Wages of workmen, for November,	35 00
25 Dec.	27,	Wages of workmen, for December,	68 35
		William H. Knight, for hardware,	23 25
26 Dec.	27,	William H. French, for rough casting stand pipe tower,	56 00
		T. Rowland, for sundries for use of the works,	25 51
27 Dec.	27,	Harbert & Davis, for lumber,	174 30
		Reeves, Buck & Co., for nails, spikes, &c.,	14 40
			5687 73
Amount carried forward,			16983 81

No.	1852.		Amount brought forward,	Dolls.	C.	Dolls.	C.
						16983	81
Water Power.							
2	Feb'y	4,	Wages of workmen, for January,	-	-	147	25
4	March	3,	Wages of workmen, for February,	-	-	162	75
3	April	7,	Wages of workmen, for March,	-	-	147	25
			H. Sailor, for 10 tons of lump coal,	-	-	42	50
			Diehl & Duff, for lard and lamp oil,	-	-	69	67
8	May	5,	Wages of workmen, for April,	-	-	142	50
10	June	2,	Wages of workmen, for May,	-	-	172	25
			Diehl & Duff, for lard and lamp oil,	-	-	100	15
12	July	7,	Wages of workmen, for June,	-	-	142	50
			L. Chester, for chandlery,	-	-	26	00
15	Aug.	4,	Wages of workmen, for July,	-	-	147	25
			Diehl & Duff, for lard and lamp oil,	-	-	78	85
17	Sept.	1,	Wages of workmen, for August,	-	-	172	25
			H. Sailor, for 50 tons lump coal,	-	-	181	25
19	Oct.	6,	Wages of workmen, for September,	-	-	142	50
			Diehl & Duff, for lard oil,	-	-	118	95
21	Nov.	3,	Wages of workmen, for October,	-	-	147	25
23	Dec.	1,	Wages of workmen, for November,	-	-	167	50
25	Dec.	27,	Wages of workmen, for December,	-	-	147	25

25	Dec.	27,	L. Chester, for chandlery, - - - - -	125	50	
			Wetherill & Brother, for oils, &c., - - - - -		970	
			Diehl & Duff, for lard and lamp oil, - - - - -		106	05
26	Dec.	27,	E. & G. Dallet & Co., for tallow, - - - - -		104	50
						2801 62
<hr/> Incidentals. <hr/>						
1	Jan.	7,	G. M. Dallas, for professional services, - - - - -	100	00	
			H. J. Williams, for professional services, - - - - -	100	00	
3	Feb'y	4,	A. G. Allen, for sundries at Fairmount, December 19, 1852, -	80	00	
			G. W. McMahan, for payment of petty bills in his office, -	50	00	
			Wm. H. Rease, for engraving and printing map of pipes, -	47	44	
5	April	7,	M. A. Kellog, for carriage hire, per bill, - - - - -	30	00	
			Stillman, Allen & Co., for one manometer gauge, - - - - -	25	00	
			F. Graff, expenses of self and E. Olmsted to New York, -	28	25	
6	April	7,	Crissy & Markley, for printing and binding Annual Report, and for books, - - - - -	268	50	
			G. M. Dallas, for professional services, - - - - -	100	00	
			H. J. Williams, for do - - - - -	100	00	
8	May	5,	A. S. Harding, for expenses of jury at Fairmount, April 24, 1852,	43	25	
			A. J. White, for sundries for Corporation, April 28, 1852, -	600	00	
Amounts carried forward,				1572	44	19785 43

No.	1852.		Dolls.	C.	Dolls.	C.
		Amounts brought forward,	1572	44	19785	43
9	May	5, E. Trimmer, for carriage hire, April 28, 1852,		20	00	
		R. Park, for carriage hire, April 28, 1852,		20	00	
10	June	2, C. Gatchal, for serving subpoenas to witnesses,		8	00	
		W. Dougherty, for serving subpoenas to witnesses,		15	00	
		G. W. Harvey, for serving subpoenas to witnesses,		6	00	
		F. Graff, expenses of self and E. Olmsted to New York,		19	48	
13	July	7, G. W. Brown, for sundries for Committee,		103	00	
		C. Smith, for papering Register's office,		16	00	
		E. Wheelen, for altering gas pipes Register's office,		16	00	
15	Aug.	4, M. A. Kellog, for carriage hire to July 1, 1852,		36	00	
16	Aug.	4, William Dougherty, for serving delinquent notices,		10	00	
		G. W. Harvey, for serving delinquent notices,		10	00	
17	Sept.	1, Stillman, Allen & Co., for counter for No. 9,		20	00	
		F. Graff, for sundries for the use of the works, per bill,		10	75	
25	Dec.	1, G. W. Brown, for sundries for the use of Committee, per bill,		48	75	
24	Dec.	20, E. Olmsted, for payment of witnesses,		100	00	
26	Dec.	27, Crissy & Markley, for books and stationery,		66	50	
		M. A. Kellog, carriage hire since July 1, 1852,		56	00	
		R. Park, carriage hire, December 22, 1852,		16	00	
		E. Trimmer, carriage hire, December 22, 1852, and July 9, 1852,		24	00	
		American Hotel, for sundries at Fairmount, December 22, 1852,		150	00	
						234392

Salaries.

3 Feb'y	4,	G. W. McMahan, for one month's salary, due February 1, 1852,	125	00		
		G. W. Harvey, for one month's salary, due February 1, 1852, -	41	66		
4 March	3,	G. W. McMahan, for one month's salary, due March 1, 1852, -	125	00		
		G. W. Harvey, for one month's salary, due March 1, 1852, -	41	67		
6 April	7,	G. W. McMahan, for one month's salary, due April 1, 1852, -	125	00		
		G. W. Harvey, for one month's salary, due April 1, 1852, -	41	67		
		F. Graff, for one quarter's salary, due April 1, 1852, -	500	00		
9 May	5,	G. W. McMahan, for one month's salary, due May 1, 1852, -	125	00		
		G. W. Harvey, for one month's salary, due May 1, 1852, -	41	66		
11 June	2,	G. W. McMahan, for one month's salary, due June 1, 1852, -	125	00		
		G. W. Harvey, for one month's salary, due June 1, 1852, -	41	67		
13 July	7,	G. W. McMahan, for one month's salary, due July 1, 1852, -	125	00		
		G. W. Harvey, for one month's salary, due July 1, 1852, -	41	67		
		F. Graff, for one quarter's salary, due July 1, 1852, -	500	00		
15 Aug.	4,	G. W. McMahan, for one month's salary, due August 1, 1852, -	125	00		
		G. W. Harvey, for one month's salary, due August 1, 1852, -	41	67		
18 Sept.	1,	G. W. McMahan, for one month's salary, due Sept. 1, 1852, -	125	00		
		G. W. Harvey, for one month's salary, due Sept. 1, 1852, -	41	67		
20 Oct.	6,	F. Graff, for one quarter's salary, due October 1, 1852, -	500	00		
		G. W. McMahan, for one month's salary, due October, 1, 1852,	125	00		
		G. W. Harvey, for one month's salary, due October 1, 1852, -	41	66		
Amounts carried forward,			3000	00	22129	35

No.	1852.		Dolls.	C.	Dolls.	C.
		Amounts brought forward,	3000	00	22129	35
22	Nov.	3, G. W. McMahan, for one month's salary, due Nov. 1, 1852,	-	125	00	
		G. W. Harvey, for one month's salary, due Nov. 1, 1852,	-	41	67	
23	Dec.	1, G. W. McMahan, for one month's salary, due Dec. 1, 1852,	-	125	00	
		G. W. Harvey, for one month's salary, due Dec. 1, 1852,	-	41	67	
26	Dec.	27, G. W. McMahan, for one month's salary, due Dec. 31, 1852,	-	125	00	
		G. W. Harvey, for one month's salary, due Dec. 31, 1852,	-	41	66	
		F. Graff, for one quarter's salary, due Dec. 31, 1852,	-	500	00	
					4000	00
<hr style="border: 1px solid black; width: 20%; margin: 10px auto;"/>						
<p>Wheel and Pump, No. 9.</p>						
2	Feb'y	4, Wm. F. Willson, for carpenter's work to new pump house,	-	958	61	
		M. Megonegal, for painting and glazing new pump house,	-	141	25	
		R. A. & J. J. Williams, for lumber, per bill, - - -	-	45	75	
		C. Evans, for brass nut for gate screw, - - - -	-	12	50	
4	March	3, Wm. H. French, for plastering and rough casting new pump house,	-	148	25	
		E. Geyelin, for third and final payment for wheel and pump, -	-	2836	66	
		J. P. Morris & Co., for girders for floor, and fly wheel case, &c.,	-	312	17	
					4455	19

Thirty Inch Main, No. 2.

		2 Feb'y	4;	Wages, for January, - - - - -	144	43	
		3 Feb'y	4,	Scott & Maul, for repairs to pipe trucks, - - - - -	12	12	
				Colwell & Co., for 30 inch branches, &c., &c., - - - - -	548	84	
G		4 March	3,	Wages of workmen, for February, - - - - -	134	00	
				Colwell & Co., for 30 inch branches and curves, - - - - -	454	24	
		5 April	7,	Wages of workmen, for March, - - - - -	134	63	
				J. P. Tull, for making patterns for 16 inch branches, &c., - - - - -	73	32	
		6 April	7,	Lewis, James & Co., for balance dye on lead purchased in July, 1851, - - - - -	21	13	
				Colwell & Co., for sleeves for 16 inch pipes, - - - - -	372	87	
		8 May	5,	Wages of workmen, for April, - - - - -	61	65	
				Jacob Stiles, for hauling stand pipe castings, - - - - -	47	50	
		11 June	2,	Colwell & Co., for iron castings, - - - - -	439	66	
		12 July	7,	Wages of workmen, for June, - - - - -	189	24	
				C. Smith, for wrought iron, - - - - -	21	74	
				L. Chester, for chandlery, - - - - -	19	34	
				J. P. Morris & Co., for castings, &c., for stand pipe, - - - - -	1534	33	
				W. Jeffries, for 210 lbs. packing yarn, - - - - -	21	50	
		13 July	7,	W. H. Knight, for hardware, - - - - -	6	35	
				Harbert & Davis, for lumber, - - - - -	57	76	
		15 Aug.	4,	Wages of workmen, for July, - - - - -	427	28	
		Amounts carried forward,				4721	93 30584 54

(65)

No.	1852.		Dolls.	C.	Dolls.	C.
		Amounts brought forward,	4721	93	30584	54
15 Aug.	4,	J. Cook, for hauling 30 inch pipe, - - - - -	112	40		
17 Sept.	1,	Wages of workmen, for August, - - - - -	655	83		
		S. K. Hoxie, for granite work to stand pipe, - - - - -	82	87		
		H. Swartzingrover, for lime, per bill, - - - - -	26	79		
		F. Graff, for cash paid for articles for use of works, - - - - -	12	80		
18 Sept.	1,	J. Cook, for hauling 30 inch pipes, - - - - -	128	80		
19 Oct.	6,	Wages of workmen, for September, - - - - -	715	18		
		R. B. Antrem & Co., for pick handles, - - - - -	6	75		
20 Oct.	6,	Lewis James & Co., for pig lead, - - - - -	800	00		
21 Nov.	3,	Wages of workmen, for October, - - - - -	625	10		
		D. Carrick, for four kegs gun powder, - - - - -	11	00		
		Tatham & Bro's., for 11,377 lbs. pig lead, - - - - -	537	21		
		James Cook, for hauling 30 inch pipes, - - - - -	11	40		
22 Nov.	3,	Colwell & Co., for iron castings, - - - - -	161	75		
		J. Harper, for bricks for tower, - - - - -	177	67		
		Cultu, Thomas & Tezard, for hoisting stand pipe and use of rigging, - - - - -	159	00		
23 Dec.	1,	J. Brown, for blacksmith's work, - - - - -	16	97		
25 Dec.	27,	L. Chester, for chandlery, - - - - -	25	84		
26 Dec.	27,	Smith & Taylor, for lumber, - - - - -	46	12		
27 Dec.	27,	Harbert and Davis, for lumber, - - - - -	30	49		
					9065	90

Additional Reservoirs.

2 Feb'y	4,	Wages of workmen, for January, - - - - -	134 37	
		S. P. Hancock, for 1,000 bricks, - - - - -	7 50	
		P. Bobb, for 81,300 bricks, - - - - -	609 75	
		Cubler & Snyder, for puddle clay delivered in Jan., less 20 per ct.,	425 75	
		H. Bickley, for puddle clay delivered in January, less 20 per ct.,	436 13	
4 March	3,	Wages of workmen, for February, - - - - -	89 25	
		H. Bickley, for puddle clay delivered in February, less 20 per ct.,	1448 10	
5 April	7,	Wages of workmen, for March, - - - - -	89 25	
		C. Carnell, for one clay tempering machine, - - - - -	82 50	
6 April	7,	G. W. McMahan, payment of Expenses vacation of Sch. Second st.,	18 75	
		J. Harper, for 37,900 paving bricks, - - - - -	284 25	
		H. Bickley, for puddle clay, per bill and contract, - - - - -	1573 65	
8 May	5,	Wages of workmen, for April, - - - - -	63 50	
9 May	5,	J. Harper, for 20,500 paving bricks, - - - - -	153 75	
10 June	2,	Wages of workmen, for May, - - - - -	360 88	
11 June	2,	J. Jarden, for 123,900 paving bricks, - - - - -	929 25	
		P. Bobb, for 38,700 paving bricks, - - - - -	290 25	
		H. Bickley, for puddle clay, and percentage retained on former bills,	3923 02	
		Cubler & Snyder, puddle clay, & percentage retained on former bills,	277 75	
		William Forbes, for puddle clay, - - - - -	1257 60	
12 July	7,	Wages of workmen, for June, - - - - -	1122 94	
Amounts carried forward,			13578 19	39650 44

(67)

No.	1852.		Amounts brought forward,	Dolls.	C.	Dolls.	C.
				13578	19	39650	44
12	July	7,	Bailey & Bro's., for straw mats, - - - - -		6	25	
			Reeves, Buck & Co., for nails and spikes, - - - - -		12	40	
			William H. Knight, for hardware, - - - - -		26	45	
13	July	7,	Harbert & Davis, for lumber, - - - - -	243	78		
			E. P. Moyer, for wheelbarrow straps, - - - - -		12	50	
			William Forbes, for 265 yards clay, - - - - -	347	15		
			R. B. Scott, for 28 wheelbarrows, - - - - -		113	00	
			P. Bobb, for 53,450 paving bricks, - - - - -	400	87		
			C. Carnell, for one tempering machine, - - - - -		65	12	
			J. Harper, for 65,900 paving bricks, - - - - -	494	25		
			Wages of workmen, for July, - - - - -	1462	94		
15	Aug.	4,	E. P. Moyer, for wheelbarrow straps, - - - - -		6	25	
			C. Carnell, for one tempering wheel, and repairs, - - - - -		86	50	
			P. Bobb, for 59,310 paving, and 5,790 skin bricks, - - - - -	491	14		
16	Aug.	4,	Wages of workmen, for August, - - - - -	2202	65		
17	Sept.	1,	R. K. Allre, for State, County, Corporation, watch and lamp, and poor taxes in Penn District, - - - - -		18	00	
			Bailey & Bro's., for straw mats, - - - - -		6	25	
			H. Swartzingrover, for lime, per bill, - - - - -	298	00		
			F. Graff, for cash paid for sundries for use of works, - - - - -		7	60	
18	Sept.	1,	J. Jarden, for 29,950 paving bricks, - - - - -	224	62		
			J. Harper, for 25,550 paving bricks, - - - - -	191	25		
			P. Bobb, for 44,700 paving, and 1,500 skin bricks, - - - - -	347	25		

19 Oct.	6,	Wages of workmen, for September,	-	-	-	-	-	2935	64	
		C. Carnell, for repairs to clay wheels,	-	-	-	-	-	30	50	
		R. B. Scott, for wheelbarrows,	-	-	-	-	-	80	00	
		J. Loyd, for 76 feet 6 inches flag stone,	-	-	-	-	-	18	60	
20 Oct.	6,	H. Swartzingrover, for lime,	-	-	-	-	-	372	80	
21 Nov.	3,	Wages of workmen, for October,	-	-	-	-	-	2708	57	
		J. Brown, for County, Corporation, and poor taxes, Spring Garden,	-	-	-	-	-	104	00	
		Willson & Childs, for oak stuff for screen,	-	-	-	-	-	48	00	
		H. Swartzingrover, for lime,	-	-	-	-	-	352	90	
23 Dec.	1,	Wages of workmen, for November,	-	-	-	-	-	1519	00	
		A. Loudon, for carpenter's work, making screen,	-	-	-	-	-	84	00	
		H. Swartzingrover, for lime,	-	-	-	-	-	161	50	
24 Dec.	20,	Wages of workmen,	-	-	-	-	-	608	06	
25 Dec.	27,	Wages of workmen,	-	-	-	-	-	652	51	
		L. Chester, for chandlery,	-	-	-	-	-	10	96	
		Wm. H. Knight, for hardware,	-	-	-	-	-	20	50	
		S. P. Hancock, for 12,500 paving bricks,	-	-	-	-	-	90	63	
26 Dec.	27,	P. Bobb, for 45,600 paving bricks,	-	-	-	-	-	342	00	
		J. Harper, for 66,300 paving bricks,	-	-	-	-	-	497	25	
27 Dec.	27,	Harbert & Davis, for lumber,	-	-	-	-	-	192	00	
		H. Swartzingrover, for lime,	-	-	-	-	-	95	20	
		Reeves, Buck & Co., for nails,	-	-	-	-	-	28	40	
									31595	43
									71245	87

No.	1852.	Dolls.	C.	Dolls.	C.
Abstract of Payments made by the Watering Committee.					
<i>From December 31, 1851, to December 31, 1852.</i>					
	Distribution, - - - - - Iron Pipes, - - - - - Fairmount Works, - - - - - Water Power, - - - - - Incidentals, - - - - - Salaries, - - - - -	348660 780948 568773 280162 234392 400000		26129	35
	Additional Reservoirs, - - - - - Thirty Inch Main, No. 2, - - - - - Wheel and Pump, No. 9, - - - - -	3159543 906590 445519		45116	52
				71245	87

(70)

No.	1852.		Dolls.	C.	Dolls.	C.
<p>Sums paid into the Treasury,</p> <p><i>From December 31, 1851, to December 31, 1852.</i></p>						
Jan.	5,	Rent of wharf at Fairmount, due January 1, 1852, - - -	100	00		
Aug.	4,	Rent of wharf at Fairmount, due July 1, 1852, - - -	100	00		
Oct.	6,	For defective 16 inch branch, - - - - -	54	24		
Oct.	15,	For piece of 20 inch pipe and for old scrap cast iron, - -	178	29		
			432	53		

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Account of Iron Pipes.

Pipes laid in former years, from October, 1819, to Dec. 31, 1851, 440,403 ft.

PIPES LAID IN THE YEAR 1852.	Size.	Feet.	Feet.
Porcelain st., west from Schuylkill Third st., Small street, running from Schuylkill Second to Third, between George and Chesnut, . . .	3	250	
Chancellor st., from Schuylkill Fifth to Sixth, Burton street, from Schuylkill Fifth to Sixth, Carver street, . . .	3	264	
Ann st., between Schuylkill Second and Third, Murray st., between Sch'll Second and Third, Summer street, between Schuylkill Second and Front, . . .	"	446	
Carver street, west of Schuylkill Eighth, . . . Addison st., between Sch'll Fourth and Fifth, Aspen alley, north of Locust street, . . .	"	446	
Autumn street, from Vine, southward, . . . Meredith street, to Schuylkill Front, westward, Freedlander street, from Cherry, northward, Lybrand street, from Vine, southward, . . .	"	446	
			4688
For connections to twelve fire plugs, . . . Lombard street, from Willow, westward, . . . Ashton street, from Walnut, southward, . . . Filbert street, from Schuylkill Fourth to Fifth, Schuylkill Sixth st., from Lombard to South, Schuylkill Second street, from Spruce to north of Locust, . . .	4		300
Locust street, from between Second and Third to Schuylkill Front, . . .	6	263	
Schuylkill Sixth st., from Addison, northward, South side of High street, from Schuylkill Second, westward, . . .	"	272	
Filbert street, from Schuylkill Second to Front, Schuylkill Third street, from north of Cherry, Cherry street, from Schuylkill Third to Freed- lander, . . .	"	446	
Broad street, from Lombard, northward, . . . Beach street, from Pine, southward, . . . Cherry street, from Freedlander, westward, . . . Logan street, from Vine, southward, . . .	"	372	
	"	645	
	"	718	
	"	51	
	"	358	
	"	446	
	"	24	
	"	180	
	"	187	
	"	85	
	"	85	
	"	399	
			4531
Thirty inch main, from Schuylkill Front and Coates to the top of the reservoir bank, Fair- mount, . . .	30	1690	
Around the bank of the reservoir to stand pipe and main,	1461	
			3151
			12,620
Being 67 feet less than 85 13-16 mifes, . . .			453,023 ft.

Laid in 1852, 80 feet over $2\frac{3}{8}$ miles.

FREDERICK GRAFF,

January 3, 1851.

Superintendent Fairmount Water Works.

AN
ABSTRACT OF THE ACCOUNTS

KEPT IN THE

OFFICE OF THE WATERING COMMITTEE,

CITY HALL,

FOR AND DURING THE YEAR 1852.

No. 1.

STATEMENT *Setting forth the Amount of Revenue received from Water Rents, the cost of Collection, the Appropriation by Councils to the Watering Committee, and the Amount expended during the year 1852.*

	Dolls.	C.	Dolls.	C.		Dolls.	C.	Dolls.	C.
Amount of Duplicates of Water Rents for the City and Districts, as per last Report, No. 8,	150,058	67			Amount paid by Collectors to the City Treasurer, as per No. 5,	100,505	68		
<i>To which add:</i>					Amount paid by Treasurer of Girard Trust to the City Treasurer, as per No. 11,	1,184	00		
For Re-assessments in City, as per No. 5,		52	50		Amount paid by Register to City Treasurer, as per No. 2,	17,685	20		
For cutting off pipes of Delinquents, as per No. 6,		35	75		Amount paid by Treasurer of the District of Moyamensing to City Treasurer, as per No. 10,	10,635	74		
				150,125	92				
For Water Rents for 1851, sued as per No. 6,				405	25	Amount paid by Treasurer of the District of Southwark, to the City Treasurer, as per No. 9,	21,312	43	
For Water Rents for 1850, sued as per No. 6,				305	28				
For amount of Water Rents for 1851, due by the District of Southwark, as per No. 9,				104	98	Commissions allowed Southwark for 1852, as per No. 9,	3,833	22	151,323
For Fractional Water Rents for 1852, received in advance during the year 1852, as per No. 2,				11,825	45	Commissions allowed Moyamensing, per No. 10,	1,876	89	
Amount placed in Register's hands, to pay for petty bills in the office, in 1852,		50	00			Commissions allowed City Collectors, per No. 5,	3,205	07	8,915
Amount unexpended, December 31, 1851,			20						18
				50	20	Amount allowed Southwark in settlement of their Duplicate, per No. 9,	22	50	
<i>Appropriated by Councils:—</i>						Amount allowed Moyamensing in settlement of their Duplicate, per No. 10,	19	87	
As per Estimate in the Report of 1851,	27,083	63				Amount allowed in settlement of City Duplicates, per No 6,	435	50	
Balance of Loan of April 3, 1851,	45,263	46							477
				72,347	09				87

January 1, 1853.

	Amount placed in hands of Alderman John B. Kenney, to be sued for 1852, as per No. 6,		269 75
	Amount in suit, in hands of Alderman Kenney, for 1850, and not recovered, as per No. 6,		273 53
	Amount in suit, in hands of Alderman Kenney for 1851, and not recovered, as per No. 6,		302 75
	Amount of Water Rents received in 1851, in advance for 1852, and paid as per last Report, No. 2,		1,204 75
	Amount expended by Register, for petty bills for Register's office,	28 99	
	Amount unexpended, December 31, 1852, .	21 21	50 20
	Amount of appropriation expended by the Watering Committee, as per No. 3, .	71,245 87	
	Amount unexpended, December 31, 1852, .	1,101 22	72,347 09
			235,164 17
235,164 17			

(75)

No. 2.

Amount of Cash received by the Register of the Watering Committee, and paid into the City Treasury, during the Year 1852.

1852.		<i>Dolls. C.</i>	<i>Dolls. C.</i>
Dec. 31,	For city fractional Water Rents,	5435 25	
	For Southwark do do	1088 60	
	For Moyamensing do do	770 80	
	For back rents in City and Districts, - - -	192 25	
	For Ferrules, - - -	1335 50	
	For Repaving, - - -	1070 00	
	For Water Rents, from watering streets, - - -	745 55	
	For Permits in December, in advance of 1853, - - -	218 00	
	For Delinquents in advance for 1853, - - -	969 50	
			11825 45
	For Water Rents payable to Register in the office, on or before the first of June, -	4607 50	
	For Water Rents for 1850, sued, - - -	31 75	
	For Water Rents for 1851, sued, - - -	102 50	
	For Water Rents for 1852, sued, - - -	50 50	
	For Water Rents, delinquent for 1852, - - -	1067 50	
			5859 75
			17685 20

No. 3.

Statement of the amount appropriated by Councils to the Watering Committee for the year 1852, and the amount expended by them under the several heads of accounts, kept by the Register.

	APPROPRIATED.	EXPENDED.	UNEXPENDED.
As per Estimate in Report of 1851, and balance of Loan, April 3, 1851 :			
Distribution, - - -	3500 00	3486 60	13 40
Water Power, - - -	3100 00	2801 62	298 38
Iron Pipes, - - -	8000 00	7809 48	190 52
Fairmount Works, - -	5983 63	5687 73	295 90
Salaries, - - -	4000 00	4000 00	
Incidentals, - - -	2500 00	2343 92	156 08
Wheel and Pump No. 9.)		4455 19	
Thirty Inch Main, No. 2. }	45263 46	9065 90	146 94
Additional Reservoirs, }		31595 43	
	72347 09	71245 87	1101 22

No. 4.

Statement of the List of Water Rents payable to the Register, in the office, City Hall, on or before the First day of June, 1853.

	<i>Dolls. C.</i>
Joseph S. Lovering & Co., Sugar House, 27 Church Alley,	750 00
Trustees of Philadelphia Gas Works, - - - -	600 00
Presbury & Billings, Girard House, Chesnut street, - -	299 00
Robert E. Matheys, Public Baths, George street, - - -	252 00
George L. Broom, Sugar House, Bread street, - - - -	250 00
Feltus & Zimmarling, Sugar House, Zane street, - - -	250 00
Thomas Drake, Factory, Schuylkill Second and Pine streets,	201 00
James Maxwell, Water Wheel, 460 Cedar street, - - -	200 00
Thomas Maxwell, Water Wheel, N. W. corner of Pine and Dugan streets, - - - -	200 00
H. Cowperthwait, Artisan Building, Ranstead Place, - -	180 00
Thomas S. Webb, Union Hotel, Mulberry street, - - -	168 00
E. C. Dale, Mint, N. W. corner of Chesnut and Juniper street, - - - -	165 00
J. J. Ridgway, American Hotel, Chesnut street, - - -	156 00
Howell & Brothers, Paper Factory, N. W. corner of Howell and Schuylkill Fourth streets, - - - -	140 00
Robert Smith, Brewery, N. W. corner of Minor and Fifth streets, - - - -	125 00
E. & D. Ford, Turning Factory, 83 Race street, - - -	125 00
Samuel Smyth, Distillery, Ashton near Vine street, - -	125 00
Poultney, Collins & Massey, Brewery, N. W. corner of Fil- bert and Tenth streets, - - - -	124 50
Charles Evans, Thirty Horse Power Steam Engine, &c., Bread street, - - - -	122 50
John Brock, Brock House, Mulberry street, - - - -	120 00
David Milne & Son, Factory, Lombard and Schuylkill Fifth street, - - - -	120 00
A. F. Glass, Washington House, Chesnut street, - - -	107 00
Mr. McKibben, Merchants Hotel, Fourth street, - - -	105 00
J. K. Murphy, Bathing Establishment, Twelfth street, -	100 00
Committee on City Property, for sundry premises, - - -	86 00
Committee on Police, Police Station House, Filbert street,	10 00
Do do do do Union street -	10 00
Do do do do Cherry street, -	10 00
	5054 00

No. 5.

*Statement showing the settlement of the Duplicates of the
City Water Rents, for the year 1852.*

	<i>Dolls.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amount of Duplicates for 1852, as per last Report No. 7, - - -			105446	75
Add for Re-assessments, - - -			52	50
			<hr/>	<hr/>
			105499	25
From which deduct:—				
For Commissions allowed T. Millar, -	803	70		
J. C. Dawes, -	814	45		
W. Patten, -	776	98		
G. W. Gillingham, -	809	94		
	<hr/>	<hr/>		
	3205	07		
For delinquents returned by				
T. Millar, - - - \$685 50				
J. C. Dawes, - - - 343 50				
W. Patten, - - - 212 00				
G. W. Gillingham, - 547 50				
	<hr/>	<hr/>		
	1788	50		
Less amount received by the Register, - - - - 1067 50				
	<hr/>	<hr/>		
	721	00		
			<hr/>	<hr/>
			3926	07
Amount paid into the City Treasury,			<hr/>	<hr/>
			101573	18
Of which, was paid:—				
By Thomas Millar, Collector, -	25769	80		
By J. Crawford Dawes, do -	24892	30		
By William Patten, do -	24726	52		
By Geo. W. Gillingham, do -	25117	06		
	<hr/>	<hr/>		
	100505	68		
By Register, as per account No. 2, -	1067	50		
	<hr/>	<hr/>	<hr/>	<hr/>
			101573	18

No. 6.

Statement of the Settlement of the Balance of unpaid Water Rents for the year 1852, as returned by the Collectors, and allowed to them by the Committee.

	<i>Dolls.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Delinquents for the year 1852, - - -	721	00		
Add for cutting off pipes, - - -	34	75		
			755	75
Delinquents for 1851, in suit, and not recovered, as per last Report, -			405	25
Delinquents for 1850, in suit, and not recovered, as per last Report, -			305	28
<i>Accounted for, to wit, for the year 1852:</i>				
Amount allowed by Committee, - - -	435	50		
Do received by Register, No. 2, -	50	50		
Do placed in suit in Alderman Kenney's hands, - - - -	269	75		
			755	75
<i>For the year 1851.</i>				
Amount received by Register, as per No. 2, - - - - -	102	50		
Balance not recovered, - - - -	302	75		
			405	2
<i>For the year 1850.</i>				
Amount received by Register, as per No. 2, - - - - -	31	75		
Balance not recovered, - - - -	273	53		
			305	28

No. 7.

Statement showing the Amount of the Duplicates of Water Rents, for the year 1853.

	Dolls.	C.	Dolls.	C.
<i>First District—</i>				
<i>Thomas Millar, Collector.</i>				
North Ward, - - - - -	9710	50		
High Street Ward, - - - - -	4130	00		
South Mulberry Ward, - - - - -	8802	00		
			22642	50
<i>Second District—</i>				
<i>J. Crawford Dawes, Collector.</i>				
North Mulberry Ward, - - - - -	12174	00		
Upper Delaware Ward, - - - - -	5629	50		
Pine Ward, - - - - -	4302	50		
			22106	00
<i>Third District—</i>				
<i>William Patten, Collector.</i>				
South Ward, - - - - -	8153	50		
Walnut Ward, - - - - -	3626	50		
Dock Ward, - - - - -	5102	00		
New Market Ward, - - - - -	5213	25		
			22095	25
<i>Fourth District—</i>				
<i>George W. Gillingham, Collector.</i>				
Spruce, Lombard and Cedar Wards, -	18396	50		
Chesnut Ward, - - - - -	3905	00		
			22301	50
<i>Fifth District—</i>				
<i>Henry Sailor, Collector.</i>				
Middle Ward, - - - - -	6329	50		
Locust Ward, - - - - -	10370	00		
Lower Delaware Ward, - - - - -	5914	00		
			22613	50
Amount to be collected for 1853, -			111758	75
Register received in advance for 1853, as per No. 2, - - - - -			1187	50
			112946	25

No. 8.

Statement showing the Amount of Revenue from Water Rents in the City and Districts, for the year 1853; the number of Water Takers, the net increase of Water Rents, and the Amount declined, &c., in the City and Districts, for the year 1852.

		Dolls.		C.	
CITY.					
	Amount of Duplicates for 1853, as per No. 7,	-	-	112946	25
	Water Rents payable to Register, as per No. 4,	-	-	5054	00
	Girard Water Rents, payable to City Treasurer,	-	-	1202	00
19459	Water Takers.			119202	25
SOUTHWARK.					
5357	Amount of Duplicates for the year 1853,	-	-	27048	67
	Water Takers.				
MOYAMENSING.					
2776	Amount of Duplicates for the year 1853,	-	-	14869	50
	Water Takers.				
				161120	42
27592					
CITY.					
1175	New Permits issued in 1852, - - -			8528	75
	From which deduct:—				
	For Amount declined, - - -	1048	50		
	For Amount allowed by Committee,	435	50		
	For Amount ordered to be sued, -	285	50		
				1769	50
	Net increase in the City, - - -				6759
					25
SOUTHWARK.					
419	New Permits issued in Southwark,			2508	00
	Amount declined, - - -	500	00		
	Amount of reductions since last Report, - - -	22	50		
				522	50
	Net increase in Southwark, - - -				1985
					50
MOYAMENSING.					
232	New Permits issued in Moyamensing,			2357	50
	For Amount declined, - - -	15	50		
	For Amount overcharged, - - -	5	00		
				20	50
	Net increase in Moyamensing, -				2337
					00
1826	New Permits, net increase in the City and Districts in 1852, - - -			11081	75
	Amount taken from the Books of the City, - - -			\$1769	50
	Amount taken from the Books of Southwark, - - -			522	50
	Amount taken from the Books of Moyamensing, - - -			20	50
	Whole Amount taken off, - - -			\$2812	50

No. 9.

Statement of the Settlement of the Duplicates of Water Rents charged to the District of Southwark, for the year 1852, as per last report No. 8, the quantity of Iron Pipes laid, and the number of Fire Plugs erected in the District, to the year 1852, inclusive.

	Dolls.	C.	Dolls.	C.
Amount of Duplicates for 1852, -			25063	17
Deduct for reductions since last Report, - - - - -			22	50
			25040	67
Less 15 per cent, - - - - -			3756	09
			21284	58
Deduct for amount overpaid in 1851, on County Prison, - - - - -	64	38		
Deduct for amount overpaid in 1851, on Haines' Estate, - - - - -	12	75		
			77	13
			21207	45
Balance due on 1851, for Discoveries collected, - - - - -			104	98
Amount paid by Southwark, - - -			21312	43
	FERT.	IN.		
Iron Pipes laid to December 31, 1851,	91024	02		
Iron Pipes laid to December 31, 1852,	5471	00		
	96495	02		

207 Fire Plugs.

No. 10.

Statement of the Settlement of the Duplicates of Water Rents charged to the District of Moyamensing, for the year 1852, as per last Report No. 8, the quantity of Iron Pipes laid, and the number of Fire Plugs erected in the District, to the year 1852, inclusive.

	Dolls.	C.	Dolls.	C.
Amount of Duplicates for 1852, -			12532	50
From which deduct:—				
For Water Rents allowed in Duplicate of 1851, and paid at that time, -	14	87		
And for overcharged, for 1852, -	5	00		
			19	87
			12512	63
Less 15 per cent., - - - -			1876	89
Paid for 1852, - - - -			10635	74
Iron Pipes laid to December 31, 1851,	FEET.	IN.		
	65671	06		
Iron Pipes laid during the year 1852,	2627	00		
	68298	06		

Say 13 miles.
138 Fire Plugs.

No. 11.

The Amount of Water Rents paid to the City Treasurer by the Treasurer of the Girard Estates, and the Payment of the Water Rents, payable to the Register on the first of June, 1852, as per last Report No. 4.

	<i>Dolls.</i>	<i>C.</i>
Amount paid by the Treasurer of the Girard Estates, to the City Treasurer, as per last Report No. 8, - - - - -	1184	00
Amount paid by the Register to the City Treasurer, as per last Report No. 4, and No. 2 in this, - - - - -	4607	50

No. 12.

Statement of the number of Dwellings, &c., in the District of Moyamensing, supplied with the Schuylkill Water to the 31st of December, 1852, with the amount of Water Rent due for 1853, as per Report No. 8.

	D.	C.	D.	C.	Dolls.	C.
1806 Dwellings, - - -	5	00	9030	00	-	
246 Baths, - - -	3	00	738	00		
34 Wash pavements, - -	3	00	102	00		
7 Water closets, - - -	1	00	7	00		
2 Basins in chamber or pan- try, - - -	1	00	2	00		
923 Dwellings or Court houses having but one room on a floor, - - -	2	50			9879	00
1 Church, - - -	7	50			2307	50
14 Bakeries, - - -	3	00			7	50
2 Drug Stores, - - -	2	50	5	00	42	00
2 Do - - -	5	00	10	00		
					15	00
2 Taverns, - - -	3	75	7	50		
42 Do - - -	10	00	420	00		
2 Do - - -	15	00	30	00	457	50
2 Stables, - - -	1	00	2	00		
2 Do - - -	3	00	6	00		
1 Do - - -	3	50	3	50		
3 Do - - -	4	00	12	00		
8 Do - - -	5	00	40	00		
2 Do - - -	8	00	16	00		
1 Do - - -	10	00	10	00		
1 Do and omnibusses, -	104	00	104	00	193	50
4 Public Schools, - - -	5	00	20	00		
1 Do - - -	13	34	13	34		
1 Do - - -	15	00	15	00		
2 Do - - -	18	00	36	00	84	34
2 Barber Shops, - - -	3	00	6	00		
2 Work Shops, - - -	5	00	10	00		
					16	00
Amount carried forward,					13002	34

	D.	C.	D.	C.	Dolls.	C.
Amount brought forward,					13002	34
1 Garden, - - - -		5 00				5 00
1 Oil Factory, - - - -		5 00	5 00			
1 Do - - - -		6 66	6 66			
2 Factories, - - - -		10 00	20 00			
2 Do - - - -		12 50	25 00			
1 Do - - - -		15 00	15 00			
					71	66
2 Dye Houses, - - - -		5 00	10 00			
3 Do - - - -		15 00	45 00			
2 Do - - - -		20 00	40 00			
1 Do - - - -		25 00	25 00			
					120	00
2 Distillery, - - - -		10 00	20 00			
1 Do - - - -		15 00	15 00			
					35	00
1 Vinegar Yard, - - - -		10 00				10 00
1 House of Industry, contain- ing—6 Public Baths, - -		6 00	36 00			
1 Steam Boiler, - -		5 00	5 00			
Use of Kitchen, - -		5 00	5 00			
2 Wash Basins, - -		1 00	2 00			
					48	00
1 Rail Road Depot, - -		10 00	10 00			
1 United States Arsenal, -		30 00	30 00			
1 Laboratory, - - - -		100 00	100 00			
1 Naval Asylum, - - -		136 00	136 00			
1 County Prison, - - -		500 00	500 00			
					776	00
1 Rail Road Depot, - -						
6 Hydrants, - - - -		5 00	30 00			
12 Water Closets, - -		3 00	36 00			
6 Locomotives, - - -		75 00	450 00			
1 two Horse Power High Pressure Steam Engine, -		6 00	6 00			
1 4 Do and Foundry, - -		17 00	17 00			
1 4 Do and Brewery, - -		47 00	47 00			
1 10 Do do - - - -		30 00	30 00			
1 10 Do and Paper Factory,		70 00	70 00			
1 25 Do and Dye House, -		115 00	115 00			
					285	00
Amount of Duplicates of Moya- mensing, - - - -					14869	00

No. 13.

Statement of the Number of Dwellings, &c., in the District of Southwark, supplied with the Schuylkill Water, to the 31st of December, 1852, with the Amount of Water Rent due for 1853, as per Report No. 8.

	D.	C.	D.	C.	Dolls.	C.
3960 Dwellings with hydrant each,	5	00	198	00		
447 Baths, - - - -	3	00	134	00		
106 Wash Pavements, - - -	3	00	31	00		
10 Water Closets, - - - -	1	00	10	00		
7 Basins in chambers or pantries, - - - -	1	00	7	00		
					214	76
1361 Dwellings or Court houses, with one room on a floor,	2	50			34	02
8 Drug Stores, - - - -	2	50	20	00		
15 Stores, - - - -	5	00	75	00		
					95	00
6 Churches, - - - -	5	00			30	00
1 Garden, - - - -	5	00	5	00		
1 Do - - - -	8	00	8	00		
					13	00
2 Fountains, - - - -	3	00	6	00		
1 Do - - - -	5	00	5	00		
					11	00
24 Bakeries, - - - -	3	00	72	00		
2 Do - - - -	2	50	5	00		
1 Do - - - -	4	00	4	00		
1 Do - - - -	5	00	5	00		
					86	00
2 Public Schools, - - - -	5	00	10	00		
1 Do - - - -	10	00	10	00		
2 Do - - - -	18	00	36	00		
1 Do - - - -	20	25	20	25		
					76	25
2 Work Shops, - - - -	2	50	5	00		
4 Do - - - -	5	00	20	00		
					25	00
Amount carried forward,					252	14
					75	

	D.	C.	D.	C.	Dolls.	C.
Amount brought forward,					25214	75
3 Taverns, - - - -	375		1125			
3 Do - - - -	500		1500			
1 Do - - - -	750		750			
42 Do - - - -	1000		42000			
8 Do - - - -	1500		12000			
					573	75
1 Hotel and Stable, - -	2400		2400			
1 Do - - - -	2500		2500			
1 Do - - - -	3000		3000			
1 Do - - - -	4000		4000			
					119	00
1 Bottling Cellar, - -	500		500			
1 Oyster Cellar, - - -	1000		1000			
					15	00
4 Barber Shops, - - -	300		1200			
1 Do - - - -	400		400			
3 Do - - - -	500		1500			
					31	00
1 Cow Stable, - - - -	600		600			
3 Stables, - - - -	300		900			
1 Do - - - -	400		400			
18 Do - - - -	500		9000			
2 Do - - - -	600		1200			
1 Do - - - -	800		800			
1 Do - - - -	900		900			
3 Do - - - -	1000		3000			
1 Do - - - -	1200		1200			
1 Do - - - -	1300		1300			
					193	00
3 Slaughter Houses, - -	500		1500			
1 Do - - - -	750		750			
1 Provision Establishment, -	1000		1000			
1 Smoke House, - - - -	1200		1200			
1 Provision Establishment, -	2500		2500			
					69	50
3 Public Buildings, - -	500		1500			
1 Widows' Asylum, - -	1500		1500			
					30	00
Amount carried forward,					26246	00

	<i>D.</i>	<i>C.</i>	<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amount brought forward,					26246	00
1 Marble Yard, - - - -		500				500
1 Factory, - - - -		500	500			
1 Oil Factory, - - - -		750	750			
1 Factory, - - - -		1000	1000			
1 Soap Factory, - - - -		1500	1500			
1 Camphene Factory, - -		4000	4000			
1 Hattery, - - - -		1200	1200			
					89	50
1 Pottery, - - - -		800	800			
1 Laboratory, - - - -		1000	1000			
1 Skin Dresser, - - - -		1000	1000			
1 Sugar House, - - - -		2000	2000			
1 Malt House, - - - -		2000	2000			
1 Brewery, - - - -		3500	3500			
					103	00
1 Distillery, - - - -		750	750			
1 Do - - - -		4000	4000			
1 Do - - - -		5000	5000			
					97	50
1 Marine Railway, - - -		500				500
1 Navy Yard, - - - -		9400				9400
3 Two horse power high pressure Steam Engines, -		600	1800			
1 Three do do and Factory,		1400	1400			
1 Four do do do do		1200	1200			
1 Four do do do do		1500	1500			
1 Five do do do do		1500	1500			
1 Twelve do and Foundry,		5600	5600			
1 Twelve do do do		9000	9000			
1 Fifteen horse power high pressure Steam Engine, and		11000	11000			
1 Twenty horse power high pressure Steam Engine and Planing Mill,						
1 Sixteen do do do		4800	4800			
1 Steam Engine and Factory,		3067	3067			
					408	67
					27048	67

No. 14.

Statement showing the number of Dwellings, &c., in the City of Philadelphia, supplied with the Schuylkill water to the 31st of December, 1852, with the amount of Water Rent due for 1853, as per Report No. 8.

	D.	C.	D.	C.	Dolls.	C.
2827 Single Dwellings having but one room on a floor, and Court houses, - - -	2	50	7067	50		
21 Tenements, - - -	3	00	63	00		
17 Single Dwellings, with hydrant and bath, each -	5	50	93	50		
					7224	00
7381 Dwellings, with hydrant, each - - - -	5	00	36905	00		
40 Dwellings with hydrant and basin, each - - -	6	00	240	00		
55 Do with hydrant and water closet, each -	6	00	330	00		
1 Do with hydrant and basin, each - - -	6	50	6	50		
3 Do with hydrant and 2 water closets, each	7	00	21	00		
8 Do with hydrant water, closet & basin, each	7	00	56	00		
9 Do with hydrant in store and kitchen, each -	7	00	67	50		
2 Do with hydrant, two basins & water closet, each - - - -	8	00	16	00		
135 Do with hydrant & wash pavement, each -	8	00	1080	00		
3210 Do with hydrant & bath, each - - - -	8	00	25680	00		
1 Do with hydrant and basin, each - - -	8	50	8	50		
178 Do with hydrant, bath, and water closet, each - - - -	9	00	1602	00		
Amounts carried forward,			66012	50	7224	00

	<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amounts brought forward,			66012	50	7224	00
16 Dwellings with hydrant, bath and basin, each -	9	00	144	00		
6 Do with hydrant, wash pavement & basin, each - - -	9	00	54	00		
2 Do with hydrant, two bas- ins and two water closets, - - -	9	00	18	00		
8 Do with two hydrants, extra ferrule, each	10	00	80	00		
9 Do with hydrant, bath & two basins, each, -	10	00	90	00		
4 Do with hydrant, bath, basin & water clo- set, - - -	10	00	40	00		
7 Do with hydrant & bath, extra ferrule, each	10	00	70	00		
6 Do with hydrant, bath, & two water closets, each - - -	10	00	60	00		
1 Do with hydrant, bath, & wash pavement and kitchen, -	10	50	10	50		
950 Do with hydrant, bath, & wash pavement, each - - -	11	00	10450	00		
1 Do with hydrant, two basins, and 4 water closets, each -	11	00	11	00		
1 Do with hydrant, four basins, and two wa- ter closets, each -	11	00	11	00		
4 Do with hydrant bath, & 3 water closets, each - - -	11	00	44	00		
1 Do with hydrant, bath, water closet and 2 basins, each -	11	00	11	00		
Amounts carried forward,			77106	00	7224	00

	<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amounts brought forward,			77106	00	7224	00
5 Dwellings, with hydrant and two baths, each -	11	00	55	00		
2 Do with hydrant, bath, two basins and two water closets, each	12	00	24	00		
25 Do with hydrant, bath, wash pavement & basin, each - -	12	00	300	00		
262 Do with hydrant, bath, wash pavement & water closet, each	12	00	3144	00		
9 Do with hydrant, bath, wash pavement & two basins, each -	13	00	117	00		
3 Do with hydrant, bath, two basins & three water closets, each	13	00	39	00		
1 Do 2 hydrants and bath, extra ferrule, each	13	00	13	00		
8 Do with hydrant, bath, wash pavement and two water closets, each - - -	13	00	104	00		
108 Do with hydrant, bath, wash pave, water closet and basin, -	13	00	1404	00		
1 Do with hydrant & green house, - - -	13	00	13	00		
7 Do with hydrant, bath, wash pavement, & three basins, each	14	00	98	00		
3 Do with hydrant, bath, wash pave, basin & two water closets,	14	00	42	00		
52 Do with hydrant, bath, wash pave, 2 basins and water closet,	14	00	728	00		
Amounts carried forward,			83187	00	7224	00

		<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amounts brought forward,				83187	00	7224	00
1	Dwelling, with hydrant, bath, wash pave and 3 water closets, -	14	00	14	00		
1	Do with hydrant, bath, wash pavement and garden, - -	14	00	14	00		
6	Do with hydrant, 2 baths, & wash pavement, each - - -	14	00	84	00		
1	Do with hydrant, 2 baths, water closet and 2 basins, each -	14	00	14	00		
1	Do with hydrant, bath, 2 water closets and garden, - - -	15	00	15	00		
1	Do with hydrant, wash pavement & foun- tain, - - -	15	00	15	00		
7	Do with hydrant, wash pavement, 2 water closets and 2 basins, each - - -	15	00	105	00		
21	Do with hydrant, bath, wash pavement, wa- ter closet and three basins, - - -	15	00	315	00		
1	Do with hydrant, 2 baths, water closet and 3 basins, - - -	15	00	15	00		
1	Do with hydrant, 2 baths, wash pavement and basin, - - -	15	00	15	00		
10	Do with hydrant, 2 baths, wash pavement and water closet, each	15	00	150	00		
1	Do with hydrant, bath, wash pavement, 3 water closets, and basin, - - -	15	00	15	00		
Amounts carried forward,				83958	00	7224	00

	<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amounts brought forward,			83958	00	7224	00
9 Dwellings with hydrant, bath, wash pavement, 4 basins and water closet, - -	16	00	144	00		
8 Do with hydrant, bath, wash pavement, 2 basins and 3 water closets, - -	16	00	128	00		
2 Do with hydrant, bath, wash pavement and garden, - -	16	00	32	00		
5 Do with hydrant, 2 baths, wash pavement, wa- ter closet and basin,	16	00	80	00		
1 Do with hydrant, 2 baths, wash pavement and 2 water closets, -	16	00	16	00		
2 Do with hydrant, 2 baths, wash pavement and two basins, - -	16	00	32	00		
1 Do with hydrant, bath, wash pavement and five water closets,	16	00	16	00		
1 Do with hydrant, bath, wash pavement, wa- ter closet and five basins, - -	17	00	17	00		
5 Do with hydrant, 2 baths, wash pavement, 2 water closets and basin, each - -	17	00	85	00		
8 Do with hydrant, 2 baths, wash pavement, wa- ter closet, and two basins, - -	17	00	136	00		
1 Do with hydrant, 2 baths, water closet and 5 basins, - -	17	00	17	00		
Amounts carried forward,			84661	00	7224	00

		<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amounts brought forward,				84661	00	7224	00
1	Dwelling, with hydrant, bath, wash pavement, 2 water closets and four basins, - -	17	00	17	00		
5	Do with hydrant, 2 baths, wash pavement, 2 water closets, and two basins, each -	18	00	90	00		
5	Do with hydrant, 2 baths, wash pavement, wa- ter closet, and 3 basins, - -	18	00	90	00		
1	Do with hydrant, 2 baths, and 7 water closets,	18	00	18	00		
3	Do with hydrant, bath, wash pavement, wa- ter closet and six basins, - -	18	00	54	00		
1	Do with hydrant, bath, wash pavement, wa- ter closet, basin & fountain, - -	18	00	18	00		
1	Do with hydrant, bath, wash pavement, 2 water closets and extra ferrule, -	18	00	18	00		
1	Do with hydrant, bath, wash pavement, wa- ter closet & seven basins, - -	19	00	19	00		
1	Do with hydrant, two baths, wash pave- ment, 2 water clo- sets and 3 basins,	19	00	19	00		
1	Do with hydrant, 1 bath, wash pavement, wa- ter closet, 2 basins and fountain, -	19	00	19	00		
Amounts carried forward,				85023	00	7224	00

	<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amounts brought forward,			85023	00	7224	00
1 Dwelling with hydrant, two baths, wash pavement and six basins, - - -	20	00	20	00		
5 Do with hydrant, 2 baths, wash pavement, 2 water closets, and four basins, - -	20	00	100	00		
1 Do with hydrant, 3 baths, wash pavement, & three water closets,	20	00	20	00		
1 Do with hydrant, bath, wash pavement, wa- ter closet and four basins, and extra ferrule, - -	21	00	21	00		
1 Do with hydrant, bath, wash pavement, 2 water closets and eight basins, -	21	00	21	00		
3 Do with hydrant, 2 baths, wash pavement, 3 water closets and four basins, - -	21	00	63	00		
2 Do with hydrant, 2 baths, wash pavement, 2 water closets and five basins, - -	21	00	42	00		
1 Do with hydrant, bath, wash pavement, wa- ter closet, basin & fountain, - -	21	00	21	00		
1 Do with hydrant, 3 baths, wash pavement, wa- ter closet, & four basins, - -	22	00	22	00		
Amounts carried forward,			85353	00	7224	00

	<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amounts brought forward,			85353	00	7224	00
1 Dwelling with hydrant, two baths, wash pavement, two water closets, two basins and extra ferrule,			23	00	23	00
1 Do with hydrant, 2 baths, wash pavement, 4 water closets and 5 basins, - -			23	00	23	00
1 Do with hydrant, 2 baths, wash pavement, wa- ter closet & eight basins, - -			23	00	23	00
1 Do with hydrant, 3 baths, wash pavement, 2 water closets, and four basins, - -			23	00	23	00
1 Do with hydrant, 2 baths, wash pavement, 1 water closet, four basins and extra ferrule, - -			24	00	24	00
1 Do with hydrant, 3 baths, wash pavement, 3 water closets and 5 basins, - -			25	00	25	00
1 Do with hydrant, 2 baths, wash pavement, 3 water closets, 3 ba- sins & extra ferrule,			25	00	25	00
1 Do with hydrant, 2 baths, wash pavement, 8 water closets and 3 basins, - -			25	00	25	00
1 Do with hydrant, three baths, wash pave- ment, 4 water clo- sets and 5 basins,			26	00	26	00
Amounts carried forward,			85570	00	7224	00

	D.	C.	Dolls.	C.	Dolls.	C.
Amounts brought forward,			85570	00	7224	00
1 Dwelling with hydrant, three baths, wash pavement, two water closets and 9 basins,	28	00	28	00		
1 Do with hydrant, three baths, wash pavement, three water closets, three basins and heater, -	28	00	28	00		
1 Do with hydrant, three baths, wash pavement, seven water closets & six basins,	30	00	30	00		
1 Do with hydrant, bath, wash pavement, fountain & stable,	46	00	46	00		
1 Do with hydrant, bath, wash pavement, fountain & stable,	65	00	65	00		
12 Wash pavements, - - -	3	00	36	00		
7 Do do - - -	5	00	35	00		
1 Do do for sprinkling the street, -	20	00	20	00		
					85858	00
111 Bakeries, - - - -	3	00	333	00		
2 Do - - - -	5	00	10	00		
1 Do - - - -	10	00	10	00		
					353	00
16 Schools, - - - -	5	00	80	00		
1 Do - - - -	7	50	7	50		
1 Do - - - -	7	75	7	75		
5 Do - - - -	10	00	50	00		
2 Do - - - -	11	00	22	00		
1 Do - - - -	12	00	12	00		
1 Do - - - -	13	00	13	00		
1 Do - - - -	14	25	14	25		
3 Do - - - -	15	00	45	00		
1 Do - - - -	18	00	18	00		
Amounts carried forward,			268	50	93435	00

				D.	C.	D.	C.	Dolls.	C.
Amounts brought forward,						268	50	93435	00
1	School,	-	-	18	50	18	50		
1	Do	-	-	19	50	19	50		
1	Do	-	-	23	00	23	00		
1	Do	-	-	24	00	24	00		
1	Do	-	-	25	50	25	50		
1	Do	-	-	30	00	30	00		
1	Do	-	-	33	00	33	00		
								443	00
49	Churches,	-	-	5	00	245	00		
1	Do	-	-	7	00	7	00		
2	Do	-	-	7	50	15	00		
2	Do	-	-	8	00	16	00		
2	Do	-	-	10	00	20	00		
1	Do	-	-	11	00	11	00		
1	Do	-	-	14	00	14	00		
1	Do	-	-	15	00	15	00		
								343	00
24	Drug Stores,	-	-	2	50	60	00		
3	Do	-	-	3	00	9	00		
47	Do	-	-	5	00	235	00		
1	Do	-	-	12	50	12	50		
1	Do	-	-	15	00	15	00		
								331	50
4	Stores,	-	-	2	50	10	00		
10	Do	-	-	3	00	30	00		
4	Do	-	-	3	75	15	00		
2	Do	-	-	4	00	8	00		
28	Do	-	-	5	00	140	00		
9	Do	-	-	6	00	54	00		
5	Do	-	-	7	00	35	00		
2	Do	-	-	8	00	16	00		
2	Do	-	-	9	00	18	00		
15	Do	-	-	10	00	150	00		
5	Do	-	-	11	00	55	00		
4	Do	-	-	12	00	48	00		
1	Do	-	-	12	50	12	50		
3	Do	-	-	13	00	39	00		
1	Do	-	-	14	00	14	00		
Amounts carried forward,						644	50	94552	50

	<i>D.</i>	<i>C.</i>	<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amounts brought forward,			644	50	94552	50
2 Stores, - - - -	18	00	36	00		
City Stores, - - - -	21	00	21	00		
					701	50
6 Banks, - - - -	5	00	30	00		
1 Do - - - -	8	00	8	00		
1 Do - - - -	9	00	9	00		
1 Do - - - -	15	00	15	00		
1 Do - - - -	17	00	17	00		
2 Do - - - -	18	00	36	00		
					115	00
19 Barber Shops, - - - -	3	00	57	00		
1 Do - - - -	4	00	4	00		
29 Do - - - -	5	00	145	00		
					206	00
3 Stables, - - - -	1	00	3	00		
28 Do - - - -	2	00	56	00		
19 Do - - - -	3	00	57	00		
13 Do - - - -	4	00	52	00		
222 Do - - - -	5	00	1110	00		
1 Do - - - -	5	50	5	50		
13 Do - - - -	6	00	78	00		
2 Do - - - -	7	00	14	00		
7 Do - - - -	8	00	56	00		
6 Do - - - -	9	00	54	00		
9 Do - - - -	10	00	90	00		
1 Do - - - -	10	50	10	50		
2 Do - - - -	12	00	24	00		
2 Do - - - -	12	50	25	00		
1 Do - - - -	14	00	14	00		
5 Do - - - -	15	00	75	00		
1 Do - - - -	15	50	15	50		
1 Do - - - -	17	00	17	00		
4 Do - - - -	20	00	80	00		
1 Do - - - -	22	00	22	00		
1 Do - - - -	22	50	22	50		
1 Do - - - -	23	50	23	50		
2 Do - - - -	24	00	48	00		
7 Do - - - -	25	00	175	00		
Amounts carried forward,			2127	50	95575	00

		<i>D.</i>	<i>C.</i>	<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amounts brought forward,				2127	50	9557	50
2	Stables, - - - -	26	00	52	00		
3	Do - - - -	27	00	81	00		
1	Do - - - -	27	50	27	50		
2	Do - - - -	28	00	56	00		
1	Do - - - -	29	00	29	00		
4	Do - - - -	30	00	120	00		
1	Do - - - -	31	00	31	00		
1	Do - - - -	32	00	32	00		
2	Do - - - -	35	00	70	00		
1	Do - - - -	36	00	36	00		
2	Do - - - -	45	00	90	00		
2	Do - - - -	50	00	100	00		
1	Do - - - -	51	00	51	00		
1	Do - - - -	52	00	52	00		
1	Do - - - -	52	50	52	50		
1	Do - - - -	53	00	53	00		
1	Do - - - -	62	00	62	00		
						3122	50
1	Hotel and Stables, - -	23	00	23	00		
1	Do - - - -	24	50	24	50		
1	Do - - - -	28	50	28	50		
1	Do - - - -	29	00	29	00		
1	Do - - - -	33	00	33	00		
1	Do - - - -	38	00	38	00		
1	Do - - - -	39	00	39	00		
4	Do - - - -	40	00	160	00		
1	Do - - - -	45	00	45	00		
1	Do - - - -	47	00	47	00		
1	Do - - - -	48	00	48	00		
2	Do - - - -	50	00	100	00		
1	Do - - - -	51	00	51	00		
1	Do - - - -	53	00	53	00		
1	Do - - - -	54	00	54	00		
2	Do - - - -	54	50	109	00		
1	Do - - - -	55	00	55	00		
2	Do - - - -	60	00	120	00		
1	Do - - - -	61	00	61	00		
1	Do - - - -	62	00	62	00		
Amounts carried forward,				1180	00	9869	50

	D.	C.	D.	C.	Dolls.	C.
Amounts brought forward,			1180	00	98697	50
1 Hotel and Stable, - - -	68	00	68	00		
1 Do - - -	70	00	70	00		
1 Do - - -	72	50	72	50		
1 Do - - -	81	00	81	00		
1 Do - - -	83	00	83	00		
1 Do - - -	91	00	91	00		
					1645	50
69 Taverns, - - - -	10	00	690	00		
164 Hotels, - - - -	15	00	2460	00		
1 Do - - - -	16	00	16	00		
10 Do - - - -	18	00	180	00		
20 Do - - - -	20	00	400	00		
2 Do - - - -	21	00	42	00		
5 Do - - - -	23	00	115	00		
1 Do - - - -	24	00	24	00		
11 Do - - - -	25	00	275	00		
1 Do - - - -	26	00	26	00		
1 Do - - - -	27	50	27	50		
2 Do - - - -	28	00	56	00		
1 Do - - - -	29	00	29	00		
5 Do - - - -	30	00	150	00		
1 Do - - - -	32	50	32	50		
1 Do - - - -	33	00	33	00		
1 Do - - - -	34	00	34	00		
1 Do - - - -	35	00	35	00		
1 Do - - - -	36	00	36	00		
1 Do - - - -	39	00	39	00		
2 Do - - - -	45	00	90	00		
1 Do - - - -	46	00	46	00		
1 Do - - - -	48	00	48	00		
1 Do - - - -	53	00	53	00		
1 Do - - - -	55	00	55	00		
1 Do - - - -	56	00	56	00		
1 Do - - - -	61	00	61	00		
3 Do - - - -	64	00	192	00		
1 Do - - - -	67	00	67	00		
1 Do - - - -	70	00	70	00		
1 Do - - - -	89	00	89	00		
Amounts carried forward,			5527	00	100343	00

		<i>D.</i>	<i>C.</i>	<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amounts brought forward,				5527 00		100343 00	
1	Hotel, - - - -	99 00		99 00			
1	Do - - - -	105 00		105 00			
1	Do - - - -	107 00		107 00			
1	Do - - - -	120 00		120 00			
1	Do - - - -	156 00		156 00			
1	Do - - - -	168 00		168 00			
1	Do - - - -	299 00		299 00			
						6581 00	
1	Oyster Cellar, - - -	3 50		3 50			
9	Do - - - -	5 00		45 00			
8	Do - - - -	10 00		80 00			
7	Do - - - -	15 00		105 00			
1	Do - - - -	22 00		22 00			
						255 50	
2	Bottling Establishments, -	5 00		10 00			
1	Do - - - -	7 50		7 50			
10	Do - - - -	10 00		100 00			
2	Do - - - -	15 00		30 00			
1	Mineral Water Establish- ment, - - - -	40 00		40 00			
1	Do - - - -	75 00		75 00			
						262 50	
1	Malt House, - - - -	10 00		10 00			
2	Do - - - -	15 00		30 00			
1	Brewery, - - - -	35 00		35 00			
1	Do - - - -	45 00		45 00			
1	Do - - - -	60 00		60 00			
1	Do - - - -	75 00		75 00			
						255 00	
1	Distillery, - - - -	8 00		8 00			
12	Do - - - -	10 00		120 00			
2	Do - - - -	12 50		25 00			
6	Do - - - -	15 00		90 00			
2	Do - - - -	20 00		40 00			
1	Do - - - -	30 00		30 00			
1	Do - - - -	40 00		40 00			
4	Do - - - -	50 00		200 00			
1	Do - - - -	75 00		75 00			
						628 00	
Amount carried forward,						108325 00	

	D.	C.	D.	C.	Dolls.	C.
Amount brought forward,					108325	00
1 Pickling Establishment, -	20	00	20	00		
1 Vinegar Establishment, -	5	00	5	00		
3 Do - - - - -	10	00	30	00		
2 Laboratories, - - - - -	5	00	10	00		
1 Do - - - - -	20	00	20	00		
					85	00
1 Fountain, - - - - -	10	00	10	00		
1 Garden, - - - - -	10	00	10	00		
1 Do - - - - -	15	00	15	00		
1 Do - - - - -	20	00	20	00		
					55	00
3 Dye Houses, - - - - -	5	00	15	00		
12 Do - - - - -	10	00	120	00		
2 Do - - - - -	12	00	24	00		
1 Do - - - - -	12	50	12	50		
5 Do - - - - -	15	00	75	00		
3 Do - - - - -	20	00	60	00		
1 Do - - - - -	22	50	22	50		
2 Do - - - - -	25	00	50	00		
					379	00
1 Smoke House, - - - - -	5	00	5	00		
1 Do - - - - -	11	00	11	00		
					16	00
5 Marble Yards, - - - - -	5	00	25	00		
3 Work Shops, - - - - -	4	00	12	00		
20 Do - - - - -	5	00	100	00		
1 Do - - - - -	6	50	6	50		
1 Do - - - - -	10	00	10	00		
1 Do - - - - -	12	00	12	00		
1 Do - - - - -	15	00	15	00		
					180	50
4 Curriers, - - - - -	10	00	40	00		
1 Do - - - - -	12	50	12	50		
					52	50
3 Binderies, - - - - -	5	00	15	00		
1 Do - - - - -	10	00	10	00		
1 Do - - - - -	20	00	20	00		
					45	00
Amount carried forward,					109138	00

	<i>D.</i>	<i>C.</i>	<i>D.</i>	<i>C.</i>	<i>Dolls.</i>	<i>C.</i>
Amount brought forward,					109138	00
6 Printing Offices, - - -	5	00	30	00		
1 Do - - - - -	8	00	8	00		
8 Do - - - - -	10	00	80	00		
1 Do - - - - -	12	50	12	50		
1 Do - - - - -	15	00	15	00		
1 Do - - - - -	21	00	21	00		
1 Do - - - - -	40	00	40	00		
					206	50
1 Market Stall, - - -	15	00	15	00		
1 Sugar House, - - -	20	00	20	00		
					35	00
1 Bowling Saloon, - - -	5	00	5	00		
1 Do - - - - -	8	00	8	00		
1 Do - - - - -	17	00	17	00		
1 Do - - - - -	18	00	18	00		
1 Do - - - - -	23	00	23	00		
					71	00
1 Rail Road Depot, - - -	5	00	5	00		
1 Do - - - - -	13	00	13	00		
1 Do - - - - -	15	00	15	00		
1 Do - - - - -	20	00	20	00		
					53	00
1 Hatter, - - - - -	10	00	10	00		
3 Do - - - - -	12	00	36	00		
3 Do - - - - -	17	00	51	00		
1 Do - - - - -	20	00	20	00		
1 Do - - - - -	24	00	24	00		
					141	00
1 Soap Factory, - - -	5	00	5	00		
2 Do - - - - -	10	00	20	00		
1 Do - - - - -	12	50	12	50		
3 Do - - - - -	15	00	45	00		
					82	50
3 Factories, - - - - -	5	00	15	00		
1 Do - - - - -	7	50	7	50		
1 Do - - - - -	9	50	9	50		
4 Do - - - - -	10	00	40	00		
1 Do - - - - -	12	00	12	00		
Amounts carried forward,			84	00	109727	00

	D.	C.	D.	C.	Dolls.	C.
Amounts brought forward,			84 00		109727	00
1 Factory, - - - -	15		00	15		
1 Hair Factory, - - -	20		00	20		
1 Lamp do - - - -	30		00	30		
1 Ink do - - - -	40		00	40		
					189	00
1 Bridge, - - - -	5		00	5		
1 Public Square, - - -	5		00	5		
3 Station Houses, - - -	10		00	30		
					40	00
1 Charge for interest on cost of laying pipes, - - -		3	25	3	25	
1 Do do do - - - -		5	00	5	00	
1 Do do do - - - -		6	50	6	50	
1 Do do do - - - -		8	50	8	50	
1 Do do do - - - -		13	00	13	00	
1 Do do do - - - -		23	00	23	00	
					59	25
1 Steam Boiler, - - - -		5	00	5	00	
1 Do - - - -		12	00	12	00	
1 Do - - - -		30	00	30	00	
					47	00
1 Use of Fire Plug for special purposes, - - - -		5	00	5	00	
1 Do to try new hose, -		10	00	10	00	
1 Do to supply packets,		24	00	24	00	
1 Do do N. Y. Steamers,		25	00	25	00	
1 Do Baltimore Steamers,		30	00	30	00	
					94	00
1 Asylum, - - - -		15	00	15	00	
1 Do - - - -		18	00	18	00	
1 Do - - - -		21	00	21	00	
1 Do - - - -		25	00	25	00	
1 Do - - - -		40	00	40	00	
1 Do - - - -		48	00	48	00	
1 Hospital, - - - -		50	00	50	00	
					217	00
1 Public Building, - - -		7	50	7	50	
5 Do - - - -		8	00	4	00	
Amounts carried forward,			47 50		110373	25

				D.	C.	D.	C.	Dolls.	C.
Amounts brought forward,						47	50	110373	25
6	Public Buildings,	-	-	10	00	60	00		
1	Do	-	-	11	00	11	00		
2	Do	-	-	12	00	24	00		
2	Do	-	-	13	00	26	00		
1	Do	-	-	14	50	14	50		
2	Do	-	-	15	00	30	00		
1	Do	-	-	16	00	16	00		
2	Do	-	-	18	00	36	00		
1	Do	-	-	19	50	19	50		
4	Do	-	-	20	00	80	00		
1	Do	-	-	22	50	22	50		
4	Do	-	-	23	00	92	00		
4	Do	-	-	25	00	100	00		
1	Do	-	-	26	00	26	00		
2	Do	-	-	27	00	54	00		
2	Do	-	-	29	00	58	00		
1	Do	-	-	30	00	30	00		
1	Do	-	-	31	00	31	00		
2	Do	-	-	32	00	64	00		
1	Do	-	-	34	50	34	50		
2	Do	-	-	35	00	70	00		
3	Do	-	-	40	00	120	00		
1	Do	-	-	41	00	41	00		
1	Do	-	-	45	00	45	00		
1	Do	-	-	49	00	49	00		
1	Do	-	-	60	00	60	00		
1	Do	-	-	75	50	75	50		
								1337	00
1	Public Bathing	Establish-	-	77	00	77	00		
	ment,	-	-						
1	Do	do	do	100	00	100	00		
1	Do	do	do	252	00	252	00		
								429	00
2	Water Wheels,	-	-	200	00	400	00		
1	Gas Works,	-	-	600	00	600	00		
								1000	00
2	One horse power high pres-	-	-						
	sure Steam Engines,	-	-	5	00	10	00		
2	One do and Shops,	-	-	8	00	16	00		
Amounts carried forward,						26	00	113139	25

	D.	C.	D.	C.	Dolls.	C.
Amounts brought forward,					26 00	113 139 25
1 One and a half horse power high pressure Steam En- gine, &c., - - -	6 00		6 00			
1 One and a half do and Shop,	10 00		10 00			
						42 00
3 Two horse power high pres- sure Steam Engines, -	6 00		18 00			
1 Two do do do -	9 00		9 00			
3 Two do do and Shops,	10 00		30 00			
2 Two do & Printing Offices,	16 00		32 00			
1 Two do do do -	41 00		41 00			
1 Two and a half horse power Steam Engine, &c., -	9 50		9 50			
2 Do do do -	10 00		20 00			
1 Do do do -	12 00		12 00			
1 Do and Work Shop, -	21 00		21 00			
1 Do and Printing Office,	22 50		22 50			
1 Do & Chemical Factory,	33 50		33 50			
						248 50
2 Three horse power high pres- sure Steam Engines, -	9 00		18 00			
1 Three do and Shop, -	11 50		11 50			
2 Three do &c., - - -	12 00		24 00			
2 Three do &c., - - -	14 00		28 00			
2 Three do and Foundry,	15 00		30 00			
1 Three do do - - -	21 50		21 50			
1 Three do and Bindery, -	29 00		29 00			
1 Three do and Brewery, -	50 00		50 00			
						212 00
5 Four do - - - -	12 00		60 00			
1 Four do and Shop, -	14 00		14 00			
1 Four do do - - -	14 50		14 50			
3 Four do do - - -	15 00		45 00			
6 Four do do - - -	17 00		102 00			
1 Four do and Factory, -	19 50		19 50			
1 Four do do - - -	22 00		22 00			
1 Four do and Dye house, -	24 00		24 00			
1 Four do & Printing Office,	25 00		25 00			
Amounts carried forward,			326 00		1136 41	75

	D.	C.	D.	C.	Dolls.	C.
Amounts brought forward,			326	00	113641	75
3 Four horse power high pressure Steam Engine, &c., -	27	00	81	00		
2 Four do &c., - - - -	42	00	84	00		
1 Four do and Bakery, -	47	00	47	00		
					538	00
2 Five do - - - -	15	00	30	00		
1 Five do &c., - - - -	16	50	16	50		
1 Five do and Shop, - -	17	50	17	50		
1 Five do and Shop, - -	19	00	19	00		
2 Five do and Shop, - -	20	00	40	00		
1 Five do and Shop, - -	27	00	27	00		
1 Five do and Shop, - -	27	50	27	50		
2 Five do and Soap Factory,	30	00	60	00		
2 Five do & Printing Office,	35	00	70	00		
4 Five do do do -	40	00	160	00		
1 Five do and Malt House,	55	00	55	00		
1 Five Low do & Brewery,	65	00	65	00		
1 Five High do do	124	50	124	50		
1 Five do do do	128	00	128	00		
					840	00
1 Six do &c., - - - -	18	00	18	00		
1 Six do &c., - - - -	20	00	20	00		
1 Six do &c., - - - -	23	00	23	00		
1 Six do and Machine Shop,	28	00	28	00		
1 Six do and Ink Factory,	58	00	58	00		
1 Six do and Lamp Factory,	41	00	41	00		
					188	00
1 Eight do &c., - - - -	29	00	29	00		
1 Eight do &c., - - - -	31	50	31	50		
1 Eight do and Factory, -	34	00	34	00		
1 Eight do and Brewery, -	94	00	94	00		
					188	50
2 Ten do - - - -	30	00	60	00		
1 Ten do and Factory, -	40	00	40	00		
1 Ten do and Bakery, -	42	00	42	00		
1 Ten do & Printing Office,	74	50	74	50		
1 Ten do & Sugar Refinery,	250	00	250	00		
					466	50
Amount carried forward,					115862	75

	D.	C.	D.	C.	Dolls.	C.
Amount brought forward,					115862	75
2 Twelve horse power high pressure Steam Engine, &c.,	41	00	82	00		
2 Twelve do &c., - -	46	00	92	00		
1 Twelve do and Dye House,	50	00	50	00		
1 Twelve do do do	51	00	51	00		
1 Twelve do do do	54	00	54	00		
					329	00
1 Fifteen do &c., - -	50	00	50	00		
1 Fifteen do and Work Shop,	90	00	90	00		
1 Fifteen do Sugar Refinery,	250	00	250	00		
					390	00
2 Eighteen do - - -	54	00	108	00		
1 Twenty do and Saw Mill,	65	00	65	00		
1 Twenty do &c., - -	70	00	70	00		
1 Twenty do and Foundry,	84	00	84	00		
1 Twenty-five do & Dye House,	90	00	90	00		
					417	00
1 Twenty-five do & Factory,	120	00	120	00		
1 Twenty-five do &c., - -	125	00	125	00		
2 Thirty do - - -	90	00	180	00		
1 Thirty do &c., - -	95	00	95	00		
1 Thirty do and Factory, -	122	50	122	50		
1 Thirty do do -	140	00	140	00		
1 Thirty do } &c., - -	165	00	165	00		
1 Ten do }						
1 Thirty do and Distillery,	125	00	125	00		
1 Forty do - - -	180	00	180	00		
1 Forty-five & Sugar Refinery,	750	00	750	00		
1 Sixty-seven horse power high pressure Steam Engine, -	201	00	201	00		
					2203	50
Amount of Duplicates for the City,	-	-	-	-	119202	25

15535 Dwellings, } And these are exclusive of the
5106 Baths, } Baths, Wash Pavements, Water
1724 Wash Pavements, } Closets and Basins in the Hotels,
970 Water Closets, } Stores and Buildings appropri-
757 Wash Basins, } ated to public uses.

127 Steam Engines of 1089½ Horse Power.

Duplicate of each Ward in the City of Philadelphia, for 1853.

WARDS.	Amounts of Collectors' Duplicates.		Water Rents payable to the Register.		Delinquents in advance for 1853.		Permits in Dec. 1852, in advance for 1853.		Water Rents charged to Girard Estates, payable to City Treasurer.		TOTAL.	
	Dolls.	C.	Dolls.	C.	Dolls.	C.	Dolls.	C.	Dolls.	C.	Dolls.	C.
North Mulberry Ward, - - - -	12174	00	130	00	107	50	10	00	-	-	12421	50
Upper Delaware Ward, - - - -	5629	50	125	00	38	00	21	00	-	-	5813	50
Lower Delaware Ward, - - - -	5914	00	550	50	70	50	-	-	-	-	6535	00
South Mulberry Ward, - - - -	8802	00	120	00	185	00	13	50	10	00	9130	50
High Street Ward, - - - -	4130	00	855	00	28	00	8	00	134	00	5155	00
North Ward, - - - -	9710	50	984	50	166	50	8	00	-	-	10869	50
Chesnut Ward, - - - -	3905	00	464	00	70	00	5	00	52	00	4496	00
Middle Ward, - - - -	6329	50	576	00	42	50	40	00	759	00	7747	00
Walnut Ward, - - - -	3626	50	252	00	13	00	-	-	81	00	3972	50
South Ward, - - - -	8153	50	-	-	10	00	11	00	-	-	8174	50
Dock Ward, - - - -	5102	00	21	00	8	00	-	-	-	-	5131	00
Locust Ward, - - - -	1037	00	100	00	37	00	14	00	-	-	1052	00
Pine Ward, - - - -	4302	50	10	00	10	00	-	-	166	00	4488	50
New Market Ward, - - - -	5213	25	-	-	15	00	13	00	-	-	5241	25
Spruce, Lombard and Cedar Wards,	18396	50	866	00	168	50	74	50	-	-	19505	50
	111758	75	5054	00	969	50	218	00	1202	00	119202	25

GEORGE W. McMAHAN,
Register of the Watering Committee.