

CITY OF RICHMOND.

IN COMMON COUNCIL.

12th May, 1834.

THE President submitted a Report from the Watering Committee, for the year commencing 1st May, 1833, and ending 30th April, 1834—which was ordered to be published in each of the daily papers of the city.

Teste, WM. P. SHEPPARD, Clk C. C.

The Watering Committee of the City of Richmond, in compliance with the provisions of the Ordinance passed 27th February, 1833, entitled "An Ordinance concerning the Water Works of the City of Richmond," respectfully report to the Common Council of the City of Richmond, in Common Hall assembled—That the whole amount of disbursements on account of the Water Works, from the 1st of May, 1833, to the 30th April, 1834, as per Chamberlain's books, is

\$19,765 37

Of which there has been expended in the construction of an additional reservoir and filre,

\$3,748 79

In the erection of an additional pump, water wheel and line of pipes from the pump house to the reservoir, about the sum of

10,032 33

And for materials, labour, &c. in distributing water for family supplies, consisting of pipes, hydrants and fixtures, and salary of superintendent, about

5,984 27

\$19,765 37

That the receipts within the same period, as per Chamberlain's books, amount to

\$6,483 42

Of which there was received for water rents

\$3,358 93

From persons for introducing water into their lots, &c.

2,679 84

And on account of percentage due for said purpose

444 65

\$6,483 42

That the whole cost of the City Water Works from the commencement to the 1st day of May, 1833, was, as per Report

\$82,674 00

To which now add, Amount disbursed from 1st May, 1833, to 30th April, 1834, as above

19,765 37

\$102,439 37

And deduct amount received as above for water rents

\$3,358 93

For introducing water

2,679 84

And amount due by individuals for fixtures supplied since 1st May, 1833, as per Chamberlain's report

2,487 84

8,526 61

And the whole cost of Water Works to 1st May, 1834, will be

\$93,912 76

But to this sum may be added the interest paid by the City on the money borrowed to carry on the works; and there should be deducted the amount due for water rents, charged and due on the 1st of Feb'y last, and the materials on hand.

Since the 1st day of May, 1833, the following extensions of pipes have been made by virtue of your resolution of the 14th of March, 1832, viz In 3d street, from E to F streets, and in F street from 3d street towards 4th street, about 500 feet of 1½ inch pipes and one stop-cock. In 6th from G street towards F street 285 feet 1½ inch pipe, and one stop cock. In F street, from 13th street to the line of the Presbyterian Church, about 19 feet 3 inch pipe.

Within the same period water has been supplied as follows:

To 50 Families at \$10 per an. each, \$500
1 Tavern, 25
1 Boarding House, 17
5 Stores at \$7 per an. each, 35
1 Office, 6
1 Printing Office, 10
3 Restoratives at \$18 per an. each, 54
1 Bake House, 10
1 Mill, 30

Total permanent increase of income, \$687 2

Amount received from House Builders, 50

On the 1st day of May, 1834, 359 supplies of water were given, which are charged with water rents as follows:

272 Families, paying each per an. \$10, \$2,720
2 do do do do 15, 30
7 Taverns paying together, 291 8
12 Boarding Houses do 265 2
5 Tobacco Factories do 160
2 Apothecaries, \$16, 32
27 Stores, 7, 259
7 Offices, 6, 42
1 Printing Office, 10
2 Confectionaries, do 45
1 Confectionary with bathing establishment, 80
2 Curriers, \$20, 40
1 Hat Manufactory, 20
4 Restoratives, 18, 72
2 Livery Stables, 45
1 Bake House, 10
1 Merchant Mill, (for drinking and extinguishing fire,) 30

359 \$4,152 3

It affords your Committee great pleasure in being enabled to report to the Common Hall, that the Water Works are in good condition: the pumps, wheels and fixtures are in excellent order, and perform admirably well. The ascending mains to the Reservoir and the main to the City are perfectly tight, and also those through the City. From defective pipes or mistake in the calculation of the pressure to be sustained many of the citizens have suffered considerable inconvenience by the bursting of the supply leaden pipes first laid down in the lower part of the City: those inconveniences have been remedied [by using a heavier pipe. In all other respects the works have succeeded to] our entire satisfaction, and promise as much durability as most confident could expect.

The additional reservoir, although in use, is not yet completed; and will require an additional appropriation of about \$550 to effect it.

In the farther execution of their duty, as required by Ordinance, your Committee will proceed to make such recommendations in relation to the Water Works as seem best calculated to promote the interests of the City.

From the preceding expose, it is evident that the expectations of your Committee stated in the Report of 1833, of the increase in demand for water, have not been fully realised; certain not to the extent hoped for. But notwithstanding this we are informed by the superintendent, that according to calculation, 250,000 gallons of water have for some time passed, been daily consumed, which is sufficient for the supply of 2,500 families, according to the estimate of Mr. Stein, should produce a rent of \$25,000 per annum.

This state of facts suggests the enquiry, by and by whom this quantity of water is used. Is it used by the persons contracting, and only for the purposes contracted for? Your Committee are of opinion that many persons take the benefit of the water without paying for it, and that the provisions of the 6th section of the Ordinance passed 28th Feb., 1832, have proved almost wholly inefficient. By that section it is ordained, that it shall not be lawful for any person to whom water shall be supplied, to permit any person, &c. to have, take or receive, or use from any hydrant &c., under the penalty of not more than \$50 each offence, to be recovered by warrant. It contains no provision making it penal to take the water with or without permission. Such a provision is required; and as this practice strikes at the whole system, the penalty should be the maximum both as to free persons and others. Is water used only for the purpose contracted for? This is a proper enquiry, for otherwise your table of rates would be wholly illusive, and the plainest principle of justice, that he who derives the least benefit should pay less than he who derives the greatest, would be violated. It is admitted that it would be exceedingly difficult, if not impracticable, to conform exactly to this principle, but it should nevertheless, be ever kept in view and approximated as nearly as practicable.

In pursuance of this principle your table of rates for supply has been settled—for a private family \$10, for a store \$7, &c. To any ordinary common sense understanding, there can be no difficulty in comprehending your meaning. You certainly intended, that for \$10 a private family should be supplied with water sufficient for ordinary culinary and household purposes, essential and incidental to inhabitants of a town, not to irrigate acres, to wash out sinks, or pools and common sewers, &c. 'Tis therefore recommended, that the 3d section of the Ordinance passed 24th March, 1832, be revised, so amended, as to make it more extensive and exact: so that a citizen can be enabled truly to say, that he pays as many dollars for a less quantity of water as his neighbor pays for a greater quantity. Though your Committee are aware that discretionary power is not to be desired, yet, in furtherance of the principle herein before adverted to, it is respectfully suggested, that the Watering Committee be authorized to scale the rates, when by doing, equality will be effected. The propriety of this suggestion is evinced by the following among other cases that might be stated: An ordinance now exists, a Confectionary is to pay \$20, whether the business be on a large or small scale, which is certainly unequal and preposterous applications. To ensure as far as practicable obedience to the ordinances, your committee suggest the propriety of amending the 7th Sec. of the Ord. passed 27th Feb. 1832, by adding after the word lot in the 4th line, these words: "or for the same except for culinary and household purposes, or such purposes strictly relating to, and connected with the business, trade, or manufactory for which it may be supplied." And by adding to the last word of same section the following words: "And it shall be the duty of the superintendent, and he is hereby authorized and required to ascertain all cases of waste of water, and of illegal uses thereof, and give information of the same: and if any person or persons refuse to permit examination for the purpose

ascertaining, whether there be waste or an illegal use of the water, he, she or they, so offending, shall forfeit and pay for each offence, dollars; and for every day's continuance of such refusal after conviction, the further sum of dollars, to be prosecuted and recovered as other penalties under this Ordinance."

Your Committee are of opinion, that the interest of the city as connected with this subject, will be promoted, by making it the duty of the Deputies of Police in aid of the Superintendent, to inquire into and report all violations of the Ordinances regulating the water works; and also, to notify to the superintendent, without delay, all breakage, or leaks in the pipes or hydrants.

There is a subject with which your Committee are charged by the 4th sec. of Ord. passed 24th March, 1832, that has subjected them to the remarks of citizens, which have caused many unpleasant reflections; for, to be required to do that which cannot be done, is painful. By that section, the superintendent is required, with the assistance of the Overseer of the streets and the hands under his direction, as often as the state of the weather may make it desirable or necessary in the opinion of the watering committee, to keep the streets in which the pipes are laid, cool and moist with water, from the 1st of April to the 1st of October, in every year. On the 30th September 1830, the execution of the provisions of this section was at your instance deliberately considered by your committee, and 'twas then resolved as their clear opinion, that those provisions could not be complied, with because of the want of force, of the want of water, and of the deprivation that would certainly be occasioned in family and other supplies, and a consequent violation of the contract of the City with individuals. Since the date of that resolution an additional Pump has been erected and the Reservoir enlarged, and thereby, it may be supposed the difficulties have been obviated; but a moment's reflection on the incontrovertible principle of hydraulics, that only a certain quantity of water can be vented through the main in a given time, will leave the principal difficulty unremoved; for the main from the Reservoir to the city has not been increased. This question is therefore presented for consideration:—if the Reservoir be kept full, is the main of sufficient capacity to vent the water in such quantity as to effect the object of this section, without affecting at the same time the family and other supplies, contracted to be regularly furnished? Your Committee think not. The Main from the Reservoir to the City is 10 inches in diameter to E street, thence along 1st to H street; and the estimate of Mr. Stein is, that 400,000 gallons may be vented in 24 hours. In Philadelphia, anterior to the use of iron Mains of the diameter of 22 and 20 inches, five 6 inch Mains and one 4½ inch Main, with a head of 56 feet, only vented 900,000 in 24 hours, and though according to calculations founded on certain data, they should have vented 1,800,000 gallons; just twice what they actually vented.* This fact is mentioned, to show that there may be a difference between the actual and the arithmetical supply, furnished by our Main. As the distribution increases, the difficulty of carrying into effect this section will be increased: and all calculation out of the question, this we know, that two fire Plugs opened below 13th street on E street, will cut off the supply above 5th & below 22d streets, although the Reservoir be full. Your Committee therefore submit the propriety of retaining this section, at least in its present form and extent; holding out to citizens who reside on the streets in which the pipes are laid, expectations, that under existing circumstances cannot be realized: being deliberately of opinion, that to keep cool and moist all the streets of the City in which the pipes are laid, as required by said section, will require more water than can be vented, or spared, from family and other supplies, the original and legitimate purposes of the erection of the Water Works.

In consideration of the skill and fidelity, with which Robert L. Staples has discharged the duties of Superintendent of the City Water Works, and of the important character of those duties which have increased and are increasing, it is the opinion of your Committee, that his present salary is not an adequate compensation for his services, and they therefore recommend that it be increased.

Your Committee avail themselves of this opportunity, to express their high opinion of the skill displayed by Mr. Stein, in the plan and of his integrity in the execution of the works; and to return their thanks to Mr. Frederick Graff, the able and veteran Superintendent of the Philadelphia Water Works, for the great interest he has evinced in our success, by the prompt, full and satisfactory answers to the enquiries of your Committee, on all subjects connected with the successful operation of the Water Works of the City of Richmond.

By order of the Watering Committee—May 10th, 1834. JOSEPH TATE, Chairman.

* These calculations are based on experiments made upon a straight continued pipe of uniform diameter; and Mr. Walker, of Finsbury-Square, London, to whom the subject was submitted at the instance of the Watering Committee of Philadelphia, states, that great difference exist between the calculations and the actual discharges, where the greatest care and the best mathematicians have been employed, both in the construction of the works and in the calculation of the discharge to be expected from them. ma 16