

BOSTON PUBLIC LIBRARY



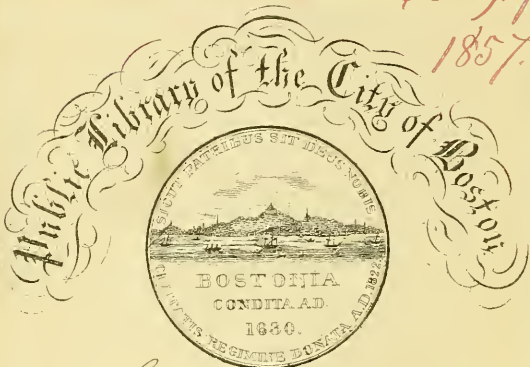
3 9999 06317 104 3

ANNUAL REPORT  
OF THE  
COCHITUATE WATER BOARD  
FOR  
1857.

★6357  
20

PRESENTED TO THE

6357  
1857



By City of Boston.  
Received Oct. 28, 1868. No. 88891.









*City Document.—No. 7.*

---

---

R E P O R T

OF THE

COCHITUATE WATER BOARD,

TO THE

CITY COUNCIL OF BOSTON.

FOR THE YEAR 1857.



BOSTON:

GEO. C. RAND & AVERY, CITY PRINTERS,

No. 3, CORNHILL.

1858.



Digitized by the Internet Archive  
in 2010 with funding from  
Boston Public Library



# R E P O R T .

---

OFFICE OF THE COCHITUATE WATER BOARD,  
*Boston, January 15, 1858.*

The Cochituate Water Board beg leave to make their Annual Report to the City Council, agreeably to the requirements of the City Ordinance ; together with the Reports of the City Engineer, the Water Registrar, and the Clerk of the Board. These latter will be found to furnish in detail much useful and interesting information in regard to the operation and efficiency of the Water Works.

The Board believe that the works were never in a more safe and efficient condition.

Having in the year 1856 disposed of a large part of the land lying near the lake, and along the line of the conduit, the Board have disposed of no parcel during the last year.

A proper disposition of the Marlborough Reservoir, has, however, been a subject of consideration and anxiety with the Board. This reservoir covers 300 acres of land. As it is, it is and can be of no use whatever to the city, and is capable of yielding little or no income, while the damage done to the roads by raising the water is a constant source of expense, besides the amount annually paid for taxes. Under these cir-

cumstances, the Board arrived at the conclusion that the whole property attached to this reservoir should be sold. The Board were led last summer to suppose that if the water were drawn down entirely, the meadows and shore land could be disposed of for more money than could be realized from their sale as a mill privilege. The Board therefore ordered the water to be drawn down last autumn. But when the lands were laid bare, and more particular examination made into the city's rights, it was deemed expedient to abandon the idea of selling in parcels, and orders have been given to raise the water again. It was found that of the 300 acres, about 25 would still be covered with water; and of nearly one-half the remainder, the city possessed only the right of flowage. So that there would be but about 130 or 140 acres that the city could sell; and the expense of fencing these strips, and of obtaining a right of way to them, (which the city in most cases could not give,) would be so great and difficult, that the prospect of realizing any considerable amount from their sale seemed entirely hopeless. It is therefore the present purpose of the Board to sell in the spring this whole property for the most it will bring.

There will probably be other lots near Lake Cochituate that it will be expedient to dispose of at an early day.

*The new dam* at the outlet of the Lake, which was noticed in last Report as in progress of construction, has been completed to the entire satisfaction of the Board. It is of very neat and substantial workmanship; and gives promise of every degree of security that can be reasonably desired. It has cost but about \$6,000—considerably less than estimated.

*An additional pipe* of 36 inches has been laid 985 feet across Charles River valley. This was deemed to be important, in order to facilitate the passage of water from the lake to Brookline reservoir. The good effects of it are visible in the increased height to which the water is kept in all the reservoirs. It remains to line the Brookline reservoir with stone,  $1\frac{1}{2}$  or 2 feet higher than it is now lined, (and gain thereby so much additional head,) to give full effect to the whole works, as they now exist.

*The unnecessary waste of water* is an annual topic of remark. By reference to the Engineer's Report it will be seen that the daily consumption last year was 12,726,000 gallons, against 12,048,600 in 1856—an increase of about two-thirds of a million daily. But during the first six months of the year the daily consumption was 13,429,500—threatening to exhibit for the whole year a daily consumption of at least fourteen millions of gallons. But the consumption did not increase much during any of the later months over last year; while in the last three there appears to have been a considerable diminution, so that the average of the last six months was but 12,022,500. This was owing to two causes;—first, the suspension of the works of large consumers; and second, the absence of cold weather. But it will be unsafe to expect these causes to continue in operation. The works of great consumers will again be started, and cold weather will, in years to come as in years past, tempt consumers to let their taps run to prevent freezing.

Although the daily consumption during the last half of the year, was less than the average of the whole

year 1856, yet taking the average of the whole of 1857, it exhibits evidence of waste over the waste of preceding years. For in 1856 the daily consumption was 12,048,600 gallons, and in 1857, 12,726,000 gallons, being an increase (notwithstanding causes operating to reduce consumption in the last half of the year) of over  $5\frac{1}{2}$  per cent., while the increase of the water takers was but 796 upon the gross number at the end of 1856, of 20,806, being an increase of near  $3\frac{1}{4}$  per cent., or less than the increase of consumption by  $2\frac{1}{4}$  per cent. And if we average the consumption on the whole number of the inhabitants, the same result is exhibited. In 1856, reckoning the whole number of inhabitants at 168,000, (being 5,000 more than was exhibited by the actual census of 1855,) the daily consumption for every individual was 72 gallons; and if we average the consumption of 1857 upon each inhabitant, reckoning the number at 173,000, (5,000 more than in 1856,) the daily individual consumption will be 73 gallons. So that every individual used one gallon daily more in 1857 than in 1856, i.e., *wasted* one gallon more. It seems therefore then that this last year, the most favorable in some important respects, for exhibiting a different result, only strengthens and confirms the uniform rule that the *waste* of water is and has ever been on the increase. There is, and has ever been (it is believed) no exceptional year.

Now what shall be done? This Board is far from wishing to sound any false alarm, but it requires no gift of foreknowledge to make it certain that the present supply will be exhausted soon at the present rate. Were the same causes in full operation now, that were one year ago, it is believed that the city would

have a short supply on the high service, and that it would be impossible to keep the water in the reservoirs at a suitable height for safety in case of fire. And in the nature of things it seems impossible that suffering and danger will not be soon upon us if some additional remedy be not found and applied.

July 1, 1857, the City Council ordered "*that the whole subject of laying a new main from Brookline reservoir to this city be referred to the Water Board, with instructions to report to the Council their views and recommendations, and also estimates of cost in connection therewith, as they may deem expedient and necessary, and to report in print.*" The object of this order covered the whole ground of future supply; and this Board went into a full and careful examination of the whole subject, and reported its views to the City Council, August 13, in City Document No. 50. This Board would respectfully refer to that Document, and invite the attention of the present City Council to it as embracing the present views of this Board, and as containing much that might be appropriately introduced in this Report; but as that Report was referred to this new City Government, it is deemed unnecessary to repeat it. It may be merely observed that there are no views there expressed, and no arguments there used which do not seem to have acquired additional force with the lapse of time,—unless they may have been slightly affected by the causes which have produced the recent diminished consumption, which cannot but be regarded as of a temporary nature.

It is confidently believed that the coming season will be a remarkably favorable one for contracting a loan for the necessary funds, and that materials and labor

will be unusually low ; while the estimated income from water rents, (\$300,000,) and the ordinary appropriation for extensions, &c., will nearly or quite pay all the interest on the old loan and the prospective one ; so that no fear need be entertained that the people will be loaded with a debt beyond what the proceeds of the works themselves will carry.

Before taking leave of this subject of waste, it may be proper to remind the City Council that there has been referred to them a new ordinance to increase the penalty of waste, which it is desirable should receive action before cold weather comes on.

One other fact is worthy of notice. The Water Registrar's Report gives a table showing the kind and number of water fixtures in 1853 and 1857. This whole table is worthy of examination ; but the point to which attention is asked is the item of *Hopper* water closets. In 1853 there were 698, and in 1857, 3,215. The Hopper closets have increased near five fold, while the other kind have not doubled. This Board has always regarded the use of the Hopper closet as very objectionable, as offering inducements and facilities for great waste. In the general revision of the water rates in 1854, made by this Board, in obedience to order of the City Council, (see City Doc. No. 25, 1854,) it is stated in the Report that, "in order to make the rate for certain descriptions of water closets (Hopper, &c.) bear some proportion to the quantity of water used and uselessly wasted, and in the hope that they may be hereafter abandoned, they (the Water Board) recommend that a very high rate be established for them when they are used." The rate recommended

was \$12. But it was not the pleasure of the City Council to ordain this high rate ; but all water closets were put at an uniform rate, and the consequence is that this one, deemed to be by far the most injurious to the city, is working into almost universal use. The Board renews the expression of opinion that this kind of water fixture ought to be subjected to a much increased taxation.

About two years ago the Supreme Court decided that all the land and property taken under the water act, or purchased for the purpose of carrying out the act, and which was necessary and proper for the purpose, were exempt from liability to taxation. This decision excited some feeling in the towns bordering on the pond or lake, which deemed themselves aggrieved by this restriction of right of taxation, and especially by the exemption of the five rods bordering upon and surrounding the whole lake.

When, therefore, the city applied to the Legislature last year for authority to raise the water in the lake, some of these towns appeared and opposed the granting of the petition, unless a proviso was inserted that the land formerly taken should be subject to taxation, and also that the land then proposed to be taken, should also be subject to the same. And the bill reported by the Committee contained these two provisos. It was not so much the amount as the principle involved in these provisos, that made them objectionable ; and in the House the city succeeded in having the *ex post facto* proviso, relating to the lands taken under the former act, stricken out. But in the Senate that proviso was restored ; and each branch

adhering to its action, the bill was lost. Application has been made again this year; and it is hoped it will be crowned with better success.

One of the roads in Natick, crossing the lake, was so low that last year it was occasionally badly washed and even overflowed. As it did not seem desirable to draw down the water merely for the sake of avoiding injury to the road—water which it was not desirable to lose for city use—it was deemed expedient to raise the road; and while about it, instead of raising it one foot, which would have been sufficient under the former taking, it is now raised near four feet, so as to make it secure when the water shall be raised. This has been executed at a cost of a little over six hundred dollars. It is also understood that a license to raise the only road in Wayland which will be affected by raising the water, has been obtained. This will require but a small outlay.

The quantity of land which will be taken in raising the water but two feet, will be so small that it will not perhaps be good policy to refuse an act which shall subject it to taxation. But any act which shall take away rights which the city has possessed for ten years, (though it has hardly yet come into the exercise and enjoyment of them,) ought unhesitatingly to be rejected.

The constant daily draft made upon the supply has been too exhausting to allow the playing of the public fountains, except on a few public days. It would, no doubt, be highly gratifying to the people to be able more frequently to enjoy this innocent pleasure, but the alternative is imposed upon them of giving up this



enjoyment, or of imposing a scarcity upon some parts of the city.

In the Report of this Board last year, some remarks were made upon the importance of having water fixtures properly inserted in the houses; and suggesting to the City Council the expediency of taking some measures to effect the object. This Board would again invite the attention of the new government to the subject, as stated on pages 11, 12 and 13, of Report of 1857, being *City Document No. 12*.

A proposition has been started again to annex Roxbury to Boston, but with what prospect of success is not known. But all questions of annexation, from whatever quarter they may come, have so important a bearing upon the Boston Water Works, that the citizens should be anything but apathetic in relation to such propositions. On this matter the attention of the City Council and of the citizens in general, is invited to the following extract from the Report of 1857:

“Since the last Annual Report, the sense of the citizens has been taken in regard to the annexation of Chelsea to the city. The result was a decisive majority against such annexation. So far as the distribution of Cochituate water is concerned, that decision must be regarded as eminently wise. As in all applications for annexation to the city, a leading reason for the measure will always be a participation in the use of Cochituate water, so it must continue to be the part of wisdom on the part of the citizens to reject such applications, so long as the proposed extension will endanger the sufficiency of their own supply. Certainly the benefits arising to the city from any annexation of foreign territory, ought to be very obvious and to be very great, before the citizens

would be justified in sharing with others that supply which has cost them so much, and which experience admonishes them may soon be too scanty for themselves.”

*The subject of meters* has engrossed a good share of attention during the last year. Some samples have been presented to the Board, which promised, or the owners promised for them, satisfactory results. So important is it deemed that a good, reliable meter of moderate cost shall be invented and brought into use in cases of large consumption, that the Board have authorized the purchase of twenty-four meters, twelve each of two different kinds, for the purpose of giving them a fair trial. Though it was expected that they would be finished and delivered before this time, but few have been received, and none yet tested.

It is deemed to be bad policy to allow taps or hydrants for water-takers outside of houses. It is regarded as a source of much waste, in the first place; and it is supposed that many persons obtain their supply from them free of expense, in the second place. The Board has ordered them to be discontinued, and pipes to be carried into the premises of all water-takers, as fast and as far as it may be practicable and expedient.

*The extension of the works* has been continued through the season, on the principle which former Boards adopted, of laying pipes wherever the income would cover the interest upon the cost. Of 12-inch pipe there has been laid during the year 4,068 feet, against 2,663 feet in 1856. Of 6-inch, 10,623 feet, against 9,789 feet in 1856. Of 4-inch, 2,274 feet, against 1,871 feet in 1856. Besides, 985 feet of 36-inch pipe has been laid across

the valley of Charles River; in all, 17,950 feet in 1857, against 14,323 feet in 1856. The whole length of pipes of 4 inches and upwards, is now a little over 119 1-2 miles.

The number of new *Stop-cocks* is 24 — making the whole number 1,025.

The number of *Service Pipes* laid during the year has been 855, the whole length of which is 30,033 feet — making the whole number 20,484.

New *Hydrants* to the number of 26 have been added this year—making the whole number 1,308.

In East Boston a 12-inch pipe has been laid round through Border street, near the ship-yard, extending 3,302 feet. This will greatly facilitate a copious supply to the low streets; as all the water before had to be carried over a high elevation in passing near the westerly side of the reservoir.

*The Annual Report of the Water Registrar* contains, as required by the ordinance, “a statement of the number of water takers, the number of cases where the water has been cut off, the number and amount of abatements, and the expenditures of his department.” The list of water takers has been arranged, as usual, into different classes, and the amount of water rate paid by each class given, the water rate being, as usual, paid to the Clerk of the Treasurer, in the office of the Water Registrar.

*The whole amount received for water rents* during the year, has been \$289,328 83; i. e., \$5,671 17 less than was estimated at the beginning of the year. The estimate for 1857, is \$300,000.

*The number of water takers* is now 21,602 — being an increase of 796 over 1856.

The usual *condensed classification* of the various water tenants has been prepared, and a statement of the amount of water rate paid by each class; the whole, being collated with similar tables for the preceding year, is here inserted.

1855	1856	1857		1855	1856	1857
14,483	15,260	15,645	Dwelling Houses, . . . . .	\$ 157,318 88	169,129 69	176,118 49
3,263	3,515	3,618	Stores, Shops, Offices, } Cellars, &c. . . . . }	23,587 00	26,542 93	27,983 78
340	426	520	Hotels, Restaurants, Saloons,	10,895 63	11,065 53	12,224 90
551	648	687	Stables, . . . . .	7,578 75	8,297 10	8,929 10
7	8	9	Railroads, . . . . .	7,523 40	8,681 68	7,532 05
3	3	2	Ferry Companies, . . . . .	2,608 28	2,712 16	1,931 68
31	30	31	Steamboats, . . . . .	4,370 01	4,865 71	4,666 81
728	720	740	Hose, . . . . .	2,205 00	2,192 00	2,260 00
1	1	..	Motive Power, . . . . .	800 00	516 23	....
81	84	84	Sugar Refineries, Distilleries, } Breweries and Bakeries, }	11,237 20	10,202 25	9,622 73
4	4	3	Gas Companies, . . . . .	655 52	621 22	538 34
			Other Manufacturing } Purposes, . . . . . }	18,272 51	22,857 68	20,618 10
			City Buildings and other } City uses, . . . . . }	4,011 50	3,777 72	4,165 78
			Public Buildings, Charitable } Institutions, &c. . . . . }	1,834 40	1,989 95	2,109 84
			Shipping Contract with } Waterman, . . . . . }	4,223 78	4,387 30	3,898 24
			Street Waterers, (in Rox- } bury, 1856, . . . . . }	973 72	100 00	....
			Building Purposes, . . . . .	735 05	1,085 05	1,039 96
			Other Purposes, . . . . .	920 17	1,010 24	4,924 75
				\$ 259,750 80	280,034 44	288,564 55

A statement of *Receipts and Expenditures* during the last year, by the Clerk of the Water Board, or Service Clerk, is hereto annexed. The whole amount of expenditure has been \$96,931 25. Of this, \$66,753 35 was for extension of the works; leaving \$30,177 90 as the amount of the expenses of this department. This is in excess of the expenses of 1856, \$1,336 80.

As this item covers all the expenses of repairs, and the salaries of those having charge of the works, &c., it must be expected to increase. The works are continually being extended, and the older they grow of course they become more liable to breaks and leakage; and from the nature of the case, more expense must be annually required to keep them in order.

All of which is respectfully submitted.

JNO. H. WILKINS,  
SAMUEL HATCH,  
SAMUEL HALL,  
CHARLES STODDARD,  
THOMAS P. RICH,  
TISDALE DRAKE,  
EBENEZER JOHNSON.

## RECEIPTS AND EXPENDITURES.

STATEMENT OF EXPENDITURES MADE BY THE COCHITUATÉ WATER BOARD, FROM DECEMBER 31ST, 1856, TO JANUARY 1ST, 1858.

Beacon Hill Reservoir, for labor, &c.,	\$546 82
South Boston " " "	300 54
East Boston " " "	889 26
Brookline " " "	2,603 49
Laying Main Pipe, for stock, &c.,	3,233 58
Main Pipe, - - - -	28,145 20
Service Pipe, - - - -	11,193 76
Stable, - - - -	759 05
Hydrants, - - - -	844 02
Stop Cocks, - - - -	1,471 90
Blacksmith Shop, for stock, &c., -	345 41
Plumbing Shop, " " -	39 91
Proving Yard, " " in repair shop,	197 51
Pipe Yard, Painting, &c., - -	21 00
Aqueduct Repairs, for labor, &c.,	1,230 96
Lake, labor finishing dam, &c., -	2,415 99
Hydrant and Stop Cock Boxes, -	990 73
Repairing Main Pipe, - -	1,679 42
Do. Service Pipe, - -	2,212 71
Do. Streets, - - -	2,085 18
Do. Hydrants, - - -	1,914 95
Do. Stop Cocks, - -	1,041 68
Do. Metres, - - -	294 60
<i>Amount carried forward,</i>	\$64,457 67

<i>Amount brought forward,</i>		\$64,457 67
Salaries, - - - - -	\$6,675 16	
Travelling Expenses, - -	150 84	
Office Expenses, (including rent, fuel, gas, &c. for Engineers' office,) -	1,921 71	
Taxes, - - - - -	626 33	
Miscellaneous Expense, Surveying land, &c. - - - - -	1,254 17	
Tolls and Ferriage, - - -	283 87	
Fountains, - - - - -	128 20	
Carting, - - - - -	1,404 09	
Postage and Express, - -	17 62	
Tools, - - - - -	427 03	
Stationery, (including Stationery for Water Registrar and Superin- tendents,) - - - - -	170 68	
Rents, for Tool Chest and Tools,	39 00	
Off and on Water, - - -	3,049 11	
Damage, Laying Pipe through Drains, &c.	127 21	
Oil, - - - - -	117 48	
Printing, - - - - -	239 76	
Proving Press, - - - - -	111 26	
Repairing Boxes on Bridges, -	1,324 17	
Wages, proving yard, - -	2,808 64	
Do. plumbing shop, - -	544 25	
Do. blacksmith shop, - -	735 04	
Do. laying Main Pipe, - -	7,075 01	
Do. do. Service Pipe, -	3,242 95	32,473 58
<i>Amount carried forward,</i>		<u>\$96,931 25</u>

*Amount brought forward,* \$96,931 25

*Cash paid the City Treasurer.*

Received for Grass, - - -	\$261 00	
“ “ Jamaica Pond Aqueduct,	5,000 00	
“ “ Land, - - -	2,428 92	
“ “ Labor and Material,	1,059 83	
“ “ Wood, - - -	461 96	
“ “ Service Pipe and Laying,	668 01	
“ “ Off & on Water, 1877 28		
“ “ Do. waste, &c. 523 00	2,400 28	
“ “ Rent of Hopkinton Reservoir, - -	1,250 00	
“ “ Rent of Arches under B. H. Reservoir, -	150 00	
“ “ Iron Wheel, - -	30 00	
“ “ Old Shanty, - -	40 00	13,750 00
		<hr/>
Balance, - - - - -		\$83,181 25
		<hr/>
Amount of Expenditures, - - - -		\$96,931 25

EXTENSION OF THE WORK.

Main Pipe, - - - -	\$28,145 20	
Service Pipe, - - - -	11,193 76	
Laying Main Pipe, - - -	3,233 58	
Carting, Carting Pipes to Newton Lower Falls, &c., - - -	1,300 00	
Hydrants, - - - -	884 02	
E. Boston Reservoir, Drain, &c. -	300 00	
Brookline Reservoir, Screens, Passage way, &c., - - -	1,800 00	
Lake, on account of Dam, &c. -	2,000 00	
		<hr/>
<i>Amounts carried forward,</i>	\$48,856 56	\$96,931 25



<i>Amounts brought forward,</i>	\$48,856 56	\$96,931 25
Blacksmith Shop, Labor, &c., -	\$725 00	
Plumbing Shop, " " -	425 00	
Proving Yard, Crane, &c. - -	150 00	
Wages, Laying Main Pipe, - -	7,075 01	
Do. do. Service Pipe, -	3,242 95	
Do. Proving Yard, - -	2,808 64	
Oil, - - - - -	60 00	
Proving Press, - - - -	111 26	
Miscellaneous Expense, Surveying to		
Raise the Lake, &c. - -	800 00	
Hydrant and Stop Cock Boxes, -	600 00	
Tools, - - - - -	427 03	
Stop Cocks, - - - - -	1,471 90	66,753 35
Amount of Annual Expense, -	- - -	<u>\$30,177 90</u>

STATEMENT OF THE EXPENDITURES AND RECEIPTS ON ACCOUNT  
OF THE WATER WORKS, TO JANUARY 1ST, 1858.

Amount drawn by the Commissioners, -	-\$4,043,718 21
"    "    "    Water Board, 1850, -	366,163 89
"    "    "    "    "    1851, -	141,309 23
"    "    "    "    "    1852, -	89,654 20
"    "    "    "    "    1853, -	89,854 03
"    "    "    "    "    1854, -	80,182 35
"    "    "    "    "    1855, -	63,866 33
"    "    "    "    "    1856, -	81,429 35
"    "    "    "    "    1857, -	96,931 25
<i>Amount carried forward,</i>	<u>\$5,053,108 84</u>

<i>Amount brought forward,</i>		\$5,053,108 84
Amount paid to the City Treasurer		
by the Commissioners, - -	\$47,648 38	
Water Board, 1850, paid to the City		
Treasurer, - - - -	8,153 52	
" " 1851, " "	5,232 38	
" " 1852, " "	15,869 12	
" " 1853, " "	4,621 40	
" " 1854, " "	12,423 29	
" " 1855, " "	9,990 38	
" " 1856, " "	7,840 43	
" " 1857, " "	13,750 00	125,528 90
		<u>\$4,927,579 94</u>
Sundry Payments by the City, -	\$48,520 26	
Discount and Interest on Loans, 2,624,629 63		2,673,149 89
		<u>\$7,600,729 83</u>
Sundry Credits by the City, -	\$11,886 70	
Amount rec'd for Water Rates, 1,762,946 75		1,774,833 45
Amount due January 1st, 1858, - - -		<u>\$5,825,896 38</u>

SAMUEL N. DYER,

*Clerk Cochituate Water Board.*

# APPENDIX.

---

## CITY ENGINEER'S REPORT.

BOSTON, JANUARY 5, 1858.

HON. JOHN H. WILKINS,

*President of the Cochituate Water Board.*

SIR:—The usual Annual Report of matters pertaining to the Water Works is herewith submitted.

### *Lake Cochituate, &c.*

All the structures, roads, and the new dam connected with the lake, are in excellent condition.

Owing to the unusual quantity of rain in the spring, work was not commenced on the new dam until July 21st. It was finished August 20th. Since that time it has been very thoroughly tested, and found to be very tight.

The quality of the water is now very good, and has been throughout the year, except for a few days in the fall, just after some very heavy rains, when a slight vegetable taste, similar to what has been before observed, was found in it.

During the year an unusual large quantity of snow and rain has fallen. At the commencement of the year, the water in the lake was within one foot of high water mark. It was gradually drawn down, until on the 7th of February it stood

at 5 feet 4 inches, this being 2 feet 8 inches below high water mark. The weather moderating and rain falling about this time, thawed the snow and ice so fast that the surface of the lake was raised so suddenly that in a little over two weeks it had risen to high water mark. It afterwards fell a few inches, but on the 5th of March it was again up to high water mark. From that time until the 10th of October, the lake continued full, notwithstanding the large use of water in the city, and the unprecedented amount wasted from the lake. From the 10th of October to the 25th, the water fell to 9 inches below high water mark, when it again commenced rising, and on the 31st again reached high water mark, since which time it has kept full. For 288 days in the year the lake has been kept full, and only 77 days in the year has it been below high water mark.

Water has also been wasted from the lake 296 days in the year, in all 10,625,900,000 gallons, this being an average per day for the entire year of over 29,000,000 gallons, it being more than double the average quantity used in the city throughout the year; and if it could have been stored up, would have lasted the city for the two succeeding years, even if no rain had fallen in that time.

The lake having been kept so full, slightly damaged one of the roads leading across it. This was repaired, and since, by order of your Board, a contract has been made with Mr. Horace T. Hildreth, of Natick, to cart on gravel to raise it some four feet in height. Stone walls were also needed at the sides of the road to retain the earth. These are now being constructed under the immediate superintendence of Mr. Knowlton. Permission to raise the road was obtained from the Selectmen of Natick, before commencing the work.

*Conduit Line.*

The Conduit is generally in good condition. It was repaired early in the season near Webber's barn. The waste weir at this place will require some repairs the coming season.

The strength of the Conduit has been thoroughly tested during the past year. The following table shows the different heights at which the water has been running, and the number of days in each month at the different heights. It being understood that the Conduit is but *six feet four inches* in height.

	HEIGHTS IN FEET AND INCHES.												
	5.0	5.6	5.8	5.10	6.0	6.4	6.8	7.0	7.4	7.8	8.0	9.0	
	NUMBER OF DAYS IN EACH MONTH.												
January, .....						4		12			7	8	
February, .....					13			10			5		
March, .....					1		30						
April, .....						6	13				7	4	
May, .....					5	18		6			2		
June, .....						8		21	1				
July, .....									26	5			
August, .....	5		1						24		1		
September, .....			30										
October, .....	31												
November, .....			1	13	12						4		
December, .....		2		2	26						1		
	36	2	32	15	57	36	43	49	51	5	27	12	

It will be seen by this table that in 142 days the conduit has been run less than full, in 36 days just full, and in 187 days it has been running with a head on it varying from *four inches, to two feet eight inches*. The table also shows that the great pressures have been put on it in all seasons of the year.

The original design was to keep the water running at a depth not exceeding 4 feet 4 inches. Had we been compelled to keep the flow down to this point, there would not have been a single day in the year in which the city would have had a full supply.

With very trifling additions to the conduit, there is no doubt it is strong enough to have a head of at least two feet on it continuously.

Since the third main has been laid across Charles River, the water has been run at an average of about one foot less in that portion of the conduit west of Charles River, than would have been necessary had it not been laid.

#### *Charles River.*

A third main pipe was laid across this river in the summer. Work was commenced early in July. The pipes were all laid and water let through them on the 9th of September. The new main is 36 inches in diameter. The two originally laid are 30 inches in diameter.

#### *Brookline Reservoir.*

This reservoir is in good condition. In the early part of the year the new circular screens were put into the gate house and have worked perfectly well during the entire season. Leaves, rubbish, and fish, are much more easily removed from them than from the upright ones. They are also more easily repaired when necessary.

The sale of some useless land at the westerly end of the Reservoir made it advisable to remove a fence to the new line of property. At the same time a road was changed in direction. These two changes have improved the appearance of this part of the Reservoir.

*Beacon Hill Reservoir.*

This reservoir leaked last October a little more than at any previous time during the last four years.

When the water was first let into it, there were more leaks and worse ones than at present; but being mostly through the crown of the inside arches, the water ran off through the drains originally built for that purpose under the reservoir, in anticipation of the leaks.

All structures of stone and brick built to contain water above ground, if of any great magnitude, leak more or less. Beacon Hill Reservoir leaks as little as any one in the country.

After the water was first let into it, the leaks gradually decreased, occasioned by the sediment in the water being deposited in the minute crevices of the masonry.

Once in each year the water is all drawn off, and the reservoir cleansed out. This was done in October last. There is generally from one to three inches of deposit on the bottom. The leaks are worse soon after it is cleaned out than at any other time. They gradually decrease as the sediment collects.

The main cause of increase of the leaks in the fall, was owing to the fact that last winter during the severe cold weather, the little water that could be kept in it froze up solid, and its expansion caused very minute seams to open in the crowns of the arches, through which the water percolated. The increase of leakage was noticed very early in the spring, although at that time there was not so much show of it outside as now.

Many attempts have been made to stop the leaks, but nothing has yet been successful, nor is there much prospect of their abatement until another main from Brookline is laid, or some other means adopted to increase the quantity of water in the city in extreme cold and extreme hot weather.

The new pipe would do much towards preventing the leaks, because the reservoir could then be kept so full of water that

it would not freeze up solid, and therefore any such great expansion of the reservoir as occurred last winter would be prevented.

The leaks are not a cause of danger to the structure, because the foundations were laid unusually deep and with great strength, and because the principal part of the water from the leaks is carried off in the drains, thus preventing the ground under the walls from becoming soft. The reservoir is now every way as strong and substantial as ever, no settlement having taken place in any part of it.

The leaks can only be kept from sight by an expenditure of some thousands of dollars, which expenditure I would not advise to be incurred at the present time.

#### *Consumption of Water in the City.*

The excessive cold of last winter caused an extraordinary use of the water. During the month of January an average of over 15,000,000 gallons was used daily, it being near  $2\frac{1}{2}$  millions per day more than was used in January of 1856. In the months of July and August, as usual, larger quantities were used than in the spring and fall months. In October, the use of water fell off very much, the stagnation in business at that time reducing the quantities used in manufactories, an average of one million gallons per day. The average quantity used during the year was about  $12\frac{3}{4}$  millions of gallons per day.

The decrease of consumption of water can only be temporary, and should not be permitted to delay action in regard to raising the surface of the lake, nor in making preparations for the new main line of pipes from Brookline Reservoir to the city.



*Average Monthly Heights of Water in the Reservoirs at Brookline, Beacon Hill, South Boston, and East Boston, 1851—1857, exclusive of 1853.*

MONTH	BROOKLINE.						BEACON HILL.						SOUTH BOSTON.						EAST BOSTON.					
	1851	1852	1854	1855	1856	1857	1851	1852	1854	1855	1856	1857	1851	1852	1854	1855	1856	1857	1851	1852	1854	1855	1856	1857
JAN. . .	124.24	123.91	123.55	124.02	120.44	123.76	117.91	117.73	113.34	118.84	115.87	112.09	....	113.87	108.39	113.41	109.83	110.28	106.63	100.32	100.73	89.45	94.57	
FEB. . .	123.42	124.04	123.72	123.91	123.71	123.93	118.69	118.23	115.49	117.16	116.86	114.28	117.05	114.91	111.55	114.64	109.80	110.39	107.54	95.43	92.08	87.17	93.02	
MAR. . .	123.25	124.18	123.49	124.30	123.50	123.94	120.07	118.96	117.48	119.47	116.87	114.10	119.41	115.92	117.83	114.41	109.86	110.53	107.03	92.99	97.61	90.05	94.03	
APRIL,	122.75	124.43	123.07	124.37	124.18	124.15	120.11	119.32	117.34	119.68	118.48	115.51	118.61	116.41	120.56	115.63	109.58	110.76	....	101.87	99.08	95.33	96.00	
MAY, . .	122.66	122.55	122.85	124.17	124.27	124.11	118.72	116.85	118.36	119.27	118.03	114.22	117.86	113.69	119.99	112.38	107.64	111.24	100.79	102.07	100.64	99.36	93.48	
JUNE, . .	123.23	124.29	122.63	123.48	124.25	124.37	119.02	116.64	117.13	113.59	113.42	114.47	111.29	113.13	118.55	115.10	109.30	111.05	106.57	98.33	98.29	101.05	95.37	
JULY, . .	122.67	124.53	123.99	124.05	123.72	124.36	120.28	115.85	116.54	117.84	114.92	114.18	112.95	115.48	116.87	114.32	109.73	110.45	104.82	99.19	94.98	91.31	93.53	
AUG. . .	122.01	124.59	124.37	123.60	124.02	123.93	118.70	115.85	114.40	117.47	116.84	114.00	114.38	116.73	113.31	113.60	110.65	110.35	100.70	99.39	95.30	94.15	93.99	
SEPT. . .	124.12	124.25	124.61	122.93	124.12	123.46	119.73	114.33	115.22	117.41	115.92	114.72	116.96	112.99	114.46	112.16	108.70	110.19	99.52	102.56	94.42	94.68	92.23	
OCT. . .	123.80	122.25	124.70	123.38	123.97	124.40	119.75	116.08	114.93	117.92	116.41	116.21	117.76	115.50	114.89	111.52	107.03	107.58	108.15	102.56	96.90	95.18	91.47	
NOV. . .	124.42	122.64	124.70	124.19	123.98	124.29	119.90	116.14	114.93	117.91	115.77	115.98	118.38	115.91	115.00	102.06	107.55	111.37	105.30	102.74	100.23	96.94	94.79	
DEC. . .	123.80	122.45	122.70	123.45	123.79	124.66	119.36	113.27	113.12	116.88	114.40	117.45	116.51	114.61	111.54	108.98	109.84	112.98	103.20	100.61	98.39	94.65	97.04	
Average,	123.36	123.67	123.65	123.82	123.66	124.11	119.39	116.60	115.69	117.79	116.15	114.77	116.52	114.93	115.24	112.35	109.18	110.60	104.07	99.84	97.49	94.11	94.13	

NOTE.—The above average heights are given in feet, and parts, above marsh level. Maximum high water in the Brookline Reservoir is 124.6 feet above marsh level. By deducting the heights in the City Reservoirs from the heights in the Brookline Reservoir, in each month, we find the LOSS OF HEAD in the different sections of the city at that time.

*Loss of Head from Brookline Reservoir to Beacon Hill and East Boston Reservoirs.*

The effect of increased consumption of water in the city may be seen by reference to the table in this and previous reports of *average annual heights of water in the Reservoirs.*

A synopsis is given in the following table.

YEAR.	Heights of Water above Marsh Level in			Loss of Head from Brookline to Beacon Hill Reservoir.	Loss of Head from Brookline to East Boston Reservoir.
	Brookline Reservoir.	Beacon Hill Reservoir.	East Boston Reservoir.		
1850 .....	123.16	119.04	.....	4.12	....
1851 .....	123.36	119.39	105.06	3.97	18.30
1852 .....	123.67	116.60	104.07	7.07	19.60
1853 .....	122.86	114.89	104.91	7.97	17.95
1854 .....	123.65	115.69	99.84	7.96	23.81
1855 .....	123.82	117.79	97.49	6.03	26.33
1856 .....	123.66	116.15	94.11	7.51	29.55
1857 .....	124.11	114.77	94.18	9.34	29.93

Extreme high water in Brookline Reservoir is 124.6 feet.

## CONSUMPTION OF WATER.

*Daily Average Number of Wine Gallons drawn from the Brookline Reservoir.*

MONTHS.	1850	1851	1852	1853	1854	1855	1856	1857
January, .....	5,181,700	7,233,700	8,280,900	8,050,500	10,095,200	9,702,700	12,669,000	15,089,000
February, .....	5,214,000	7,221,100	8,790,300	8,643,600	10,654,200	10,349,800	12,791,000	14,175,000
March, .....	4,841,200	6,137,900	8,521,100	8,202,200	9,582,100	10,125,600	12,504,000	13,941,000
April, .....	4,961,000	5,365,200	8,048,700	7,903,600	8,738,500	8,540,000	10,800,000	12,454,000
May, .....	5,346,100	6,238,400	8,350,000	8,123,400	9,685,300	9,103,800	10,378,000	12,414,000
June, .....	6,906,500	7,925,000	8,033,100	8,945,900	11,745,200	9,984,400	11,223,000	12,504,000
July, .....	8,514,200	7,180,200	9,608,000	8,809,200	10,613,800	11,056,600	13,167,000	13,551,000
August, .....	8,004,600	7,235,000	9,709,300	8,461,900	10,928,100	11,120,800	12,664,000	13,077,000
September, .....	6,585,500	7,230,600	7,920,000	8,640,700	9,712,400	11,710,800	11,522,000	12,030,000
October, .....	4,504,300	6,716,600	6,930,000	8,871,100	8,769,800	10,771,200	11,891,000	10,864,000
November, .....	4,960,500	6,473,500	6,637,900	8,624,700	8,030,200	10,383,200	11,691,000	11,372,000
December, .....	5,037,000	7,663,400	7,195,800	9,228,400	10,597,600	11,307,200	13,284,000	11,241,000
Average for the year, .....	5,837,900	6,883,800	8,125,800	8,542,300	9,902,000	10,346,300	12,048,600	12,726,000

*Monthly Fall of Rain, in inches, in 1857.*

MONTH.	PLACES AND OBSERVERS.						
	Lake Cochituate, by E. F. Knowlton.	Boston, by J. P. Hall.	Lowell, by Merrimack Manufacturing Co. J. B. Frances.	Lowell, by Locks and Canals Co. J. B. Frances.	Waltham, by E. Hobbs.	Cambridge, by W. C. Bond.	Providence, by A. Caswell.
January, . . . . .	2.51	5.36	3.86	3.42	2.68	7.87	5.50
February, . . . . .	1.30	2.45	1.63	3.45	1.40	3.72	2.35
March, . . . . .	1.72	3.09	2.58	2.75	2.03	3.49	3.35
April, . . . . .	10.23	10.83	8.02	8.77	7.78	8.99	6.29
May, . . . . .	7.15	5.57	3.58	3.76	4.56	5.16	4.33
June, . . . . .	4.02	2.02	3.16	2.98	1.88	1.71	1.90
July, . . . . .	8.85	5.53	5.67	5.35	6.99	6.32	3.45
August, . . . . .	6.62	7.18	5.68	5.33	4.77	6.67	4.80
September, . . . . .	4.27	2.56	2.29	3.01	2.20	2.93	2.27
October, . . . . .	7.06	4.50	5.52	5.77	4.60	3.67	2.90
November, . . . . .	3.07	2.52	2.26	2.39	2.04	2.56	2.40
December, . . . . .	6.30	5.26	5.13	5.04	3.11	4.83	5.20
Totals, . . . . .	63.10	56.87	49.38	52.02	44.04	57.92	44.74

Professor Caswell informs me that the average quantity of rain fall in Providence the past 26 years is nearly 40.5 inches.

*Statement of the Location, Size, and Number of Feet of  
Distributing Pipes, laid in the Year 1857.*

IN WHAT STREETS.	BETWEEN WHAT STREETS.	Diam. of Pipe in inches.	Feet of Pipe.
<b>BOSTON PROPER, &amp;c.</b>			
Harrison Avenue, .....	Chester and Springfield, .....	12	227
	Total 12-inch in Boston Proper, .....		227
West Springfield, .....	Shawmut Avenue and Tremont, .....	6	147
West Chester, .....	Shawmut Avenue and Washington, .....	6	222
Troy, .....	Harrison Avenue and Albany, .....	6	264
Worcester, .....	Shawmut Avenue and Tremont, .....	6	60
East Chester, .....	Washington and Harrison Avenue, .....	6	284
Springfield, .....	Washington and Harrison Avenue, .....	6	492
Springfield, .....	Washington and Shawmut Avenue, .....	6	437
Worcester, .....	Tremont and Washington, .....	6	811
Union Park, .....	Shawmut Avenue and Washington, .....	6	445
Chester Square, .....	Tremont and Harrison Avenue, .....	6	569
New Friend, .....	Union and Hanover, .....	6	456
Northampton, .....	West of Tremont, .....	6	126
Lenox, .....	Shawmut Avenue and Tremont, .....	6	368
Brookline, .....	West of Tremont, .....	6	264
Concord, .....	West of Tremont, .....	6	281
Village, .....	Lucas and Castle, .....	6	204
	Total 6-inch in Boston Proper, .....		5430
Pleasant Street Court, .....	West of Church, .....	4	275
Tremont, .....	Cunard and Ruggles, in Roxbury, .....	4	754
Curve, .....	Hudson and Albany, .....	4	126
	Total 4-inch in Boston Proper and Roxb'y, .....		1155
<b>SOUTH BOSTON.</b>			
Fourth, .....	I and K, .....	12	380
	Total 12-inch in South Boston, .....		380
Fifth, .....	I and K, .....	6	409
Midland, .....	First and Baldwin, .....	6	163
Broadway, .....	K and L, .....	6	560
Sullivan, .....	Dorchester and E, .....	6	1110
In Seventh and C, .....	.....	6	400
Broadway, .....	L and M, .....	6	250
Seventh, .....	L and M, .....	6	300
Sixth, .....	D and E, .....	6	137
Seventh, .....	I and K, .....	6	296
	Total 6-inch in South Boston, .....		3625
Gates, .....	Dorchester and Telegraph, .....	4	468
Gold, .....	D and E, .....	4	76
Ellery, .....	Dexter and Dorchester, .....	4	575
	Total 4-inch in South Boston, .....		1119
<b>EAST BOSTON.</b>			
Border, .....	Central Square and Meridian, .....	12	3302
	Total 12-inch in East Boston, .....		3302
Maverick, .....	Cottage and Orleans, .....	6	554
Saratoga, .....	Brooks and Putnam, .....	6	502
Princeton, .....	Putnam and Prescott, .....	6	512
	Total 6-inch in East Boston, .....		1568

## RECAPITULATION.

SECTION.	1857.	Diameter in Inches.			
		36	12	6	4
Boston Proper, &c.	{ Total number of feet laid, . . . . .	227	5,430	1155	
	{ Stop-cocks in the same, . . . . .		10	1	
South Boston, . . . .	{ Total number of feet laid, . . . . .	380	3,625	1119	
	{ Stop-cocks in the same, . . . . .	1	5	1	
East Boston, . . . . .	{ Total number of feet laid, . . . . .	3302	1,568	....	
	{ Stop-cocks in the same, . . . . .	3	2	....	
Newton, . . . . .	{ Total number of feet laid, . . . . .	985	159	....	....
	{ Stop-cocks in the same, . . . . .		1	....	....
	Sums of Pipes, . . . . .	985	4068	10,623	2274
	Sums of Stop-cocks, . . . . .		5	17	2

*Statement of the Length of different Sizes of Pipes laid, and the Number of Stop-cocks put in, to January 1, 1858.*

		DIAMETER OF PIPES IN INCHES.										Aggregate.
		36	30	24	20	16	12	6	4			
53	Feet of Pipe laid in Brookline, Roxbury, and Boston Proper, .....	19,355	30,332	5,773	....	5,714	50,478	216,711	73,628			
	Number of Stop-cocks in the same, .....	4	7	10	....	12	99	438	186			
	Feet of Pipe laid in and for South Boston and Dorchester, .....	....	....	....	8,155	....	12,841	65,435	19,529			
	Number of Stop-cocks in the same, .....	....	....	....	4	....	27	82	25			
	Feet of Pipe laid in and for East Boston, .....	....	....	....	15,972	1,523	16,114	63,632	2,725			
	Number of Stop-cocks in the same, .....	....	....	....	6	3	*21	85	13			
	Feet of Pipe laid in Newton and Needham, .....	985	1,958	....	....	....	159	....	....			
	Number of Stop-cocks in the same, .....	....	....	....	....	....	2	....	....			
TOTALS.												
	Length of Pipes laid, .....	20,340	32,290	5,773	24,127	7,237	79,592	345,778	95,882	611,019 feet, equal to 11.5 miles 3819 ft.		
	Number of Stop-cocks put in, .....	4	7	10	10	15	149	606	224	1,025		

\* Including one in Branch, for State Prison Pipe.

Adding to the above, the length of the hydrant branches and bends, which is about 20,470 feet, or  $3\frac{9}{10}$  miles, and we have a little over 119½ miles as the total length of Pipes of 4 inches and upwards, in diameter, laid down in and for the City of Boston.

*Statement of Service Pipes laid in 1857.*

Diameter in Inches.	Boston Proper.		South Boston.		East Boston.		TOTAL.	
	Number.	Length in Feet.	Number.	Length in Feet.	Num'b'r.	Length in Feet.	Num'b'r.	Length in Feet.
1	12	786	3	354	2	41	17	1,181
$\frac{3}{4}$	12	505	3	101	3	248	18	854
$\frac{5}{8}$	478	14,948	171	6381	171	6669	820	27,998
Aggregate, .....							855	30,033
Making the total number up to January 1, 1858, .....								20,484

*Repairs of Pipes during the Year 1857.*

WHERE.	DIAMETER OF PIPES IN INCHES.													TOTAL.
	36	30	24	20	16	12	6	4	2 1 $\frac{1}{2}$	1	$\frac{3}{4}$	$\frac{5}{8}$		
Boston Proper, .....	1	5	..	2	..	14	20	21	7	45	9	4	163	291
South Boston, .....	..	..	..	4	..	..	..	1	1	..	1	..	26	33
East Boston, .....	..	..	..	6	1	4	3	2	1	..	1	1	20	39
Totals, .....	1	5	..	12	1	18	24	24	8	46	10	5	209	363



Of the leaks that have occurred in pipes of four inches in diameter and upwards, sixty-seven were caused by the loosening of lead in the joints, seven by the settling of the earth, seven by frost, one by a cap blowing off, two by flaws in the pipes, one struck by a pick.

Total eighty-five in pipes of four inches and upwards.

Of the leaks that have occurred in the service pipes, and two-inch pipes, sixty-nine were caused by the settling of the earth, thirty-eight by stiff connections, thirty by defective couplings, twenty by settling of boxes, twelve by frost, thirty-five by flaws in pipes, thirteen by defective stop-cocks, eleven by tenants, one stopped by a piece of sponge, twenty-eight stopped by fish, four by stop-cocks blowing out, one by a joint, ten struck by picks, four by digging drains, one by driving piles, one stopped by rust.

Total, two hundred and seventy-eight in service and two-inch pipes.

*Statement of the Number of Leaks, 1850-57.*

YEAR.	LEAKS IN PIPES OF A DIAMETER OF		
	Four Inches and upwards.	Less than Four Inches.	TOTAL.
1850 .....	32 .....	72 .....	104
1851 .....	64 .....	173 .....	237
1852 .....	82 .....	241 .....	323
1853 .....	85 .....	260 .....	345
1854 .....	74 .....	280 .....	354
1855 .....	75 .....	219 .....	294
1856 .....	75 .....	232 .....	307
1857 .....	85 .....	278 .....	363

*Hydrants.*

During the year twenty-six new hydrants have been established, as follows: eight in the City proper, eleven in South Boston, five in East Boston, and two in Roxbury.

Altogether there have been established up to the present date:

In Boston proper,	-	-	-	-	-	879
“ South Boston,	-	-	-	-	-	235
“ East Boston,	-	-	-	-	-	168
“ Brookline,	-	-	-	-	-	1
“ Roxbury,	-	-	-	-	-	7
“ Charlestown,	-	-	-	-	-	11
“ Chelsea,	-	-	-	-	-	7
Total,	-	-	-	-	-	<u>1,308</u>

Sixty-nine hydrants have been taken out and replaced by new or repaired ones. One hundred and seventy-six decayed hydrant boxes were taken out and replaced by others made of Burnetized lumber, and the same material was used for the twenty-six that have been established.

The hydrants were all cleaned and oiled in the fall, and packed with hay for the winter.

*Stop-Cocks.*

The stop-cocks have been cleaned and oiled the past season, and a number have been repacked. Twenty-three new boxes have been put in to cover the stop-cocks put in this year, and seventy-three have been renewed. The stop-cocks, with but one exception, are in good working order.

*Statement of Pipes and other Stock on hand, exclusive of Tools,  
January 1, 1858.*

NUMBER OF	DIAMETER IN INCHES.									
	36	30	24	20	16	12	6	4	2	1½
Pipes, .....	15	70	9	38	21	19	53	81	117	31
Blow-off Branches, .....	2	3								
Y Branches, .....		1			1	2	1			
3-Way Branches, .....	4	4		2		4	11		3	
4-Way Branches, .....		2	1			4	7			
Flange Pipes, .....	8	9	2	2		4	6	20		
Sleeves, .....	5	4	9	3	3	9	6	9	18	
Clamp Sleeves, .....		6	2		3	1	18	13		
Caps, .....		2				1	16	22	13	
Reducers, .....		1		1	1	1	3			
Bevel Hubs, .....							2	7		
Curved Pipes, .....	1	3	1	2	2	2	3	9		
Quarter Turns, .....				4		4	12	4		
Double Hubs, .....				7	7					450
Offset Pipes, .....						1	1	2		
Stop-cocks, .....	4	2	2	3	2	9	2	2		
Pieces of Pipe, .....	7	1	2	2		24	35	21		
Yoke Pipes, .....						2	1			

*Hydrants.*

- 7 Wilmarth,
- 15 Lowell,
- 3 Kingston,
- 5 Hooper,
- 14 Ballardvale,
- 4 Long N. Y. Pattern.

*For Hydrants.* 27 lengtheners, 5 hydrant bends, 4 frames and covers, 6 unfinished boxes, 25 second-hand caps, 4 wharf hydrants, 133 lbs. composition castings, 1 nipple, 16 spare screws, 3 plungers, 2 wharf hydrant boxes, 36 rings, 11 bands, 152 straps, 100 washers, 7 rods.

*For Stop-cocks.* 35 braces, 8 sets of stands and gear for 36 and 30-inch stop-cocks, 20 wrought iron nuts, 157 lbs.  $1\frac{1}{4}$  inch bolts, 150 lbs.  $1\frac{1}{8}$ -inch bolts, 160 lbs.  $\frac{3}{8}$ -inch bolts, 241 lbs.  $\frac{5}{8}$ -inch bolts, 87 lbs.  $\frac{1}{2}$ -inch bolts, 2 36-inch composition screws, 1 30-inch valve, 1 12-inch valve, 6 cast iron nuts, 5 6-inch composition screws, 4 wrought iron screws, 4 sets friction wheels, 180 lbs. old bolts, various sizes, 4 unfinished 6-inch stop-cocks, 6 unfinished 4-inch stop-cocks, 9 unfinished 2-inch stop-cocks, 260 lbs. unfinished composition castings, 2 sample cocks, 2 12-inch plungers.

*For Service Pipes.* 430 square boxes, 41 long boxes, 4 Y boxes, 56 caps, 48 tubes, 7 air cocks, 19 1-inch union cocks, 440  $\frac{5}{8}$ -inch union cocks, 11  $\frac{3}{4}$ -inch T cocks, 117 1-inch T cocks, 27  $\frac{5}{8}$ -inch T cocks, 65 straight cocks, 6  $\frac{5}{8}$ -inch Y cocks, 180  $\frac{5}{8}$ -inch flange cocks, 6  $2\frac{1}{4}$ -inch connection couplings, 55 1-inch do., 121  $\frac{1}{4}$ -inch do., 7  $\frac{3}{4}$ -inch do., 94  $\frac{5}{8}$ -inch do., 40 second hand  $\frac{5}{8}$ -inch union cocks, 80 lbs. old connection couplings, 200 unfinished  $\frac{5}{8}$ -inch union cocks.

*Water Meters.* 28 large size, (2 out of order,) 27 small size, (2 out of order,) 2 power meters, 1 small Philadelphia meter, 783 lbs. connection pipes with couplings, 40 connection nipples, 8 connection couplings.

*Lead Pipe.* 1,100 lbs. 2½-inch, 163 lbs. 1¼-inch, 378 lbs. 1-inch, 672 lbs. ¾-inch, 605 lbs. ⅝-inch, 1,000 lbs. pieces ⅝, ¾, and 1-inch, 159 lbs. ¼-inch, (light.)

*Block Tin Pipe.* 230 lbs. inch and ⅝-inch, 132 lbs. ¾-inch, (old.)

*Block Tin.* 7 lbs.

*Blacksmith's Shop.* 584 lbs. bar iron, 1,868 lbs. working pieces, 414 lbs. steel, 1,700 lbs. scrap iron.

*Miscellaneous.* 75 lbs. spikes, 6 loads cracked stone, 115 tons paving gravel, 2 sets box curbs, 5 man holes for large pipes, ⅓ cord wood, lot of old lumber, 2 tons old cast iron, 175 lbs. old composition, miscellaneous lot of old bolts, cast off drills, parts of stop-cocks, &c., large lot of patterns for stop-cocks, hydrants, proving presses, meters, &c., 500 feet of spruce boards, lot of old machinery from Marlboro', 1 stove and cooking utensils, 46 lbs. solder, 360 lbs. gasket, 400 lbs. sheet lead.

*Stable.* 1,200 lbs. English hay, hay cutter, 2 horses, 3 sets of harnesses, 4 bushels of grain, stable utensils.

*Tools, &c.* 3 wagons, 2 pungs, 3 hand carts, 6 wheelbarrows, 1 hand truck, 1 large hoisting crane, 1 boom derrick, 4 crank derricks, and 2 pairs of shears with apparatus, 3 proving presses with apparatus, complete lot of tools for laying main pipes and service pipes.

*At Beacon Hill Reservoir.* 3,000 feet of old lumber, lot of old iron, tool house, swing stage and irons, capstan frame and levers, 3 boom carriages, 1 large copper ball, 5 large swivel pipe patterns, 1 cast iron drinking fountain, lot of machinery from Marlboro', hand hose, 4 composition cylinders, 9 composition jets, 1 6-inch reducer jet, 3 plate jets, 2 composition caps with hose-cocks, 1 4-inch copper pipe, 3 composition reel jets, 9 cast iron jets.

Respectfully submitted.

JAMES SLADE,

*City Engineer.*



## WATER REGISTRAR'S REPORT.

WATER REGISTRAR'S OFFICE, }  
 Boston, January 1st, 1858. }

HON. JOHN H. WILKINS,

*President of the Cochituate Water Board.*

SIR:—

I herewith submit the following Report, as required by the 16th Section of the Ordinance providing for the care and management of the Boston Water Works, passed October 31st, 1850.

The total number of Water Takers now entered for the year 1858, is 21,602, being an increase since January 1st, 1857, of 796.

During the year there has been 1,055 cases where the water has been shut off for non-payment of water rates, and unnecessary waste of water. Of these, 851 were for non-payment; 204 were for waste.

The number of cases where the water has been turned on, is 1,474. Of these, 632 were cases which had been previously shut off for non-payment of water rates; 163 were those which had been shut off for unnecessary waste of water; and 679 were let on for the first time.

There have been *no abatements* made during the year.

The total amount received, from December 31st, 1856, to January 1st, 1858, is - - \$289,328 83

Of the above, there was received for water used in previous years, the sum of - \$764 28

Leaving the receipts for water used during the year 1857, - - 288,564 55

Amount of water rates, - - - - \$289,328 83

*Amount brought forward,* \$289,328 83  
*A tabular statement of the receipts for the year 1857, is included in this Report.*

In addition to the above, there has been received for letting on water, in cases where it had been shut off for non-payment of water rates, - - - - - 1,226 00

Total amount received during the year, in this office, - - - - - \$290,554 83

The amount of assessments already made for the year 1858, is - - - - - \$247,012 86

The estimated amount of income from the sales of water, during the year 1858, is - - 300,000 00

The expenditures in my department, during the year 1857, have been - - - - - 3,213 14

The items of this expenditure are as follows, viz. :

Paid Chas. L. Bancroft, for services as clerk,	\$782 50
“ Stephen Badlam, “ “ -	782 50
“ Peter H. Niles, for services as inspector,	626 00
“ Charles E. Dunham, “ “ -	626 00
“ George C. Rand & Avery, for printing,	168 24
“ Eayrs & Fairbanks, for stationery, -	116 14
“ T. H. Badlam, for distributing bills, -	24 00
“ J. C. Phelps, “ “ -	23 00
“ Geo. C. Phelps, “ “ -	22 00
“ Charles E. Dodd, “ “ -	22 00
“ Benj. P. Hollis, “ “ -	12 00
“ Stephen Maddox, for washing towels, -	5 76
“ People’s Ferry Co., for tickets, -	3 00
Amount, - - - - -	<u>\$3,213 14</u>



STATEMENT SHOWING THE NUMBER OF HOUSES, STORES, STEAM  
ENGINES, &C., IN THE CITY OF BOSTON, SUPPLIED WITH  
COCHITUATE WATER, TO THE 1ST OF JANUARY, 1858, WITH  
THE AMOUNT OF WATER RATE, PAID FOR 1857.

1,287 Dwelling Houses,	\$6 00	\$7,722 00
1,399 " "	7 00	9,793 00
1,750 " "	8 00	14,000 00
1,955 " "	9 00	17,595 00
1,749 " "	10 00	17,490 00
1,445 " "	11 00	15,895 00
1,141 " "	12 00	13,692 00
768 " "	13 00	9,984 00
564 " "	14 00	7,896 00
446 " "	15 00	6,690 00
471 " "	16 00	7,536 00
360 " "	17 00	6,120 00
243 " "	18 00	4,374 00
227 " "	19 00	4,313 00
144 " "	20 00	2,880 00
139 " "	21 00	2,919 00
132 " "	22 00	2,904 00
80 " "	23 00	1,840 00
84 " "	24 00	2,016 00
62 " "	25 00	1,550 00
84 " "	26 00	2,184 00
32 " "	27 00	864 00
42 " "	28 00	1,176 00
38 " "	29 00	1,102 00
45 " "	30 00	1,350 00
256 " "	31 00	7,936 00
702 " "		4,297 49
<hr/> 15,645		<hr/> \$176,118 49
1 Boarding House,	\$30 00	\$30 00
1 <i>Amounts carried forward,</i>		<hr/> \$30 00 \$176,118 49

1	<i>Amounts brought forward,</i>	\$30 00	\$176,118 49
1	Boarding House,	\$33 00	33 00
2	“ “	35 00	70 00
1	“ “	42 00	42 00
1	“ “	60 00	60 00
1	“ “	63 00	63 00
1	“ “	64 00	64 00
1	“ “	98 00	98 00
1	“ “	284 00	284 00
<hr/>			
10			744 00
<hr/>			
3	Model Houses,	15 00	45 00
9	“ “	18 00	162 00
3	“ “	19 00	57 00
2	“ “	21 00	42 00
9	“ “	24 00	216 00
1	“ “	27 00	27 00
7	“ “	30 00	210 00
2	“ “	33 00	66 00
1	“ “	35 00	35 00
2	“ “	36 00	72 00
4	“ “	39 00	156 00
7	“ “	42 00	294 00
1	“ “	45 00	45 00
4	“ “	48 00	192 00
1	“ “	51 00	51 00
3	“ “	54 00	162 00
1	“ “	57 00	57 00
4	“ “	60 00	240 00
1	“ “	63 00	63 00
2	“ “	66 00	132 00
1	“ “	69 00	69 00
1	“ “	72 00	72 00
1	“ “	75 00	75 00
1	“ “	96 00	96 00
<hr/>			
71	<i>Amounts carried forward,</i>	\$2,636 00	\$176,862 49

71	<i>Amounts brought forward,</i>	\$2,636 00	\$176,862 49
1	Model House,	\$129 00	129 00
1	" "	192 00	192 00
1	" "	210 00	210 00
1	" "		15 75
<hr/>			
75			3,182 75
<hr/>			
1	Lodging House,	9 50	9 50
2	" "	27 00	54 00
1	" "	30 00	30 00
1	" "	45 00	45 00
1	" "	60 00	60 00
<hr/>			
6			198 50
<hr/>			
2,020	Stores and Shops,	6 00	12,120 00
1	" "	8 00	8 00
31	" "	8 50	263 50
700	" "	9 00	6,300 00
7	" "	10 00	70 00
10	" "	11 00	110 00
14	" "	11 50	161 00
16	" "	12 00	192 00
31	" "	14 00	434 00
3	" "	15 00	45 00
2	" "	16 00	32 00
8	" "	16 50	132 00
1	" "	17 00	17 00
1	" "	18 00	18 00
4	" "	19 00	76 00
2	" "	20 00	40 00
1	" "	21 50	21 50
2	" "	24 00	48 00
1	" "	41 75	41 75
1	" "	49 00	49 00
213	" "		896 83
<hr/>			
3,069			21,075 58
			<hr/>
<i>Amount carried forward,</i>			\$201,319 32

		<i>Amount brought forward,</i>	\$201,319 32
135	Offices,	\$6 00	\$810 00
1	"	8 00	8 00
2	"	8 50	17 00
43	"	9 00	387 00
1	"	11 00	11 00
1	"	11 50	11 50
1	"	14 00	14 00
1	"	15 00	15 00
1	"	24 00	24 00
22	"		<u>88 25</u>
<u>208</u>			1,385 75
2	Banks,	6 00	12 00
11	"	9 00	99 00
1	"	11 50	<u>11 50</u>
14	"		122 50
2	Buildings,	10 00	20 00
1	"	11 25	11 25
9	"	12 00	108 00
2	"	12 50	25 00
1	"	14 00	14 00
41	"	15 00	615 00
3	"	17 00	51 00
1	"	17 50	17 50
7	"	18 00	126 00
13	"	20 00	260 00
2	"	21 00	42 00
1	"	22 50	22 50
2	"	23 00	46 00
14	"	25 00	350 00
1	"	28 00	28 00
1	"	29 00	29 00
8	"	30 00	<u>240 00</u>
<u>109</u>	<i>Amounts carried forward,</i>	<u>\$2,005 25</u>	<u>\$202,827 57</u>

109	<i>Amounts brought forward,</i>		\$2,005 25	\$202,827 57
1	Building,	\$30 50	30 50	
2	"	32 00	64 00	
1	"	32 50	32 50	
1	"	35 00	35 00	
2	"	36 00	72 00	
1	"	36 50	36 50	
1	"	37 00	37 00	
6	"	40 00	240 00	
1	"	44 00	44 00	
1	"	45 00	45 00	
1	"	48 00	48 00	
2	"	49 00	98 00	
3	"	50 00	150 00	
2	"	52 50	105 00	
1	"	55 00	55 00	
1	"	57 50	57 50	
1	"	60 00	60 00	
1	"	62 00	62 00	
1	"	70 00	70 00	
1	"	73 00	73 00	
1	"	73 95	73 95	
1	"	74 00	74 00	
1	"	78 00	78 00	
1	"	86 00	86 00	
1	"	120 00	120 00	
1	"	130 00	130 00	
1	"	142 50	142 50	
2	"		14 00	
<u>149</u>				4,138 70
37	Churches,	6 00	222 00	
1	"	8 00	8 00	
1	"	9 00	9 00	
1	"	10 00	10 00	
<u>40</u>	<i>Amounts carried forward,</i>		\$249 00	\$206,966 27

40	<i>Amounts brought forward,</i>		\$249 00	\$206,966 27
1	Church,	\$14 00	14 00	
1	"	15 00	15 00	
2	"	20 00	40 00	
<hr/>				
44				318 00
<hr/>				
7	Halls,	6 00	42 00	
6	"	9 00	54 00	
1	"	14 00	14 00	
2	"	15 00	30 00	
3	"		15 67	
<hr/>				
19				155 67
<hr/>				
3	Private Schools,	6 00	18 00	
2	" "	9 00	18 00	
2	" "	14 00	28 00	
1	" "	15 00	15 00	
1	" "	18 00	18 00	
1	" "	30 00	30 00	
<hr/>				
10				127 00
<hr/>				
1	Theatre,	10 00	10 00	
1	"	25 00	25 00	
1	"	93 75	93 75	
1	Green House,	11 25	11 25	
1	Custom House,	156 00	156 00	
1	Hospital,	160 75	160 75	
1	Medical College,	30 00	30 00	
1	State House,	134 50	134 50	
1	Library,	9 00	9 00	
1	"	43 95	43 95	
1	Asylum,	15 00	15 00	
2	"	25 00	50 00	
2	"	40 00	80 00	
1	"	96 13	96 13	
1	"	242 80	242 80	
<hr/>				
17				1,158 13
				<hr/>
<i>Amount carried forward,</i>				\$208,725 07

	<i>Amount brought forward,</i>		\$208,725 07
38	Market Stalls,	\$6 00	\$228 00
5	“ “	10 00	50 00
1	“ “	4 00	4 00
2	Markets,	25 00	50 00
1	“	47 00	47 00
1	“	64 00	64 00
1	“	69 00	69 00
<hr/>	49		512 00
112	Cellars,	6 00	672 00
2	“	9 00	18 00
15	“		59 25
<hr/>	129		749 25
7	Hotels,	15 00	105 00
1	“	16 00	16 00
1	“	18 00	18 00
1	“	20 00	20 00
1	“	21 00	21 00
2	“	24 00	48 00
1	“	27 00	27 00
2	“	30 00	60 00
1	“	33 00	33 00
1	“	35 00	35 00
1	“	36 00	36 00
2	“	42 00	84 00
2	“	44 00	88 00
1	“	48 00	48 00
1	“	51 00	51 00
1	“	56 00	56 00
1	“	58 00	58 00
2	“	60 00	120 00
1	“	66 99	66 99
2	“	69 00	138 00
<hr/>	32	<i>Amounts carried forward,</i>	\$1,128 99 \$209,986 32

32	<i>Amounts brought forward,</i>		\$1,128 99	\$209,986 32
1	Hotel,	\$70 45	70 45	
1	"	74 00	74 00	
1	"	84 00	84 00	
1	"	87 00	87 00	
1	"	94 32	94 32	
1	"	102 00	102 00	
2	"	111 00	222 00	
1	"	124 85	124 85	
1	"	127 00	127 00	
1	"	129 60	129 60	
1	"	134 60	134 60	
1	"	138 00	138 00	
1	"	140 00	140 00	
1	"	144 00	144 00	
1	"	153 80	153 80	
1	"	175 00	175 00	
1	"	213 80	213 80	
1	"	230 00	230 00	
1	"	261 00	261 00	
1	"	271 00	271 00	
1	"	289 00	289 00	
1	"	354 00	354 00	
1	"	385 00	385 00	
1	"	411 00	411 00	
1	"	465 00	465 00	
1	"	536 00	536 00	
1	"	672 00	672 00	
1	"	790 00	790 00	
<hr/>				
61				8,007 41
<hr/>				
11	Restaurants and Sa-			
	loons,	6 00	66 00	
1	"	" 8 00	8 00	
236	"	" 9 00	2,124 00	
<hr/>				
248	<i>Amounts carried forward,</i>		\$2,198 00	\$217,993 73



248	<i>Amounts brought forward,</i>		\$2,198 00	\$217,993 73
5	Restaurants and Sa-			
	loons,	\$10 00	50 00	
1	"	" 11 00	11 00	
2	"	" 11 50	23 00	
38	"	" 12 00	456 00	
1	"	" 13 00	13 00	
28	"	" 15 00	420 00	
2	"	" 17 00	34 00	
1	"	" 17 50	17 50	
4	"	" 18 00	72 00	
2	"	" 20 00	40 00	
1	"	" 23 00	23 00	
2	"	" 25 00	50 00	
4	"	" 30 00	120 00	
1	"	" 35 00	35 00	
1	"	" 40 00	40 00	
33	"	"	<u>186 49</u>	
374				3,788 99
1	Club House,	15 00	15 00	
1	" "	50 00	50 00	
1	" "	53 00	53 00	
1	" "	60 00	60 00	
4			<u>178 00</u>	178 00
1	Bathing House,	19 00	19 00	
1	" "	20 00	20 00	
1	" "	25 00	25 00	
1	" "	30 00	30 00	
1	" "	40 00	40 00	
1	" "	50 00	50 00	
1	" "	55 00	55 00	
1	" "	135 00	<u>135 00</u>	
8				<u>374 00</u>
	<i>Amount carried forward,</i>			<u>\$222,334 72</u>

		<i>Amount brought forward,</i>	\$222,334 72
290	Stables,	\$5 00	\$1,450 00
28	"	6 00	168 00
48	"	6 25	300 00
1	"	6 75	6 75
32	"	7 50	240 00
24	"	8 00	192 00
1	"	8 50	8 50
22	"	8 75	192 50
1	"	9 00	9 00
1	"	9 75	9 75
26	"	10 00	260 00
11	"	11 25	123 75
1	"	11 50	11 50
6	"	12 00	72 00
16	"	12 50	200 00
1	"	13 25	13 25
6	"	13 75	82 50
1	"	14 00	14 00
10	"	15 00	150 00
1	"	16 00	16 00
2	"	16 25	32 50
1	"	16 50	16 50
4	"	17 50	70 00
3	"	18 00	54 00
5	"	18 75	93 75
6	"	20 00	120 00
1	"	21 25	21 25
7	"	22 50	157 50
1	"	23 75	23 75
3	"	24 00	72 00
4	"	25 00	100 00
1	"	26 00	26 00
1	"	27 50	27 50
<hr/>			
556	<i>Amounts carried forward,</i>	\$4,334 25	\$222,434 72

556	<i>Amounts brought forward,</i>		\$4,334 25	\$222,334 72
1	Stable,	29 50	29 50	
10	"	30 00	300 00	
2	"	31 25	62 50	
2	"	32 00	64 00	
1	"	34 00	34 00	
1	"	35 00	35 00	
3	"	36 00	108 00	
2	"	38 00	76 00	
6	"	40 00	240 00	
2	"	45 00	90 00	
4	"	50 00	200 00	
1	"	52 00	52 00	
1	"	54 00	54 00	
4	"	56 00	224 00	
6	"	60 00	360 00	
1	"	66 00	66 00	
2	"	70 00	140 00	
1	"	72 00	72 00	
3	"	75 00	225 00	
1	"	76 00	76 00	
2	"	90 00	180 00	
2	"	100 00	200 00	
1	"	101 25	101 25	
1	"	110 00	110 00	
1	"	112 00	112 00	
1	"	117 00	117 00	
1	"	120 00	120 00	
1	"	130 00	130 00	
3	"	141 00	423 00	
1	"	142 50	142 50	
1	"	160 00	160 00	
52	"		291 10	
<u>687</u>				<u>8,929 10</u>
	<i>Amount carried forward,</i>			<u>\$231,263 82</u>

<i>Amount brought forward,</i>			\$231,263 82
5	Shops and Engines,	\$12 00	\$60 00
1	"	" 14 00	14 00
4	"	" 15 00	60 00
1	"	" 15 35	15 35
1	"	" 15 66	15 66
1	"	" 17 16	17 16
1	"	" 20 16	20 16
1	"	" 20 42	20 42
1	"	" 20 88	20 88
1	"	" 23 34	23 34
1	"	" 28 62	28 62
1	"	" 30 66	30 66
1	"	" 31 92	31 92
1	"	" 33 90	33 90
1	"	" 34 74	34 74
1	"	" 36 00	36 00
1	"	" 38 34	38 34
1	"	" 42 42	42 42
1	"	" 48 24	48 24
1	"	" 52 12	52 12
1	"	" 53 20	53 20
1	"	" 54 50	54 50
1	"	" 58 20	58 20
1	"	" 66 66	66 66
1	"	" 66 78	66 78
1	"	" 67 33	67 33
1	"	" 68 16	68 16
1	"	" 73 68	73 68
1	"	" 74 58	74 58
1	"	" 88 28	88 28
1	"	" 89 15	89 15
1	"	" 89 20	89 20
1	"	" 102 00	102 00
<hr/>			
40	<i>Amounts carried forward,</i>		\$1,595 65 \$231,263 82

40	<i>Amounts brought forward,</i>	\$1,595 65	\$231,263 82
1	Shop and Engine, \$102 90	102 90	
1	" " 102 96	102 96	
1	" " 103 50	103 50	
1	" " 123 06	123 06	
1	" " 125 52	125 52	
1	" " 125 53	125 53	
1	" " 128 04	128 04	
1	" " 135 33	135 33	
1	" " 139 56	139 56	
1	" " 150 00	150 00	
1	" " 155 70	155 70	
1	" " 159 00	159 00	
1	" " 163 38	163 38	
1	" " 164 34	164 34	
1	" " 172 44	172 44	
1	" " 192 84	192 84	
1	" " 205 56	205 56	
1	" " 226 88	226 88	
1	" " 275 46	275 46	
<hr/>			
59			4,547 65
1	Foundry & Engine, 12 58	12 58	
1	" " 20 00	20 00	
1	" " 33 20	33 20	
1	" " 35 18	35 18	
1	" " 57 87	57 87	
1	" " 59 52	59 52	
1	" " 62 80	62 80	
1	" " 74 70	74 70	
1	" " 115 44	115 44	
1	" " 133 16	133 16	
1	" " 136 12	136 12	
1	" " 367 60	367 60	
<hr/>			
12			1,108 17
<i>Amount carried forward,</i>			<hr/> \$236,919 64

	<i>Amount brought forward,</i>				\$236,919 64
1	Printing Office and				
		Engine,	\$17 74	\$17 74	
1	"	"	19 00	19 00	
1	"	"	24 96	24 96	
1	"	"	27 10	27 10	
1	"	"	29 12	29 12	
1	"	"	34 28	34 28	
1	"	"	41 14	41 14	
1	"	"	42 18	42 18	
1	"	"	44 50	44 50	
1	"	"	56 28	56 28	
1	"	"	90 20	90 20	
1	"	"	121 58	121 58	
1	"	"	137 98	137 98	
1	"	"	150 96	150 96	
<hr/>					
14					837 02
<hr/>					
1	Ship Yard & Engine,		119 24	119 24	
<hr/>					
1					119 24
<hr/>					
1	Factory & Engine,		12 00	12 00	
1	"	"	13 56	13 56	
1	"	"	20 18	20 18	
1	"	"	28 20	28 20	
1	"	"	53 88	53 88	
1	"	"	63 00	63 00	
1	"	"	63 16	63 16	
1	"	"	78 48	78 48	
1	"	"	84 24	84 24	
1	"	"	89 20	89 20	
1	"	"	91 56	91 56	
1	"	"	91 98	91 98	
1	"	"	97 37	97 37	
1	"	"	99 00	99 00	
<hr/>					
14	<i>Amounts carried forward,</i>		\$885 81	\$237,875 90	

14	<i>Amounts brought forward,</i>		\$885 81	\$237,875 90
1	Factory & Engine,	\$99 78	99 78	
1	" "	114 12	114 12	
1	" "	116 80	116 80	
1	" "	121 92	121 92	
1	" "	124 12	124 12	
1	" "	132 60	132 60	
1	" "	134 38	134 38	
1	" "	145 50	145 50	
1	" "	154 56	154 56	
1	" "	180 24	180 24	
1	" "	189 31	189 31	
1	" "	190 20	190 20	
1	" "	232 96	232 96	
1	" "	246 12	246 12	
1	" "	327 12	327 12	
1	" "	360 64	360 64	
1	" "	469 00	469 00	
<hr/>				
31				4,225 18
<hr/>				
3	Factories,	10 00	30 00	
1	"	10 75	10 75	
3	"	12 00	36 00	
1	"	14 00	14 00	
8	"	15 00	120 00	
1	"	18 00	18 00	
2	"	20 00	40 00	
1	"	21 00	21 00	
2	"	25 00	50 00	
2	"	30 00	60 00	
1	"	37 50	37 50	
1	"	39 08	39 08	
1	"	51 00	51 00	
1	"	51 79	51 79	
<hr/>				
28	<i>Amounts carried forward,</i>		\$579 12	\$242,101 08

28	<i>Amounts brought forward,</i>		\$579 12	\$242,101 08
1	Factories,	\$68 07	68 07	
1	"	129 32	129 32	
1	"	149 04	149 04	
1	"	6 75	6 75	
<hr/>				
32				932 30
<hr/>				
1	Gas Light Co.,	57 60	57 60	
1	" " "	94 00	94 00	
1	" " "	386 74	386 74	
<hr/>				
3				538 34
<hr/>				
1	Sugar Refinery,	2,385 27	2,385 27	
1	" "	3,036 48	3,036 48	
<hr/>				
2				5,421 75
<hr/>				
1	Mill and Engine,	57 89	57 89	
1	" "	68 43	68 43	
1	" "	72 96	72 96	
1	" "	73 26	73 26	
1	" "	132 00	132 00	
1	" "	361 28	361 28	
1	" "	408 30	408 30	
1	" "	695 66	695 66	
1	" "	842 40	842 40	
1	" "	1,916 42	1,916 42	
1	" "	1,904 82	1,904 82	
<hr/>				
11				6,533 42
<hr/>				
4	Engines,	7 83	31 32	
1	"	9 00	9 00	
1	"	12 00	12 00	
7	"	15 00	105 00	
1	"	18 00	18 00	
1	"	18 08	18 08	
1	"	18 78	18 78	
<hr/>				
16	<i>Amounts carried forward,</i>		\$212 18	\$255,526 89



16	<i>Amounts brought forward,</i>		\$212 18	\$255,526 89
1	Engine,	\$25 56	25 56	
1	"	36 06	36 06	
1	"	58 92	58 92	
1	"	58 98	58 98	
1	"	62 37	62 37	
1	"	76 80	76 80	
1	"	95 46	95 46	
1	"	103 62	103 62	
1	"	117 24	117 24	
1	"	126 66	126 66	
1	"	187 18	187 18	
1	"	188 04	188 04	
<hr/>				
28				1,349 07
<hr/>				
15	Printing Offices,	6 00	90 00	
13	" "	9 00	117 00	
2	" "	10 00	20 00	
3	" "	12 00	36 00	
3	" "	13 00	39 00	
1	" "	17 00	17 00	
3	" "	21 00	63 00	
1	" "	25 00	25 00	
1	" "	28 00	28 00	
2	" "		6 50	
<hr/>				
44				441 50
<hr/>				
1	Distillery,	72 00	72 00	
1	"	75 00	75 00	
1	"	79 20	79 20	
1	"	108 36	108 36	
1	"	113 40	113 40	
1	"	166 90	166 90	
1	"	218 96	218 96	
1	"	229 68	229 68	
<hr/>				
8	<i>Amounts carried forward,</i>		\$1,063 50	\$257,317 46

8	<i>Amounts brought forward,</i>	\$1,063 50	\$257,317 46
1	Distillery,	\$292 08	292 08
1	“	476 72	476 72
1	“	610 14	610 14
<hr/>			
11			2,442 44
<hr/>			
5	Breweries,	15 00	75 00
1	“	18 00	18 00
1	“	25 00	25 00
1	“	66 95	66 95
1	“	75 00	75 00
1	“	1,005 36	1,005 36
1	“		5 83
<hr/>			
11			1,271 14
<hr/>			
1	Bacon Works,	15 00	15 00
1	“ “	25 00	25 00
<hr/>			
2			40 00
<hr/>			
2	Bleacheries,	9 00	18 00
2	“	10 00	20 00
1	“	12 00	12 00
1	Laundry,	25 00	25 00
1	Pottery,	30 00	30 00
<hr/>			
7			105 00
<hr/>			
43	Bakeries,	6 00	258 00
12	“	9 00	108 00
1	“	10 00	10 00
1	“		3 00
<hr/>			
57			379 00
<hr/>			
1	Bakery and Engine,	18 00	18 00
1	“ “	36 76	36 76
1	“ “	53 64	53 64
<hr/>			
3			108 40
<hr/>			
	<i>Amount carried forward,</i>		\$261,663 44

				\$261,663 44
<i>Amount brought forward,</i>				
5	Ship Yards,	\$15 00	\$75 00	
1	“ “	10 00	10 00	
1	“ “		7 50	
2	Dry Docks,	15 00	30 00	
1	“ “	53 18	53 18	
1	“ “	65 87	65 87	
<hr/>				
11				241 55
733	Hose,	3 00	2,199 00	
1	“	5 00	5 00	
1	“	6 00	6 00	
5	“	10 00	50 00	
<hr/>				
740				2,260 00
9	Fountains,	3 00	27 00	
10	“	5 00	50 00	
6	“	6 00	36 00	
1	“	7 00	7 00	
2	“	8 00	16 00	
1	“	12 00	12 00	
4	“	15 00	60 00	
1	“	25 00	25 00	
1	“	26 00	26 00	
<hr/>				
35				259 00
2	Packing Houses,	9 00	18 00	
3	“ “	15 00	45 00	
1	“ “	30 00	30 00	
1	“ “	35 00	35 00	
<hr/>				
7				128 00
1	Railroad Co.	148 70	148 70	
1	“	205 00	205 00	
1	“	361 00	361 00	
1	“	459 00	459 00	
1	“	893 94	893 94	
1	“	911 75	911 75	
<hr/>				
6	<i>Amounts carried forward,</i>		\$2,979 39	\$264,551 99

6	<i>Amounts brought forward,</i>	\$2,979 39	\$264,551 99
1	Railroad Co.	\$1,011 26	1,011 26
1	"	1,613 22	1,613 22
1	"	1,928 18	1,928 18
<hr/>			
9			7,532 05
<hr/>			
1	Chelsea Ferry Co.	1,239 74	1,239 74
1	E. Boston Ferry Co.	691 94	691 94
<hr/>			
2			1,931 68
<hr/>			
1	Cunard St'mship Co.	700 00	700 00
1	Steamboat,	10 00	10 00
1	"	13 25	13 25
1	"	25 75	25 75
1	"	28 00	28 00
1	"	30 00	30 00
1	"	35 00	35 00
1	"	35 69	35 69
1	"	38 08	38 08
1	"	57 12	57 12
1	"	62 62	62 62
1	"	62 70	62 70
1	"	62 84	62 84
1	"	63 27	63 27
1	"	67 42	67 42
1	"	82 50	82 50
1	"	92 56	92 56
1	"	116 80	116 80
1	"	124 78	124 78
1	"	127 07	127 07
1	"	130 52	130 52
1	"	131 04	131 04
1	"	140 00	140 00
1	"	149 92	149 92
2	"	168 70	337 40
1	"	171 50	171 50
<hr/>			
27	<i>Amounts carried forward,</i>	\$2,895 83	\$274,015 72

27	* Amounts brought forward,	\$2,895 83	\$274,015 72
1	Steamboat,	219 00	219 00
1	“	293 80	293 80
2	“	629 09	1,258 18
<hr/>			
31			4,666 81
<hr/>			
1	Latin School,	16 00	16 00
1	English High School,	16 00	16 00
1	Normal “	16 00	16 00
17	Grammar “	16 00	272 00
202	Primary “	6 00	1,212 00
13	Engine Houses,	16 00	208 00
5	Hose Carriage Houses,	16 00	80 00
3	Hook and Ladder Houses,	16 00	48 00
6	Police Station Houses,	11 00	66 00
2	Police Station Houses,	16 00	32 00
1	City Stable (Harrison Avenue,)	77 50	77 50
1	City Stable, (Com- mercial Street,)	27 50	27 50
5	Fire Alarm Motors,	6 00	30 00
1	“ “ “	15 00	15 00
1	Court House,	95 00	95 00
1	City Hall,	50 00	50 00
1	Faneuil Hall,	40 00	40 00
1	City Building,	37 50	37 50
1	Probate Office,	10 00	10 00
1	Office at City Scales,	9 00	9 00
1	Dead House,	9 00	9 00
1	Public Library,	6 00	6 00
1	House of Correc- tion,	374 72	374 72
<hr/>			
268	Amounts carried forward,	\$2,747 22	\$278,682 53

268	<i>Amounts brought forward,</i>	\$2,747 22	\$278,682 53
1	Lunatic Hospital, \$225 00	225 00	
1	House of Reforma- tion,	50 00	50 00
1	Faneuil Hall Mar- ket, for Urinals, &c.	70 00	70 00
1	Street Sprinkling,	400 00	400 00
1	Offal Station,	150 00	150 00
1	Common Sewer (for making Mortar, &c.)	75 00	75 00
1	Store, (Faneuil Hall,)	6 00	6 00
1	House, (Vine St.)	7 00	7 00
1	Steamer, (Henry Morrison,)	192 56	192 56
1	Jail for Suffolk County,	243 00	243 00
<u>278</u>			<u>4,165 78</u>
	Mass. State Prison,	478 04	478 04
	Mill Dam Co.	300 00	300 00
	Contractors for sup- plying shipping,	3,898 24	3,898 24
	Building purposes,	1,039 96	1,039 96
			<u>5,716 24</u>
			<u><u>\$288,564 55</u></u>

STATEMENT SHOWING THE NUMBER AND KINDS OF WATER FIXTURES, CONTAINED WITHIN THE PREMISES OF WATER TAKERS, IN THE CITY OF BOSTON, IN 1853 AND 1857, AND IS DESIGNED TO SHOW THE INCREASING DEMAND UPON THE WORKS, RATHER THAN THE REVENUE.

1853	1857	
3,968	4,434	Taps. These have no connection with any drain or sewer.
19,287	25,207	Sinks.
3,149	6,573	Wash-hand Basins.
1,838	2,941	Bathing Tubs. Most of these have shower baths attached.
1,622	2,765	Pan Water Closets.
698	3,215	Hopper Water Closets.
218	573	Urinals.
476	1,566	Wash Tubs. These are permanently attached to the buildings.
14	20	Shower Baths. In houses where there is no tub.
9	9	Rams.
315	585	Private Hydrants.
31,594	47,888	TOTALS.

All of the above, with the exception of the 4,434 Taps, are connected by drains with the common sewers.

Respectfully submitted.

WILLIAM F. DAVIS,

*Water Registrar.*

















**PUBLIC LIBRARY**  
OF THE  
**CITY OF BOSTON.**

---

**ABBREVIATED REGULATIONS.**

One volume can be taken at a time from the Lower Hall, and one from the Bates Hall.  
Books can be kept out 14 days.

A fine of 2 cents for each volume will be incurred for each day a book is detained more than 14 days.

Any book detained more than a week beyond the time limited, will be sent for at the expense of the delinquent.

No book is to be lent out of the household of the borrower.

The Library hours for the delivery and return of books are from 10 o'clock, A. M., to 8 o'clock, P. M., in the Lower Hall; and from 10 o'clock, A. M., until one half hour before sunset in the Bates Hall.

Every book must, under penalty of one dollar, be returned to the Library at such time in August as shall be publicly announced.

The card must be presented whenever a book is returned. For renewing a book the card must be presented, together with the book, or with the shelf-numbers of the book.

