

Report of the WATERING COMMITTEE, to the select and Common Councils. Read in Select Council, Jan. 8, 1824.

The Watering Committee, in obedience to the established regulation of Councils, present their Annual Report, with the accounts necessary to elucidate their expenditures and proceedings for the past year, and an estimate of the sums which will be required to carry on the works for the present year.

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| The amount expended in 1823, per account No. 1, was | \$69268 54 |
| Of which there was expended, for iron pipes, | \$25672 60 |
| Damages, | 19067 08 |
| | 44679 68 |
| Leaving, for other objects, for which there was estimated, | 24588 86 |
| | 17500 00 |
| Exhibiting an excess of expenditure, of from which should be deducted the sum received from the administrators of Ariel Cooley, deceased, for work left unfinished by him, the cost of which constitutes part of this excess, amounting to | 7088 86 |
| | 2000 00 |
| Leaving the final excess to be | 5088 86 |

The excess may readily be accounted for, when it is considered how difficult it is to estimate the sums necessary to liquidate large concerns drawing to a close; to which is to be added the expense of a new roof for the old engine house, the repairs of that building, and putting it in a decent state, after the injuries it had sustained by time, and by the effects of the severe blasting of the rocks for the new works; and furthermore, the alteration of the new pumps, at the commencement of their operation, which was not estimated for. The debts of the works are now all settled, and the future estimates can be accurately stated.

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| To meet the deficiency of And to provide for the expenses of 1824, for the new works, hydraut pumps, repairs of wooden pipes, salaries, &c., amounting, by the estimate herewith, No. 5, to | \$5088 86 |
| | 12000 00 |
| Being together | 17088 86 |
| There is in the Treasury the water rents received in 1823, amounting, by account No. 6, to | 23779 62 |
| Sundry sums paid into the Treasury by the Superintendent, (exclusive of \$2400 received from the estate of A. Cooley,) per account No. 2, | 2778 95 |
| Sundry sums paid into the Treasury by the Register, for water rents received in advance, and for permits, as appears by account No. 7, | 2253 47 |
| Making together | 28792 04 |
| And leaving a surplus now in the Treasury of | 11705 18 |

From which it appears, that, throwing out of view the sum applied to permanent improvements, on the one hand, and the receipts for wood, and other objects not permanent in their nature, on the other, the surplus of the income beyond the expenditure is upwards of fourteen thousand five hundred dollars.

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| The sum remaining unexpended of the appropriation for iron pipes, as appears by last year's report, was | \$16712 92 |
| Besides the authority to raise on loan, agreeably to the Ordinance of Jan. 17, 1822, the sum of | 25000 00 |
| And a further sum, agreeably to the Ordinance of Nov. 27, 1823, of | 26000 00 |
| Amounting together to | 67712 92 |
| There was expended in 1823, for laying iron pipes, the sum of | 25672 60 |
| Leaving for the operations of 1824, the sum of | 42040 32 |

And here the Committee have the pleasure to state, that the contract for iron pipes for the present year has been made on the most advantageous terms; the difference in favour of the city, between the prices paid last year, and the present contract, being equal to \$957 dollars, 3 cents. The balance unexpended of the sums appropriated for damages, was, on the 6th of Jan. 1823,

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| \$3643 17 | |
| And agreeably to an Ordinance passed Feb. 4, 1823, \$20500 has been raised on loan for this object; and there remains to be raised, under the authority of the same Ordinance, a further sum of \$4500, which together amount to | 25000 00 |
| Making the whole sum of | 28643 17 |
| Of which there was expended last year | 19067 08 |
| Leaving in reserve for this object | 9576 09 |

The Committee would hope, that as the damages have been generally settled with those who have in their opinion really suffered injury by the erection of the dam, that the sum to be paid hereafter will be small. Where lands or mills have been overflowed or backed upon, the Committee have promptly proceeded to do justice to the parties, either by a reference or by compromise, and sometimes by both; but where claims have been made which in the opinion of counsel were not supported in law, they have been resisted, and will in all cases be decided by the proper tribunal. None of them have yet come to a hearing, though the Committee have thrown no difficulty in the way, but on the contrary, have facilitated their progress as much as was in their power.

In the last Annual Report, the Committee communicated the lamented decease of Mr. Cooley, who had not entirely completed his contract: but, as his affairs were left in the hands of administrators residing at a considerable distance, it was thought best to receive from them a sum of money, in lieu of the labour to be performed; and two thousand dollars was finally agreed upon, which has been paid into the Treasury.

The two large estates of Mr. Cooley, mortgaged as a guarantee for the safety of the dam and works for five years from February last, are still held for the purpose for which they were granted.

The further accounts herewith submitted, and which the Committee request may be considered as part of their report, are,

No. 3, being a statement of the wooden pipes used in repairs.
 No. 4, showing the quantity of iron pipes, lead, &c. on hand.
 No. 8 is a list of the manufactories, dwellings, &c. furnished with Schuylkill water.
 No. 9 exhibits an account of the water rents for the present year, amounting to 26191 dolls. 5 cts.
 The Committee have great satisfaction in communicating the pleasing circumstance of the rapid advance of the income from the water rents, and at the same time to state the beneficial result of the new system for their collection, which has placed them in the Treasury many months sooner than heretofore, and at a very reduced price in the cost of collection and allowances. Three-fourths of the rents were in the Treasury by the 1st of June last, and the whole amount by the 1st of August; when formerly, very little more than a third was collected by the 1st of November, and the whole not before the 1st of February in the following year: making a difference, in interest alone, equal to the whole expense of collection. Another advantage arises from the accounts being closed in the year to which they belong, thus enabling the duplicates to be made out for the collectors as soon as they are appointed by the mayor, on the first Monday of January.

The experience of another year has furnished results that will probably be interesting to Councils; and the committee therefore trespass a little in detailing the beneficial effects produced by the new Water Works at Fair Mount, which have exceeded the warmest anticipation of their most sanguine friends. The calculations formed were of the most cautious kind, for there was little experience to guide in the construction of water works, calculated to raise water, and hence it was stated; that forty gallons upon the wheel would be required to raise one to the reservoir, but experience has shown that thirty are more than ample, thus at once increasing the calculation of the water power of the river one-third; the quantity raised, was also underrated at one million of gallons in 24 hours for each wheel and pump; it may now be safely stated at 1,250,000 supposing the wheel to work during the whole time, but this is not always the case; as the tide occasionally makes it prudent to stop them, to prevent straining the works.

An experiment was made in July last for 18 days, during which time four fire plugs were constantly in use, during the day time, in washing the gutters, when two wheels and pumps were found adequate to supply the demand, and working only 14 hours in 24, and the consumption of water was 1,616,160 gallons in the same period of 24 hours. In October last, the three wheels were found sufficient to supply the city in eight hours, equal to one wheel for 24 hours, and supplying 1,250,000 gallons.

In the last month, the wheels were stopped three days on account of the water being disturbed by a freshet, during which time the reservoir fell 52 inches; after the water had settled, the three wheels were put in operation, and besides supplying the city with about 1,250,000 gallons, they filled the reservoir in 24 hours, equal in all to 3,750,000 gallons; the demand of the city for water in very cold weather, may be stated at about a million of gallons.

The advantage of the large reservoirs is particularly observable during a freshet in the river, as the city can be supplied for several days with clear water from them, whilst the muddy water is running off, during which time the wheels are of course stopped.

Two men are found sufficient to attend the works, twelve hours at a time alternately, night and day, and the calculation made last year of four dollars per day for wages, fuel, light, tallow, &c. is, upon experience, found to be ample. The plan of warming the house has completely answered the object proposed, and no ice has formed in the coldest weather, on the wheels or in the pumps.

The whole cost of the new works, including the damages, the new reservoir, and the preparation for a third one, is \$82,512 dollars, the interest on which, at the rates the money was borrowed, amounts to 24,230 dollars, a sum not much exceeding that formerly appropriated every year out of the city taxes for support of the steam engines, besides consuming the whole of the water rents; the contrast is most pleasing; when it is seen that the water rents are so much disengaged, as to place in the treasury, from their avails, upwards of 14,500 dollars, whilst the sums heretofore appropriated of the taxes for the steam engines, go to meet the interest on the debt for the erection of the works.

But this is not the whole advantage—it was not possible with the steam engines that a million and a quarter of gallons could be raised—now three times that quantity can be had without any increase of expense; but if the same quantity were required to be raised by additional steam engines, the annual expense, would be at least 75,000 dollars, or in other words, the expense, (exclusive of the first cost of the steam engines, and of the water works,) would be two hundred and six dollars per day, to raise three millions and three quarters of gallons by steam, which is now done for \$4 per day by water, with this further advantage, that with the expenditure of not more than fifty thousand dollars, for five new wheels and pumps, the quantity can be increased to ten millions of gallons in twenty four hours, the water power being sufficient to raise even more if required.

An additional quantity of 6,750,000 gallons, raised by steam engines, would cost

three hundred and forty-four dollars per day, making the whole expense to raise ten millions of gallons by steam; \$550 per day, whilst the same quantity can be raised by water for ten dollars per day, which includes the present expense, (before mentioned,) of four dollars per day, and an allowance of six dollars for additional hands, fuel, tallow, &c. without estimating the interest on the first cost of either species of engines and pumps.

A further trial of the dam took place last month, from a severe freshet which rose only five feet on the dam, whilst three miles above, the water rose fourteen feet, bringing with it all the ice of the river. Not the slightest injury was sustained—no accident whatever has occurred to any part of the works during the last year, during which they performed in the most satisfactory manner; the same observation may be made as to the iron pipes in the streets, of which there are about nine miles laid, without the occurrence of a leak.

The Committee, upon the happy state of affairs, above detailed, renew their congratulations to Councils.

By order of the Watering Committee,
 JOSEPH S. LEWIS, Chairman.
 January 3, 1824.