

ANNUAL REPORT

OF THE

Chief Engineer of the Department

FOR

SUPPLYING THE CITY WITH WATER,

ON THE

CONDITION OF THE WORKS

UNDER HIS CHARGE.

Made to Councils January 17, 1856.

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—
1856.

REPORT.

To the Select and Common Councils
of the City of Philadelphia :

GENTLEMEN,—The ordinance regulating the Department for Supplying the City with Water, makes it my duty as the Chief Engineer, to report annually the condition of the works under my charge. In compliance, I take pleasure in submitting the following :

The same order will be regarded as was established in my first report to Councils made last year, namely : the consideration of each of the works separately, as Fairmount, Schuylkill, Delaware, and Twenty-Fourth Ward Works.

The Fairmount Works still maintain their efficiency, perfect repair, and remarkable cheapness of running expenses ; in this particular being in strong contrast with the far more expensive and troublesome steam works which now supply portions of the city. It is worthy of note, that with nine pumps in almost constant and certainly daily use, not any repairs requiring the aid of a machinist have been made or

were necessary during the past year; and even the wheels, although more perishable in their structure, have needed very few and trifling carpenters' repairs, although doing duty daily, almost without intermission.

The season has been a wet one, and the supply of water running over the dam was at all times ample; even in the hottest months of the summer.

By the last report it will be seen that some repairs and additions were then contemplated to the dam; upon further examination, it was not deemed necessary to make them. The work will however be carefully examined from time to time, and should there be occasion, an appropriation for the object will be asked.

The amount appropriated for the purpose last year, was of course not drawn upon, and returned intact to the Treasury at the termination of the fiscal year.

Reservoir number four, has had the flag-stones above the walls at the water surface repaired, as they were somewhat injured by the ice. The other reservoirs at Fairmount, as well as the new one at Twenty-second and Poplar streets, did not require any repair, and are in excellent order.

New roofs have been put upon the two dwellings occupied by the engine-men attached to the works; also new steps leading up to the reservoirs on the north-west corner, with other trifling carpenters' work.

The works are in complete order, and unless some unforeseen accident occurs, very little expenditure in repairs will be necessary this year.

The quantity of water pumped was somewhat greater than

that of the previous year. The total quantity pumped in the year

1854, being - - 2,286,402,222 ale gallons.

1855, " - - 2,782,736,850 wine do.

It will be seen that the supply of 1854 is stated in ale gallons, whilst that of the last year is wine gallons. At the time the works at Fairmount were erected, the standard measure for water was the ale gallon of two hundred and eighty-two cubic inches; but as nearly all the water works of the country now use the wine gallon of two hundred and thirty-one cubic inches, and as it has heretofore been used by some of the steam works now under my charge, I have concluded to make the latter the basis of calculation hereafter, or at least until the United States government gives us an actual standard gallon.

The grounds at Fairmount appear to be as attractive as ever, affording a pleasant retreat during the summer for our citizens and strangers.

It is to be hoped that Councils will make it and the vicinity more so, by the early improvement, as a park, of the grounds known as Lemon Hill, which were very judiciously dedicated for that purpose, under the name of Fairmount Park, last year. This is the more desirable, as by that means the shore for a considerable distance, and as far as it is within sight from Fairmount, can be protected from contamination, and from the erection of any establishment thereon which might hereafter become a nuisance.

This accomplished, it will only remain for the city to construct a sewer of adequate size upon the line of Pennsylvania

avenue, to connect with the sewer which is now built at twenty-fourth street, to be enabled to intercept and carry off the contents of the sewers and drainage of any of the streets now or hereafter having their terminations upon the Fairmount pool above the dam, carrying all such objectionable drainage to a point below the dam, where of course it cannot be injurious to the purity of the water supplied to the city, as it would undoubtedly be, otherwise. The necessity of this course at an early day is quite apparent, and I hope will meet the prompt consideration of Councils.

The distribution of the old city proper is in good condition, and that of the first, second, third, and fourth wards, is believed to be in better order than when it came under my charge.

The amount of new pipe laid in the portion of the city supplied from Fairmount Works has been inconsiderable; amounting in the first ten wards, to 4,888 feet.

SCHUYLKILL WORKS.

The power of the Schuylkill Works has required unremitting attention, and considerable expense to get it into good condition. The engines were in most miserable order, and required to be taken apart and completely overhauled, as well as to have many parts of them renewed; such as new pistons and packings, a new plumber block, new cranks, new brasses, &c., &c., &c., and even yet considerable work will be requisite before they can be called perfectly satisfactory, although now in very fair order, and in point of efficiency and economy, very much improved.

As was anticipated in my last annual report, difficulty of a serious character was experienced in attempting to pump with the Cornish pump into the main intended for it, and that main, owing to its inadequate size, was burst several times, upon the starting of the engine. To obviate this obstacle, in my report of August 14th, 1855, I recommended the adoption of a stand pipe at the engine house ; an appropriation having been promptly granted, the pipe has been erected, and answers every expectation.

The engine now runs smoothly, at more than double its former speed, and I am satisfied that no danger is to be apprehended from the bursting of the main, as it has been entirely relieved from the excessive shock which proved so dangerous, before the adoption of the stand pipe.

It is erected immediately in front of the engine house, at about fifty feet distant from the pump and is constructed of wrought boiler plate iron, one hundred and thirty-seven feet high from its foundation, being six feet diameter at the bottom and tapering to three feet six inches diameter at the top. It is perfectly plain, with the exception of a cornice and cap, and will have masonry built around the base for some thirty feet in height.

The plates have a thickness of three-eighths inch, five-sixteenths inch, and one-fourth inch ; the lower section, for six feet in height, is of cast-iron having nozzles upon it, so that should it be found desirable, we can attach the other pumps to it as well as the Cornish, and thus make it available for them all. The pipe was put together upon the ground, and raised into its place bodily ; it was constructed and erected

by Messrs. I. P. Morris & Co., from the designs of the Chief Engineer, and fully establishes the utility of such apparatus as auxiliary to the filling of reservoirs when long ascending mains are required, and must undoubtedly prove a source of economy of fuel, and wear and tear of the pumping machinery.

Not being able to work the cornish engine until a late date we were obliged to overtask the old engines, particularly in the early part of the season, before they were completely overhauled; the supply of water has however been kept up with great regularity in the reservoirs, which, from their exceedingly small size, is not an easy matter.

It is evident that the time has arrived for considerable addition to these works, as regards their storage capacity; it being now much too limited.

This subject however will be more fully considered in a report which I contemplate making hereafter, in answer to the resolution of inquiry on the subject recently passed in Select Council.

A considerable saving of fuel has been effected over the previous two years. This will serve to show in a degree at least the better condition of the engines now; they having pumped considerably more water with less fuel, as the following statement will show.

Per report of J. H. Fisler, Register of the late District of Northern Liberties—

There was consumed in 1853, 3,345 tons, 13 cwt. 3 qrs. 13 lbs. of coal to pump a total of 1,359,614,934 gallons. In the past year 2,839 tons, 12 cwt. 2 qrs. of coal was used in in pumping a total of 1,525,987,725 gallons, showing an

economy over the consumption of 1853, of 506 tons, 1 cwt. 1 qr. 13 lbs. which at the present prices would equal a saving of about \$2,236.

The coal used in 1854 was 3049 tons, 6 cwt. 3qrs. 13lbs.

“	“	1855	2839	“	12	“	2	“	0
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Showing a difference of	209	14	1	13
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equal to a saving of about nine hundred and twenty-seven dollars, whilst 166,372,771 gallons more water was pumped than in 1853, and 159,976,166 gallons more than in 1854.

This saving is the result of better repair to the engines and boilers, more attention to the economy of steam by the clothing of the cylinders and steam pipes, more judicious firing under the boilers and superior vigilance on the part of the engineman at the works.

One of the old boilers has had the tubes taken out and repaired and new tube sheets put in; the shell of the boiler being in good order. It was one of the first boilers put into the house, and will now be good for several years. The others are in good condition.

The engines are connected with the old and the new boilers, and can be worked from either set, which enables us to change from one set to the other. This is in summer a great advantage, as thereby we have time to clean either gang properly which it was difficult to do before.

The coal shutes at the works have been finished in a substantial manner, and railroad tracks carried from them to each of the boiler houses. A new track becoming necessary, has been laid with T rail, from the Reading Railroad into and

over the top of the shutes; the coal is thus brought into the works and dropped from the bottom of the cars directly into the shutes, from which it is readily transported into the boiler houses, upon the small railroad below.

The reservoir is in good order, and the distributing pipes and fixtures in fair condition.

Thirteen thousand one hundred and twenty-two feet of iron pipe have been laid in the portion of the city supplied from these works.

THE DELAWARE WORKS.

At the Delaware Works, the most important improvement has been the alteration, or rather remodeling of the old cylinder boilers. The result has proved even more satisfactory than I had anticipated: so much so, that I have abandoned the use of the tubular boiler entirely, as we have proven the cylinder boilers to be more economical in fuel and attention.

The high pressure engine can now be, and is daily run with less fuel than was before used by the low pressure engine.

The old boilers were simply cut off from a length of forty-six feet to twenty-six feet, and each provided with a heater running under and parallel with it, connected by proper upright tubes, and entirely reset.

A portion of the old boilers was provided with inside tubes and made to receive the waste steam from the engine, thereby converting it into a heater for the feed water, which now enters the boilers very hot, instead of nearly cold, as formerly.

The following is the result of the change: Upon a trial made with engine No. 1, (that is the high pressure), soon after

it came into my charge 9 tons, 15 cwt. 2 qrs. 7 lbs., of coal was consumed per twenty-four hours, the old cylinder boilers being used; and in a communication made to the commissioners of the late District of Kensington, by J. P. De Haven then engine-man, under date of January 23, 1854, he states that the old engine No. 1, (high pressure) pumped 1,568,160 gallons, consuming eleven tons of coal per day, and that engine No. 2, (low pressure) pumped 2,283,694 gallons, with a consumption of 5 tons, 6 cwt. 3 qrs. 13 lbs., using her own tubular boiler. Upon a trial I made with the low pressure engine, driven with the old cylinder boilers, 7 tons, 11 cwt. 13 lbs., were used.

The average coal used in December by engine No. 1, (high pressure) driven by the new cylinder boilers, as remodeled, was 4 tons, 9 cwt. 2 qrs. 15 lbs.

The average coal with engine No. 2, (low pressure) was 4 tons, 7 cwt. 3 lbs., with the new boilers, showing a gain with the high pressure engine over the consumption with the old boiler per my trials, of 5 tons, 5 cwt. 3 qrs. 20 lbs. per day; and over the consumption as reported by J. P. De Haven, of 6 tons, 10 cwt. 1 qr. 13 lbs. per day.

With the low pressure engine driven by the remodeled boilers, the consumption was nearly one ton per day less, than when it was driven by its own tubular boiler.

The gain in cost when the low pressure engine is run, is about \$4 94 per day, or \$1,803 per annum; and with the high pressure engine the saving is about \$26 per day: equal to \$9,490 per annum, and if De Haven's statement was taken, would of course be more than that.

The cost of making this improvement complete, including brick work, resetting the boilers and the feed water heater was about \$4,585, the interest on which is \$275 per annum. The saving in fuel will very soon pay for the cost of improvement. The high pressure engine required but little repair, except making the steam valves tight, a re-arrangement of the "cut off," and a change in the direction of the steam pipe.

During the summer, the bed plate of engine No. 2 gave way, and required considerable repair, and in order to make at all a perfect job, new granite foundation work was found necessary for some considerable distance below the bed plate; the old foundation being little more than thin ashler work very badly set, hollow, and defective in every way.

A small railroad has been laid, from the coal bin upon the wharf into the boiler house, and a platform scale erected, upon which all the coal consumed hereafter will be weighed.

The reservoir appears to be in good order.

The distributing pipe of much of the district supplied by the Delaware Works was laid by contract, and was done in the most shameful manner; it requires almost constant attention and considerable expense. Some idea of the bad condition of the pipes can be formed from the following statement; the number of leaks in the public mains in 16th, 17th, 18th, 19th, and 23d wards, with a length of about forty-one miles of pipe, was one hundred and sixty-two, nearly all being leaks from inadequate lead joints. In the old city proper, with a length of nearly eighty-eight miles, but one leak occurred to the public mains.

TWENTY-FOURTH WARD WORKS.

In August, the new works in Twenty-Fourth Ward went into operation, with one engine, and about the first of September were fairly supplying the ward: since that period continuing to do so.

The Works will be unproductive for many years, even if additions or improvements should not be made; and from the character of the work it is quite certain they will require considerable and expensive additions in a very few years, and before they can be considered by any means perfect works.

The total amount paid on the works to the present date,	is	-	-	-	-	-	\$248,495 32
And there is due, payable Sept. 1, 1856,							16,000 00
							<u>\$264,495 32</u>

The annual interest on which is	-						\$15,869 71
The running expenses, about	-	-					4,500 00
							<u>\$20,369 71</u>

Whilst the duplicate of water rent for 1856, is \$1525 00
There are now one hundred and fourteen public attachments made.

A large number of fire-plugs, stop-cocks, and other fixtures have been fitted up at the shop in Cherry street, for the last year's use, and in anticipation of the next.

The system of collecting the water rents, adopted by the committee, at the suggestion of the Chief Engineer, has proved in practice all that can be desired; the collections being made

very close, even more so than could have reasonably been expected, with a new system so entirely different from the old one.

The disordered state of the books of several of the late districts, and the frequent changes of the ownership of property, with the neglect of parties to notify the officers of such change, caused great trouble and labor. Numerous corrections have been made; there will not be nearly as much trouble this year as in the past.

Much has been done toward systematizing the books, and arranging them all as they were in the old city proper; but owing to the great labor required to accomplish this, and the daily increase of the business of the office, it has not yet been entirely effected.

The inspectors are now all engaged in a thorough examination of all premises, particularly those using large quantities of water; and a very considerable increase in the revenue has already resulted from discoveries made by them, of cases of fraudulent use of the water, as well as from entirely inadequate assessments. The revenue received from such discoveries and re-assessments, will, I doubt not, be sufficient this year to pay the salaries of all the officers of the department.

It is to be regretted that more discrimination was not used in reducing the salaries of the officers, as officers of this character, in the performance of their duties, come frequently in contact with the public, we should have efficient men, with genteel address and manner, and a moderate share of education; such men command a price which we should have it in our power to give them.

By the statement of the Register, herewith appended, it will

be seen that only about \$4,858 66, remain uncollected ; and portions of this are evidently erroneous charges, which have in some manner found their way upon the books and continued there, being repeated from year to year ; they will all be closely examined and removed from the books when proven to be errors.

In making the collections much praise is due to the Register, Mr. G. W. McMahan, for his indefatigable and untiring exertions.

It is earnestly desired that Councils should turn its attention to providing this department, with suitable office room in which the public could be properly accommodated. The exceedingly small size of the room now allotted to the department, does not admit of the arrangement of the clerks in such manner as to expedite business ; we should, for example, be enabled so to arrange the desks as to allot to each of the clerks certain portions of the city to which he should give his whole attention, and with which he should be able to familiarize himself ; whereby much valuable time both of the public and the clerks would be saved, while the business would be done with more expedition and satisfaction to all.

An inspection of the office will convince Councils that it is impossible so to arrange the clerks ; and the inconveniently crowded state of the office during the months of March and June, was the subject of bitter complaint, from the water rent payers, who in some cases were obliged to spend considerable time there.

I beg leave earnestly to call immediate attention to this

subject, as one of considerable importance to the department and to the public.

In the month of May last, the department was requested by the finance committee not to draw any warrants until the Treasury was in funds; obedience to this request retarded the laying of pipes for a time, and, with other delays beyond the control of the department, has prevented as much iron pipes being laid as would undoubtedly otherwise have been done; in addition to which numerous petitions for pipes come in when it was obviously too late in the season to do such work to advantage.

The owners of property are too apt to leave their applications for new pipe, until the houses are all built up and ready to occupy; in fact, until the very last moment; and are then sometimes much incensed because their wishes cannot be accomplished in a few days.

By examination of the account of the warrants drawn, it will be seen that the total amount appropriated has not been expended.

In making out the estimate last year, it was found exceedingly difficult to arrive at what had been necessary in former years for the old districts, about which I had not any personal knowledge, or to ascertain the amount of outstanding claims against them, these latter have not been as large as was anticipated, and the depression of business has been the cause of much less building improvements last year than usual; hence the necessity of less iron pipe. The sum of fifteen thousand dollars for the dam was not expended. As much

economy as possible has been, and will be used in carrying on the department.

The law department having entered liens against the properties in twenty-fourth ward, for the payment of pipe laying, the amount received for laying pipe in that ward cannot be given, as no account has been furnished this department of its amount.

The following is the estimated amount required for the department for the year 1856 :

ESTIMATE FOR 1856.

POWER,

Which includes the expenses of running all the Works, fuel, tallow, oil, and the ordinary repairs to the machinery, engines, boilers, pumps, etc., - - - - - \$53,525 00

IRON PIPES.

Cost of iron pipes, fire plugs, stop cocks, and other fixtures, laying iron pipes, etc., - 52,500 00

DISTRIBUTION.

Cost of keeping the pipes, plugs and fixtures in good order, and for making new attachments, etc., - - - - - 12,400 00

Amount carried forward, \$118,425 00

Amount brought forward, \$118,425 00

TAXES, REPAIRS, AND MAINTENANCE.

For payment of State taxes, on all the Works,
repairs to the buildings, and keeping the
grounds of the Works and Reservoirs in
good order, - - - - - 7,000 00

SALARIES

Of all the Officers, except the engineer and
watchmen at Reservoirs, which are charged
under the head of "Power," - - - 13,375 00

INCIDENTALS,

Which include office rents, and office expenses
of all kinds, books, stationery, advertising,
and expenses of the Committee in visiting
the Works, - - - - - 6,000 00

\$144,800 00

Amount due Messrs. Birkenbine & Trotter, be-
ing sum retained as security for the working
of the engines, due Sept. 1st, 1856, - - 16,000 00

\$160,800 00

The revenue, per Duplicates of Water Rents,
per Report of Register, for the year 1856, is \$360,974 42
Estimated amount which will be received from
new permits, and for iron pipe payments, - 45,000 00

\$405,974 42

The Total Appropriations and the Amount of Warrants drawn upon them, are as follows :—

DATE OF APPROPRIATION.	Amount of the Appropriation.	Expended.	Balance.
January 18, 1855, for payment of bills, etc., for 1854, - - -	\$4,665 04	\$4,665 04	
January 24, 1855, for payment of bills, etc., - - - - -	31,403 76	31,382 16	\$21 60
March 8, 1855, general appropriation for the year, - - - -	210,685 00	168,765 22	41,919 78
September 29, 1855, for stand pipe, Schuylkill Works, - - -	5,500 00	5,240 88	259 12
October 3, 1855, on account of Twenty-fourth Ward Works, - -	20,000 00	20,000 00	
November 3, 1855, payment old Claims of Districts, - - -	8,021 80	8,021 80	
December 20, 1855, on account of Twenty-fourth Ward Works, -	17,823 77	17,820 77	8 00
Totals,	293,098 87	250,895 37	42,208 50

THE PRECEDING AMOUNT WAS EXPENDED FOR THE DIFFERENT WORKS, AS FOLLOWS:

UNDER THE FOLLOWING HEADS.	Delaware.	Schuylkill.	Fairmount.	Twenty-fourth Ward.	TOTAL.
Power, - - - -	\$28,156 17	\$34,787 17	\$5,856 58		\$68,749 92
Distribution, - - -	1,506 68	2,648 91	5,340 50	\$244 58	9,740 67
Construction, - - -	6,218 14	49,817 36	285 53	45,976 63	102,297 66
Iron Pipes, - - -	18,642 43	28,561 49	10,052 92	809 56	58,066 40
Incidentals, - - -	1,271 64	2,484 72	3,480 40		7,186 76
Salaries, - - -	4,951 32	4,951 32	4,951 32		14,853 96
Totals,	50,746 88	128,150 97	29,967 25	47,030 77	250,895 87

Of the General Appropriation for the Year, approved March 8, 1855, the Expenditures have been as follows:

HEADS OF ACCOUNTS.	Delaware.	Schuylkill.	Fairmount.	24th Ward.	TOTAL.	Total Am't Appropriated.	Balance of Appropriations..
Power, - - -	\$21,221 75	\$28,940 75	\$4,858 78		\$55,021 28	\$55,185 00	\$118 72
Distribution, - - -	1,882 89	2,424 48	4,728 42	\$244 58	8,780 37	15,100 00	6,819 68
Construction, - - -	6,218 14	29,026 93	285 53	8,155 86	48,686 46	60,950 00	17,263 54
Iron Pipes, - - -	18,540 71	19,069 13	7,253 69	809 56	40,673 09	53,500 00	12,826 91
Incidentals, - - -	1,060 95	1,556 15	8,182 96		5,750 06	10,700 00	4,949 94
Salaries, - - -	4,951 32	4,951 32	4,951 32		14,853 96	15,300 00	446 04
Totals,	48,875 78	85,968 78	25,210 70	9,210 00	168,765 22	210,685 00	41,919 78

The following Amounts have been Received and Paid into the City Treasury by the Chief Engineer :

Feb. 2, 1855, - -	Rent of Lot north of new Reservoir, due January 1, 1855, - - - -	\$ 15 00
“ “	Rent of Lot south of new Reservoir, due January 1, 1855, - - - -	12 50
“ “	Shifting Fire Plug for Pennsylvania Rail Road Company, - - - -	19 74
May 25, 1855, -	For six months' Rent of wharf, at Fairmount, January 1, 1855, - - - -	100 00
“ “	For one month's Rent of wharf, at Kensington Water Works, - - - -	30 00
“ “	For one quarter's Rent for Lot north of Reservoir, due April 1, 1855, - - - -	15 00
“ “	For one quarter's Rent for Lot south of Reservoir, due April 1, 1855, - - - -	12 50
“ “	For two months' Rent of Dwelling at Reservoir, March 1, 1855, - - - -	14 00
July 5, 1855, - -	For two months' Rent of Dwelling at Reservoir, due May 1, 1855, - - - -	14 00
“ “	For three months' Rent for Lot north of Reservoir, due July 1, 1855, - - - -	15 00
“ “	For price of old Iron Pipe, - - - -	3 72
July 26, 1855, - -	For six months' Rent for Wharf, Fairmount, - - - -	100 00
“ “	For three months' Rent for Wharf, Kensington, - - - -	90 00
Oct. 6, 1855, - -	For shifting Fire Plug, Penn street, below Pine, - - - -	11 09
“ “	For two months' Rent of Dwelling, at Reservoir, due July 1, 1855, - - - -	14 00
“ “	For three months' Rent of Lot north of Reservoir, due October 1, 1855, - - - -	15 00
“ “	For three months' Rent of Lot south of Reservoir, due July 1, 1855, - - - -	12 50
“ “	For three months' Rent of Lot south of Reservoir, due October 1, 1855, - - - -	12 50
“ “	For two months' Rent of Wharf, at Kensington, August and September, - - - -	60 00
Dec. 8, 1855, - -	For two months' Rent of Wharf, at Kensington, October and November, - - - -	60 00
	Total,	\$626 55

Account of the Consumption of Water, and Operation of the Fairmount Water Works, during the year 1855, being for the Supply of the 1st, 2d, 3d, 4th, 5th, 6th, 7th, 8th, 9th, and 10th Wards of the City.

MONTHS.	Total quantity of Water pumped during the year, wine gallons.	Average Amount pumped per day, wine gallons.	Total hours the breast wheels worked.	Average hours per day each wheel run.	Total number hours the Turbine run.	Average hours per day of Turbine.	Average depth of Water flowing over the Dam.	Average Rain Fall.
								<i>Inches.</i>
January, -	178,152,481	5,746,844	2,242½	9.04	123	3.81	18.38	2.34
February, -	152,683,839	5,452,994	1,928½	8.61	99½	3.55	16.70	2.35
March, -	194,339,452	6,269,014	2,496	10.06	89½	2.88	13.90	1.68
April, . -	217,791,870	7,259,729	2,802	11.66	96	3.26	14.16	2.05
May, - -	268,193,253	8,490,105	3,262½	13.15	287	9.25	14.38	2.96
June, - -	256,897,616	8,563,253	3,143½	13.09	258½	8.61	21.57	7.95
July, - -	291,809,743	9,413,217	3,481	14.03	494	15.96	19.61	6.40
August, -	294,870,103	9,511,939	3,684½	13.60	228	7.35	13.32	2.79
September, -	264,342,305	8,811,410	3,362½	14.01	151	5.03	12.00	4.00
October, -	249,349,509	8,043,532	3,174½	12.80	140	4.51	20.12	4.11
November, -	235,295,978	7,843,199	3,082	12.84	54½	1.81	12.08	2.04
December, -	184,010,701	5,935,829	2,362½	9.52	85½	2.75	21.03	5.42
Totals,	2,782,736,850	7,611,756	35,022	11.88	2,106½	5.73	16.43	44.09

The greatest depth of water running over the dam was Monday, October 1st, 1855, when the depth was five feet seven inches.

Account of the Consumption of Water and Operation of the Schuylkill Steam Works, during the year 1855, being for the Supply of 11th, 12th, 13th, 14th, 15th, and 20th Wards of the City.

MONTHS.	Total quantity of Water pumped during the year, wine gallons.	Average Amount pumped per day.	Total Amount of Coal consumed during the year.		Average number of hours the Engines run.	Average Pounds of Coal per day.	Pounds Coal used per hour the Engines run.
			Tons.	cwt. qrs.			
January, -	100,426,908	3,239,577	189	5 2	34.00	13,696	402.82
February, -	113,026,586	4,036,666	188	5 3	37.28	14,063	377.22
March, - -	117,718,360	3,797,366	249	0 1	35.25	17,993	510.43
April, - -	111,928,244	3,730,941	266	9 0	39.65	19,894	501.76
May, - - -	129,917,383	4,190,883	284	0 0	42.72	20,521	480.35
June, - - -	135,402,241	4,513,408	243	16 2	48.43	18,160	377.24
July, - - -	177,186,379	5,715,689	289	8 3	55.00	20,914	380.25
August, - -	172,315,581	5,558,567	258	13 3	55.85	18,692	334.68
September, -	132,944,220	4,431,474	238	4 3	50.41	17,788	352.86
October, - -	130,013,532	4,193,985	218	6 1	44.17	15,774	357.12
November, -	107,348,652	3,578,288	208	5 3	38.88	15,552	400.00
December, -	97,759,639	3,150,311	205	17 1	33.22	14,875	447.70
Totals,	1,525,987,725	4,178,096	2,839	12 2	42.90	17,327	410.20

Average Coal consumed per day, 7 tons, 15 cwt., 2 qrs., 10 lbs.

ACCOUNT OF CONSUMPTION OF WATER AND OPERATION OF THE DELAWARE WORKS,
DURING THE YEAR 1855.

MONTHS.	Hours run by Engine No. 1.	Hours run by Engine No. 2.	Total amount of water pumped by Nos. 1 & 2 together.	Average water pumped per day.	Coal used; Average per month.
January, - - -	266	245	40,855,632	1,817,928	No weigh scale at Works.
February, - - -	290	164	35,001,448	1,250,005	" " "
March, - - -		478	41,600,328	1,341,946	" " "
April, - - -		506	43,862,280	1,462,076	" " "
May, - - -		597½	52,317,936	1,687,675	" " "
June, - - -	178	410	51,462,800	1,715,426	" " "
July, - - -	69	567	54,750,184	1,766,135	" " "
August, - - -	622		51,830,016	1,671,936	" " "
September, - - -	618	60	51,419,936	1,658,707	" " "
October, - - -	441	146	49,864,608	1,608,535	" " "
November, - - -	60	509	51,520,524	1,717,350	8 tons, 12 cwt. 2 qrs. 18 lbs.
December, - - -	163	342	43,318,368	1,897,366	8 " 2 " 0 " 7 "
Totals,	2707	4024½	567,804,060	1,556,197	

(24)

The average coal for the time the engines actually run in the month of December, was
 For Engine No. 1,—4 tons, 9 cwt., 2 qrs., 15 lbs.
 For Engine No. 2,—4 " 7 " 0 " 3 "

ACCOUNT of the consumption of water and operation of the Works in Twenty-fourth Ward, for a portion of 1855.

MONTH.	Total quantity pumped during the month.	Average quantity pumped per day.	Total coal used during the month.	Average coal per day.
October,	2,915,280	94,041	14 T. 7 cwt. 0 qr. 6 lbs.	9 cwt. 0 qr. 29 lbs.
November,	2,918,250	97,275	11 " 17 " 2 " 0 "	7 " 3 " 8 "
December,	3,704,640	119,504	12 " 10 " 3 " 16 "	8 " 0 " 10 "
	9,538,170	103,606	38 " 15 " 1 " 22 "	

Total amount of water supplied from all the Works, except those in Twenty-fourth Ward, during 1855.

MONTH.	Total quantity per each month.	Average amount each month.	Average temperature of the month at noon.
January, - - -	319,435,021	10,304,355	39.3
February, - - -	300,711,873	10,739,709	31.9
March, - - -	353,658,140	11,408,327	45.4
April, - - -	373,582,394	12,452,746	58.1
May, - - -	445,428,572	14,368,663	70.9
June, - - -	443,762,657	14,792,087	78.9
July, - - -	523,746,306	16,895,042	87.2
August, - - -	519,015,700	16,742,442	81.1
September, - - -	448,706,461	14,956,881	74.7
October, - - -	429,227,649	13,846,053	60.3
November, - - -	394,165,154	13,138,838	53.7
December, - - -	325,088,708	10,486,732	40.3
	4,876,528,635	18,844,823	60.1

The average temperature of the month is from the account of Messrs. McAllister & Brother, Chestnut street; it will be seen that the consumption of water is influenced by the temperature to a considerable extent.

ACCOUNT of the number of holes drilled for making new attachments to the public mains, during the year 1855.

MONTH.	$\frac{1}{2}$ inch diameter.	$\frac{3}{8}$ inch diam.	$\frac{3}{4}$ inch diam.	1 inch diam.	Shut off for repairs to private pipes.	Shut off for repairs to public pipes.	Total holes drilled and attachments made.
January,	63	4	3		14	1	70
February,	22		1		5		23
March,	95	10	3		26		108
April,	139	10	6	1	12		156
May,	204	13	3	1	17	6	221
June,	161	15	5	3	20	18	184
July,	173	16	3	2	11	20	194
August,	206	18	2	3	15	40	229
September,	158	15	3	1	18	34	177
October,	157	21	3		23	28	181
November,	142	29	2	1	29	24	174
December,	96	17	5	1	27	22	119
	1616	168	39	13	217	193	1836

The above attachments were made in the Wards, as follows:

WARDS.	$\frac{1}{2}$ in. diam.	$\frac{3}{8}$ in. diam.	$\frac{3}{4}$ in. diam.	1 in. diam.	shut off private pipes.	Shut off public pipes.	Total holes drilled.
1st, 2d, 3d & 4th wards,	295	26	10	6	45	16	387
5th, 6th, 7th, 8th, 9th & 10th wards,	361	69	11	3	95	1	444
11th & 12th wards,	44				10		44
13th, 14th, 15th & 20th wards,	478	42	10	2	17	12	532
16th, 17th, 18th, 19th & 23d wards,	338	19	8		50	162	365
24th ward,	100	12		2		2	114
	1616	168	39	13	217	193	1836

STATEMENT showing the probable number of houses of all kinds in the portions of the City supplied from the several works, with the proportion of such houses from which we derive no water rent; the population of the same portions of the City, who probably get a supply from our works from some source; the average quantity of water supplied to each of our water tenants, as well as to each of the inhabitants; the area in square acres of the different portions of the City named, the number of houses per acre, (from which the comparative density of the houses can be obtained,) and the number of water tenants for each one hundred feet of distributing pipes now laid.

The number of houses, and the population, is obtained from the census of 1850, with additions to the present time, at the rate of increase of the ten years previous to the late census.

	Probable number of houses in the portions of the City named, Jan. 1, 1856.	Number of water tenants upon our books, Jan. 1, 1856.	Number of houses for which we have no water tenants on our books.	Per centage of houses not supplied.	Probable population of that portion of the City supplied with water from the Water Works mentioned, Jan. 1, 1856.	Supply of July, '55, for each water tenant, galls. per day.	Supply of July, '55, for each of the inhabitants, gallons per day.	Average supply of the year '55 for each person, galls. pr. dy.	Area in squares of the portions of the City named.	Feet of distributing pipes laid to Jan. 1, 1856.	Number of houses per square acre.	Number of tenants on our books per every 100 feet of distributing pipes laid.
Old City, - - - -	19,497	19,158	339	1.73 pr cent.	139,022				1402½	464,124	13.90	4.12
Moyamensing, - - - -	5,686	3,953	1,733	30.47 "	38,439				1486	75,081	3.82	5.22
Southwark, - - - -	7,731	6,553	1,178	15.23 "	46,554				508½	118,487	15.20	5.53
Supplied from Fairmount Works,	32,914	29,664	3,250		224,015	317	42	34				
Spring Garden, - - - -	11,780	9,712	2,068	17.55 "	91,580				1100	215,869	10.70	4.49
Northern Liberties, - - - -	7,759	6,478	1,281	16.50 "	55,958				320	95,537	24.24	6.78
Penn, - - - -	3,262	2,165	1,097	33.62 "	11,169				1198	61,794	2.72	3.50
Supplied from Schuylkill Works,	22,801	18,355	4,446		158,707	311.3	35	26				
Kensington, - - - -	9,460	7,746	1,714	18.11 "	71,816				1238	184,742	7.64	4.19
Richmond, - - - -	2,120	477	1,643	77.50 "	7,300				1163	33,161	1.82	1.43
Supplied from Delaware Works,	11,580	8,223	3,357		79,116	214.7	22.3	18				
Totals, - - - -	67,295	56,242	11,053		416,838	281 ave'ge.	33.1 ave'ge.	26 ave'ge.				

ACCOUNT OF IRON PIPES LAID IN 1855.

Laid in First, Second, Third and Fourth Wards.	SIZE.	FEET.	FEET.	FEET.
Austin, from Wharton to Reed street, . . .	8 in.	342		
Juniatta, from Johnson's lane to Reed street,	"	324		
Webb street,	"	362		
Horstman street, from Johnson's lane to Reed,	"	323		
Jarvis lane, from Third to Fourth street, . .	"	462		
Silbert street, from Wharton to Reed, . . .	"	320	2138	
Shippen lane, from Fitzwater to Catharine, .	4 in.	374		
Attachments made to Florida street, . . .	"	68		
Attachments made to fire plugs,	"	28	465	
Reed street, from Eighth to Passyunk road, .	6 in.	927		
Reed street, from Ninth to Tenth,	"	418		
Reed street, from Seventh to Eighth, . . .	"	446		
Passyunk road, from Christian to Marriot st.,	"	314		
Franklin street, above Seventh, to Beulah st.,	"	185	2290	
				<u>4888</u>

Laid in Fifth, Sixth, Seventh, Eighth, Ninth and Tenth Wards.

	SIZE.	FEET.	FEET.	FEET.
Wyoming street, from Twenty-first to Twenty-second,	3 in.	408		
Carver street, from Sixteenth to Seventeenth,	"	446		
Dobbin street, from Eighteenth to Nineteenth,	"	446	1800	
Delancy place, from Eighteenth to Nineteenth,	4 in.	420		
Attachments to plugs,	"	25	445	
Locust street, from Sixteenth to Vaughan, .	6 in.	205		
Sixteenth street, from Lombard to South, .	"	153		
Arch street, from Twenty-first to Twenty-second,	"	446	804	
				<u>2549</u>

Laid in Thirteenth, Fourteenth, Fifteenth and Twentieth Wards.

	SIZE.	FEET.	FEET.	FEET.
Centre street, from Seventeenth to Eighteenth,	8 in.	446		
Stiles street, from Twelfth to Thirteenth, . .	4 in.	447	446	
Cass street, from Twelfth to Thirteenth, . .	"	447		
Merideth street, from Twenty-third to Twenty-fourth,	"	451		
Francis street, from Eighteenth to Charles, . .	"	276		
Orr street, to connect Charles,	"	13		
Capitol street, from Brown to Parish,	"	856		
Clayton, st., from Twenty-second to Twenty-third,	"	855		
Ogden street, from Carlisle to Fifteenth,	"	243		
Myrtle street, from Ontario to Thirteenth,	"	384		
Connections to fire plugs,	"	299		
			3271	
Franklin street, south of Oxford,	6 in.	126		
Marshall street, from Jefferson to Oxford,	"	538		
Twenty-second street, south of Green,	"	378		
Mervine street, south of Oxford,	"	283		
Green street, from Twenty-second to Twenty-fourth,	"	855		
Mervine street, from Thompson to Master,	"	443		
Twentieth street, from Poplar to Girard av.,	"	445		
Mervine street, from Master to Jefferson,	"	505		
Mervine street, north of Jefferson to Oxford,	"	533		
Brown street, from Twenty-second to Twenty-third,	"	292		
Twenty-third street, from Pratt to Parish,	"	896		
Twelfth street, from Stiles to Oxford,	"	1833		
Twelfth st., from Columbia avenue to Oxford,	"	510		
Columbia avenue, from Thirteenth to Broad,	"	592		
Broad street, south of Columbia avenue,	"	25		
Thirteenth street, north of Columbia avenue,	"	27		
Myrtle street, from Eleventh to Twelfth,	"	450		
Twentieth street, from Girard av. to Poplar,	"	445		
			9176	
Eleventh street, from Wood to Callowhill,	10 in.		229	
				13,122

Laid in Sixteenth, Seventeenth, Eighteenth, Nineteenth and Twenty-third
Wards.

	SIZE.	FEET.	FEET.	FEET.
Charlotta street, south of Franklin avenue, .	4 in.	205	2228	
Charlotta street, from Thompson to Master, .	"	420		
Hale street, from Columbia avenue to Cherry, .	"	500		
Elk street, from Otter to Cohocksink, . . .	"	290		
Hale street, from Third to Fourth, . . .	"	550		
Relaid, Charlotta, above Franklin street, . .	"	150		
Connections to plugs,	"	178		
Larch street, from Maple to William, . . .	6 in.	1011		
Cumberland street, from Frankford road to Coral street,	"	578		
Cherry st., from Frankford road to West st., .	"	1868		
Third st., from Columbia avenue to Cherry st., .	"	516		
Richmond street, from Maple to Division, . .	"	1046		
Cumberland st., across Gunners' Run bridge, .	"	320		
Tulip street, from Dauphin to Wood, . . .	"	403		
Wood street, from Norris to Frankford road, .	"	1187		
Wood street, from Frankford road westward, .	"	200		
Vienna street, east of Frankford road, . . .	"	400		
Washington street, from Cherry northward, .	"	84		
Sixth street, near Reservoir,	"	300		
			<u>7858</u>	<u>9646</u>

Laid in Twenty-fourth Ward.

	SIZE.	FEET.	FEET.	FEET.
Walnut street, west from Chestnut avenue, .	6 in.	371	601	
Bridge street, east from Thirty-third, . . .	"	230		
Woodland street, from High to Chestnut, . .	8 in.	876	876	
Connections to fire plugs,	4 in.	42		
			<u>42</u>	<u>1519</u>

RECAPITULATION.

WARDS.	3 inch diam.	4 inch diam.	6 inch diam.	8 inch diam.	10 inch diam.	TOTAL.
1st, 2d, 3d and 4th,	2133	465	2290			4888
5th, 6th, 7th, 8th, 9th and 10th, .	1300	445	804			2549
13th, 14th, 15th and 20th, . . .	446	3271	9176		229	13122
16th, 17th, 18th, 19th and 23d, .		2288	7358			9646
24th,		42	601	876		1519
	3879	6511	20,229	876	229	31,724

Being a total of 34 feet more than $5 \frac{1}{8}$ miles.

The Report of the Register, herewith annexed, is filled with much useful information in regard to the income of the department.

It must be apparent that the department is now in prosperous condition: no effort will be omitted to keep it so, and improve it to every possible extent.

All of which is very respectfully submitted,

By your obedient servant,

FREDERIC GRAFF,

*Chief Engineer of the Department
for supplying the City with Water.*

REPORT

OF THE

REGISTER OF THE WATER DEPARTMENT

TO

FREDERIC GRAFF, ESQ.

REPORT.

FREDERIC GRAFF, Esq.

Chief Engineer Water Department.

DEAR SIR:—

The following report of the doings of this department for the year 1855, covering statements Nos. 1 to 5, respectively, is respectfully submitted. In doing so, I avail myself of the opportunity to congratulate you on the results of the year's labor, and the successful working of the per centum or penalty system in its application to the collection of the water rent revenue, and that every anticipation of the department has been realized.

There is every reason to believe that the payment of water rents for 1856, will be more satisfactory than they were in 1855, and nothing will be left undone to induce early payments on this year's duplicate.

Of the amount unpaid, \$4,858 66 on the duplicates of 1855, about one-half may be set down as errors and allowances; the balance, I think, will be collected in the early part of the present year.

In the settlement of my accounts for the year 1855, I think it will be found that I have overpaid in the sum of \$150 57, (one hundred and fifty dollars and fifty-seven cents.) The books are now being audited by the Controller, and to his report, when completed, I respectfully refer you.

The Inspectors, during the past year, have been engaged in making an examination of the premises of water tenants in their respective districts. As far as they have progressed they have made discoveries in the use of water for which no rent has been heretofore paid, amounting to \$4,000—of which more than \$2,900 was collected in 1855, and on the duplicates for 1856. In addition to which they are engaged in making an examination of all establishments where large quantities of water are used, and I apprehend a considerable increase in the revenue will be effected in re-assessing the water rent on those places.

The net increase of water rents in 1855, by new permits, &c., is \$30,152 93.

Respectfully,

Your obedient servant,

GEO. W. McMAHAN,

Register.

January 1, 1856.

STATEMENT No. 1.

Receipts on the Duplicates of 1855.

	Amount of Duplicates 1855.	Discoveries and Additions.	Whole amount of Duplicates, etc.	Unpaid, Jan. 1, 1856	Received.
	<i>Dolls. C.</i>	<i>Dolls. C.</i>	<i>Dolls. C.</i>	<i>Dolls. C.</i>	<i>Dolls. C.</i>
Southwark, - -	31,911 42	188 50	32,099 92	479 25	31,620 67
Moyamensing, - -	18,285 41	219 25	18,504 66	672 16	17,832 50
New Market, - -	5,631 75		5,631 75	25 00	5,606 75
Pine, - - - -	4,806 50		4,806 50	25 00	4,781 50
Dock, - - - -	5,449 50		5,449 50	77 00	5,372 50
Walnut, - - - -	4,633 50	5 00	4,638 50	120 00	4,518 50
Chestnut, - - -	5,227 00	5 00	5,232 00	122 00	5,110 00
High Street, - -	6,439 00	50	6,439 50	70 00	6,369 50
Lower Delaware, -	7,320 75		7,320 75	95 00	7,225 75
Upper Delaware, -	7,052 25		7,052 25	186 50	6,915 75
Seventh Ward, -	23,429 75	18 00	23,447 75	132 25	23,315 50
Locust, - - - -	11,846 75		11,846 75	54 50	11,792 25
South, - - - -	9,322 00		9,322 00	90 50	9,231 50
Middle, - - - -	8,391 00	185 00	8,576 00	51 50	8,524 50
North, - - - -	11,834 50	15 00	11,849 50	137 50	11,712 00
South Mulberry, -	10,259 50	11 00	10,270 50	88 50	10,182 00
North Mulberry, -	14,066 00		14,066 00	74 50	13,991 50
Kensington, - -	37,586 16	38 50	37,624 66	305 00	37,319 66
Richmond, - - -	2,769 50		2,769 50	11 50	2,758 00
Northern Liberties,	35,402 75	152 00	35,554 75	264 50	35,290 25
Spring Garden, E.,	27,201 50	122 00	27,323 50	418 00	26,905 50
Spring Garden, W.,	31,160 50	210 50	31,371 00	1,105 50	30,265 50
Penn District, -	10,794 50	184 50	10,979 00	303 00	10,676 00
	330,821 49	1,354 75	332,176 24	4,858 66	327,317 58
Amount of Duplicates, January 1, 1855,					330,821 49
Amount of Discoveries and Additions, -					1,354 75
					332,176 24
Amount collected in 1855, - - - -					327,317 58
Balance unpaid January 1, 1856, - - -					4,858 66

STATEMENT No. 2.

Receipts from New Permits, Iron Pipes, &c.

Number of Permits.		Fractional Rents, &c.	Ferrules.	Repaving.	TOTAL.
1,016	First to Fourth Wards, inclusive, -	\$3,516 82	\$759 25	\$542 50	\$4,818 57
996	Fifth to Tenth Wards, inclusive, -	5,591 45	900 00	1,003 50	7,494 95
1,077	Eleventh to Fifteenth Wards, inclusive, Twentieth Ward and part of Sixteenth Ward, - - - -	5,193 45	1,296 25	860 00	7,350 70
885	Seventeenth to Nineteenth Wards, inclusive, and balance of Sixteenth Ward, - - - -	2,863 45	782 25	397 00	4,042 70
135	Twenty-fourth Ward, - - - -	560 75	233 25	50 00	844 00
4,108		17,725 92	3,971 00	2,862 00	24,558 92
	Back rents of 1854, on Moyamensing Duplicate, - - - -				612 74
	Iron Pipes, - - - -				21,085 76
	Penalty for non-payment, - - - -				7,784 60
					<u>\$33,942 02</u>

Fractional Rents on new Permits, - - - -	\$17,285 17
Back Water Rents of 1854, - - - -	440 75
Do do do - - - -	612 74
	<u>\$18,338 66</u>
Ferrules, - - - -	3,971 00
Repaving, - - - -	2,862 00
	<u>6,833 00</u>
Iron Pipes, - - - -	21,085 76
Penalty for non-payment, - - - -	7,784 60
	<u>\$33,942 02</u>
Whole amount received, exclusive of the Water Rent Duplicates of 1855,	<u>\$33,942 02</u>

STATEMENT No. 3.

Of the Payments to the City Treasurer for each month of the year 1855.

MONTHS.	Water Payers.	1855. Annual Rents.	Per cent	Penalty.	Fractional Water Rents, &c.	Iron Pipes.	Amount paid to City Treasurer.
January, - - -	1,714	24,538 25			1,348 40		\$25,886 65
February, - - -	1,840	28,955 50			705 40		29,660 90
March, - - -	9,740	160,756 81			677 50	16 00	161,450 31
April,* - - -	1,625	36,542 15	5	763 79	4,523 16	914 73	*42,743 88
May, - - -	1,000	11,454 79	5	541 55	3,029 65	1,243 28	16,269 27
June, - - -	1,845	27,522 25	5	1,349 03	2,969 25	5,595 24	37,435 77
July, - - -	445	4,565 29	15	457 22	2,431 15	1,703 75	9,157 91
August, - - -	1,418	16,122 46	15	2,243 18	2,195 05	3,050 10	23,615 79
September, - -	895	3,235 47	15	1,178 22	1,664 87	1,938 21	13,016 77
October, - - -	705	5,078 81	15	670 45	1,615 35	1,729 61	9,094 22
November, - -	300	2,577 17	15	369 98	1,465 75	2,119 48	6,582 38
December, - -	130	1,034 80	15	155 68	2,690 50	2,665 39	6,546 37
	21,657	327,383 75		7,734 60	25,316 03	20,975 79	\$381,410 17
RECAPIT.							
Annual Rents, as per No. 1,						\$327,317 58	327,383 75
Penalty, as per No. 2,						7,734 60	7,734 60
Fractional Rents, as per No. 2,					\$17,285 17		
Back Rents, as per No. 2,					1,053 49		
Ferrules,					3,971 00		
Repaving,					2,862 00		
Iron Pipes,						25,171 66	25,316 08
						21,035 76	20,975 79
						\$381,259 60	381,410 17
							381,259 60
Amount overpaid,							\$150 57

The whole amount paid into the City Treasury by the Department in 1855, to wit :

By Register, as above,		\$381,410 17
By Chief Engineer, account of Rent of Wharf,	\$230 50	
Shifting Fire Plugs,	20 83	
Old Pipes sold, &c.,	375 22	
	<u>626 55</u>	
		\$382,036 72

*\$20,200 of the amount paid in April to the Treasurer, were received on the 31st day of March, and of course not subject to the penalty, and to that date inclusive, making about 71 per cent. of the whole amount of the Duplicate collected before the penalty for nonpayment was imposed.

STATEMENT No. 4.

Of the Revenue to be derived from each of the Water Works belonging to the City of Philadelphia, commencing January 1, 1856.

Water Tenants.	WARDS.				
6,553	First, Second,	Southwark, - - - -	\$35,982 67		
3,963	Third & Fourth,	Moyamensing, - - - -	20,763 50	\$56,736 17	
1,004	Fifth, - - -	New Market, - - - -	5,888 25		
719		Pine, - - - -	4,912 50		
687		Dock, - - - -	5,529 50		
484		Walnut, - - - -	5,188 50	21,518 75	
576	Sixth, - - -	Chestnut, - - - -	5,552 50		
707		High, - - - -	6,526 00		
987		Lower Delaware, - - - -	7,427 25		
900		Upper Delaware, - - - -	7,283 25	26,789 00	
4,052	Seventh, - - -	Seventh Ward, - - - -	- - - -	24,623 75	
1,686	Eighth, - - -	Locust, - - - -	12,845 75		
1,185		South, - - - -	9,554 50	22,400 25	
1,098	Ninth, - - -	Middle, - - - -	8,899 00		
1,522		North, - - - -	12,091 25	20,990 25	
1,409	Tenth, - - -	South Mulberry, - - - -	10,640 00		
2,213		North Mulberry, - - - -	14,605 50	25,245 50	
		Revenue of Fairmount Works, - - - -	- - - -	- - - -	198,303 67
4,580	Thirteenth,	Spring Garden, East, - - - -	29,209 00		
5,124	Fourteenth and	Do do West, - - - -	35,460 25	64,669 25	
6,478	Fifteenth,				
	Eleventh,				
	Twelfth, and part	Northern Liberties, - - - -	- - - -	37,684 75	
2,165	of Sixteenth,	Penn District, - - - -	- - - -	13,645 75	
	Twentieth, -				
		Revenue of Schuylkill Steam Works, - - - -	- - - -	- - - -	115,999 75
7,746	Seventeenth and	Kensington, - - - -	41,590 75		
	Eighteenth, -	Richmond, - - - -	3,555 25		
477	Nineteenth, -				
		Revenue of Delaware Steam Works, - - - -	- - - -	45,146 00	
125	Twenty-fourth,	Twenty-fourth Ward, - - - -	- - - -	1,525 00	
56,359		Amount of Water Duplicate, January 1, 1856, - - - -	- - - -	360,974 42	
		Increase of Duplicates in 1855, - - - -	- - - -	\$30,152 98	

STATEMENT No. 5.

Number of Steam Engines charged on the Books of the Office, December 11, 1855.

	Number.	Horse Power.
Kensington, - - -	82	976 $\frac{1}{2}$
Richmond, - - -	14	170
Northern Liberties, - -	41	397
Spring Garden, - - -	48	622 $\frac{1}{2}$
Moyamensing, - - -	9	137
Southwark, - - -	13	115
City, - - -	136	1,308 $\frac{1}{2}$
Penn District, - - -	7	59
Twenty-fourth Ward, - -	4	68
	<hr/>	<hr/>
	354	3,847 $\frac{1}{2}$
	<hr/>	<hr/>

354 Steam Engines. 3,847 $\frac{1}{2}$ Horse Power.

Respectfully submitted.

GEO. W. McMAHAN,

Register.

January 1, 1856.