## REPORT



OF THE

## W ATERING COMMITTEE,

TO THE

mill luckaing, praintad is 1828

READ JANUARY 12, 1832.

PUBLISHED BY ORDER OF THE COUNCILS

PHILADELPHIA:
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1832.

## ANNUAL REPORT

OF THE

## WA'TERING COMMIT'EE.

## To the Select and Common Councils of the City of Philadelphia.-

The Watering Committee respectfully present, herewith, detailed statements of the accounts, for the year 1831, of the works under their care; together with an estimate for the year 1832. They also lay before Councils such explanations, as, they trust, will enable them and their constituents to understand the present state of the entire water establishment.

In order that the accounts of 1831 may be more distinctly comprehended, it may be useful to refer to those of 1830.

In 1830, the receipts from all sources amounted to
And the payments were-For Water Works,
To Sinking Fund,
To Tax Fund,
So that there was placed to the credit of the Tax Fund, more
than the income warranted,
The accounts for 1831 show, as they ought to do, a balance in favour of the Works, and not as in 1830, against them.

The receipts for 1831 were, from Water revenue, -
from loan under Ordinance of April 14, 1831, $\quad \begin{array}{r}86,76672 \\ \hline\end{array}$

| The payments for 1831, were- |
| :--- |
| Balance due City Treasury, on accounts of 1830, |
| For purposes of Water Works, |
| To Sinking Fund, |
| To Tax Fund, per Ordinance of May 16, 1831, |
| Leaving a balance for Water purposes of 1832, <br> So that, to meet all the estimated demands for 1832, there will <br> be wanted but |

From all which it must be apparent, that, in case the water revenue for 1832 shall equal that of 1831, of which there can be no doubt, there will be a balance in favour of the Works, for the year 1832 , of $\$ 35,90405$, equal, it is hoped, to all the needful expenditure for 1833 ; and thus the whole water revenue of 1833 may be applied to the extinguishment of debt, and the same process be thereafter continued.

That the progressive increase of water revenue, and the relative sources thereof, may be perceived, the Committee present such a statement, at present, as was made in their last report, namely:

The receipts for 1831, consisted of-
This sum obtained on loan, - . . . - \$36,200 00
Water Rents from City, - - - $\$ 43,53414$
Northern Liberties, - - 12,054 62
Southwark, - - 5,94867
Spring Garden, - - - 5,229 29
66,766 72
$\$ 102,966 \quad 72$
And that the nature of the expenditure may be understood, this statement is presented:



Estimate for 1831. On reference to the Report made to Councils on the 8th of February, 1831, it will be seen, that the amount of the estimate for that year was, $\quad \$ 70,66587$
$\begin{array}{llrrr}\text { Of this there was expended the sum of - } & - & \$ 63,00957 & \\ \text { There remains in Treasury to finish wheel and pump, } & \mathbf{7 , 8 0 0} 38 & 70,809 \quad 95\end{array}$
Showing an excess beyond estimate of $\$ 144$ 08: It is, however, to be observed, that the balance would have been in favour of the works, or estimate, if demands had not arisen, of which no anticipation could have been formed, such as

For receiving the Boston Guards, - . . $\$ 44258$
For laying 888 feet of Iron Pipes in streets ordered to be paved,
excess, - - - - . 88800
For laying 242 feet of Iron Pipes, excess, - . 24200
For excess of cost of 20,747 pounds of lead, - - 31120
\$ 1,88378
Estimate for 1832. The sum estimated to be necessary for the year 1832, for the objects detailed in the annexed estimate, is $\$ 45,46500$. On reference to former estimates, the moderation of the present will be understood; for, it will be seen, that, in the present estimate
for 1832 , there are included items to the amount of $\$ 23,56500$, for objects not embraced in former estimates, but for which provision was made by loans; consequently, the sum asked for $\mathbf{1 8 3 2}$, for purposes embraced in former estimates, is only $\$ 21,90000$.

Iron Pipes. The remainder of the iron pipes, which were contracted for in 1830, were laid down during the year 1831; the extent of pipes estimated in the report of 1831, was 11,500 feet, but 11,742 feet have been laid, or 242 feet more than calculated upon.
In consequence of extending the iron pipes in Locust Street from Thirteenth to Broad Street, and in Juniper from Spruce to Walnut Street, 3,888 feet of iron pipes have been laid in streets ordered to be paved, being 888 feet more than the extent estimated. The whole extent of iron pipes laid in 1831, was 15,630 feet, nearly three miles, making the whole extent laid in the City nearly 44 miles.

Wooden Pipes. There were laid in 1831, in repairs to wooden pipes, $\mathbf{1 , 1 3 1}$ feet, being 281 feet more than in 1830; from which it must be obvious, that although the extent of wooden pipes is annually diminished, by the introduction of iron pipes in their stead, the public streets cannot be kept in order until all the wooden pipes shall have been removed.

The Dam. As some inquiry has been instituted in Councils in relation to the Fair Mount Dam, it gives the Committee pleasure to be able to state, that its condition is sound and safe; the planking and all the other repairs, deemed necessary to render the dam perfectly secure, have been completed, with the single exception of depositing an additional quantity of rubble stone backing, and that will be done as soon as the state of the weather shall permit; the cost for this object is embraced in the estimate.
Reservoir No.4. For this part of the works, 8650 yards of clay have been delivered: 5995 yards of earth have also been added to the embankments, and such other work has been done as to render this reservoir substantial, as far as it has been formed. In their last report, the Committee recommended, that one section of this reservoir should be completed in 1832; finding, however, that the reservoirs now in use are amply sufficient for the supply of water to the city and districts, they deem that undertaking unnecessary at present. Your Committee, having examined the embankments of this reservoir, since they were formed, are of opinion, that safety embankments will be necessary at some points, where the present embankments are too high. As these additional supports will add greatly to the solidity of the general structure, they are included in the annexed estimate.

Wheel and Pump. These new appendages have not been completed at as early a day as was expected; this is owing to the difficulty of procuring suitable materials, and to the delay caused by making defective castings, which were condemned. The new wheel and pump will, in all probability, be in operation early in the ensuing spring, long before their additional aid will be needful for public purposes. There has been expended for this object, the sum of $\$ 469962$, and the sum of $\$ 780038$ is on hand for its completion.

Garden plot at Fair Mount. The wall for securing the bank of the Schuylkill, south of the engine building, has been finished, coped with stone, and fenced in a substantial manner. $\overline{\text { A }}$ great increase in the height and thickness of this wall became necessary, in consequence of the difficulty of finding rock bottom for a part of the foundation ; the expense attendant, as well as the cost of filling up the low ground, east of the wall, and of forming a garden plot there, exhausted the sum estimated for those objects. For the completion of this part of the premises, under care of the Committee, including sodding, planting trees, forming gravel walks, and erecting a fountain, the sum embraced in the estimate will be requisite; and your Committee cannot doubt that it will be readily appropriated; heretofore, the ground between the bridge and the works has presented a sad contrast with the adjacent scenery; in future, the entire property of the City will present uniformity in taste as well as utility.

Main on the old canal bank. The 20 inch iron main, laid in 1820, was carried along the old canal bank, from John street to Schuylkill Second street, under an impression, that at a future day it would be opened as a public street, and that the main would not be disturbed; recently, however, the Columbia rail road has been located north of the line of the old canal;
and, besides, it is contemplated to grade the north and south streets, passing over the line of the old canal, so as to adapt them to the level of Callowhill street and the rail road; it becomes necessary, in consequence, to remove the main from its present position; to this end, application has been made to the Canal Commissioners of Pennsylvania, for permission to lay down the main for an extent of about 2200 feet, under and along the southern side of the state rail road. Your Committee are happy to be able to state, that the Canal Commissioners have given a favourable answer, but as no precise time can now be fixed for removing the main, the cost is not embraced in the present estimate.

The old steam-engine. Councils have heretofore authorized the Committee to offer these engines for sale, and they have been accordingly advertised-no offer, however, has ever been made ; in the meantime, these articles are daily depreciating, nay, they are not now of much more value, beyond that of old iron. In no event could a part of them be at all used, and, were the remainder repaired, it must be at much cost, without any ability to answer public purposes ; your Committee, therefore, are in favour of an early and absolute sale.

The Districts. Contracts have been entered into with the newly incorporated part of Spring Garden, and with the Township of Moyamensing, for supplying those Districts with water ; with the former the contract has been formed, and the necessary instrument for the latter is in preparation. The District of Kensington has also applied to enter into a contract for a supply of water from the City fount, and your Committee have at all times been desirous to conclude an engagement, on the terms assented to by all the other districts, that is, to deliver the water at the City boundary. In the case of the Kensington District, however, a difficulty exists, such as did not arise in any former instance; the soil of all the other Districts is bounded by the City soil, and therefore, as soon as the City delivered water at the boundary line, the adjoining District at once attached its pipes ; between the City and Kensington, however, the District of the Northern Liberties intervenes, and the City has no right to carry through the soil of that District, pipes for supplying Kensington, so that the assent of the District of the Northern Liberties is necessary to enable her neighbour to partake of the contemplated benefit. It is to be regretted that no agreement between the Districts has been made; citizens, separated by lines almost imaginary, and who prosper or pine as they severally thrive or supfer, have, after all, a common interest, and should seek to promote the comfort and conveniene of each other ; the City cannot control either; all that it can do is to act towards all with perfect impartiality.

Damages. Of the appropriation for payment of damages, the sum of $\$ 7987$ remains, no part having been called for since last report.

The increase of Water Rents in 1831, was

| In the City, | - | - | 82867 | 25 |
| :--- | :--- | :--- | ---: | :--- |
| Northern Liberties, | - | - | 2,114 | 75 |
| Southwark, | - | - | 699 | 50 |
| Spring Garden, | - | - | $\mathbf{1 , 2 0 8}$ | 50 |

The Committee believe, that they have thus given all the information needful to a correct conception of the subject. In closing their report, they beg leave to call the attention of Councils, and of their feilow-citizens generally, to the interesting and lucid statistical history of the Water Works, for the last thirty-two years, that is, from the period of their first introduction, which is appended to this Report: This useful and curious document has been prepared, with equal care and labour, by the respectable gentleman, whom it has been the good fortune of the City so long to have, as their skilful and assiduous superintendent: it is a document, not only valuable to ourselves at present, but calculated to be so, to those who shall succeed us, and even to inquirers after useful information, wherever may be their home.

Respectfully submitted, January 12, 1832.
W. J. DUANE, Chairman.

No. 1.

# LIST OF CERTIFICATES FOR MONEYS 

## WATERING COMMITTEE

FOR

## 

From December 31st 1830, to December 31st 1831.


# ABSTRACT OF PAYMENTS 

MADE UNDER THE

## Foregoing Certificates.

## Distribution.

| $\begin{array}{\|l\|l\|} \hline \hline \mathcal{N o .} & 1831 . \\ 79 & \text { Feb'y. } 1, \end{array}$ |  |  | Dolls. ${ }^{\text {C }}$. |
| :---: | :---: | :---: | :---: |
|  |  | Daniel Arnold, for 1482 $\frac{2}{3}$ yards of repaving over private water pipes, | 3568 |
|  |  | Wages of workmen for January, - - - - | 22285 |
| 80 | March 1, | Ditto for February, | 21752 |
| 81 | April 1, | Samuel Richards, for 67 Cwt. 3 qrs. of hay, had in 1830 and 1831, | 5131 |
|  |  | Martha L. Adams, for 6 months' ground rent, due February 1st, | 1333 |
|  |  | John Mingle and Son, for leathering smith's bellows, \&c., - | 2200 |
|  |  | Wages of workmen for March, - - | 23970 |
| 83 | May 2, | George Miley, for 20 loads canal sand, and hauling pipes, | 3900 |
|  |  | Daniel Arnold, for 220 yards repaving over water pipes, at 24 cents, | 5280 |
|  |  | Wages of workmen for April, - - - - | 22617 |
| 84 | June 1, | Ditto for May, | 22657 |
| 86 | July 1, | Daniel Arnold, for $177 \frac{1}{2}$ yards repaving, - | 4260 |
|  |  | George Miley, for hauling pipes, - - | 6000 |
|  |  | Wages of workmen for June, | 16870 |
| 87 | August 1, | Benjamin Homer, for sundry brass stop cocks for pumps, | 2950 |
|  |  | George Peterman, for horse feed from December 4th, 1830, | 4006 |
|  |  | Lane Schofield, for a new cart and for repairs to log-wagon, | 5900 |
|  |  | J. L. Stelwaggon, for 300 bushels Virginia coal, delivered, | 8850 |
|  |  | Daniel Arnold, for 176 yards of repaving, - - | 4224 |
| 88 |  | Joseph Edwards, for 62 pounds of brass castings, | 1860 |
|  |  | Joseph Caskey, for whiskey for workmen, - | 2415 |
|  |  | Wages of workmen for July, - - | 18169 |
| 89 | Sept'r. 1, | Martha L. Adams, for 6 months' ground rent on shop lot, | 1333 |
|  |  | Daniel Arnold, for 200 yards repaving, - - | 4800 |
|  |  | Isaiah Dixey, for 18 hydrant pumps, and for nossels and boxes, | 11400 |
|  |  | C. W. Schreiner, taxes for 1831, on shop lot, | 3039 |
|  |  | William Piersol, for sundry wrought iron, - | 12000 |
|  |  | Wages of workmen for August, - | 262120 |
| 90 | Oct'r. 1, | Daniel Arnold, for 170 yards of repaving, | 4180 |
|  |  | Wages of workmen for September, - | 20494 |
| 91 | Nov'r. 1, | N. Burt, for 58 yards of packing cloth, - | 1856 |
|  |  | J. R. \& J. M. Bolton, for $2 \frac{1}{2}$ tons of coal, at \$500, | 1250 |
|  |  | Wages of Workmen for October, - - | 22226 |
| 92 | Dec'r. 1, | Isaiah Dixey, for 12 hydrant pumps, | 6600 |
|  |  | Samuel Richards, for 5 loads of hay, and half weighing, | 7987 |
|  |  | Israel Roberts, for copper work to stop cocks and pumps, | 4500 |
|  |  | Merrick \& Agnew, for 2 lamp torches, for night work, | 650 |
|  |  | John Evans, for 5365 feet 1 $\frac{1}{4}$ cedar boards, - - | 16095 |
|  |  | Robert Looney, for 635 bundles of straw, | 4507 |
|  |  | Wages of workmen for November, - | 23163 |
| 93 |  | J. L. Stelwaggon, for sundry wrought iron, | 5000 |
|  |  | Keyser \& Longstreth, for sundry lumber, | 11472 |
|  |  | Wetherill \& Brothers, for paints, oil, \&c., | 2544 |
|  |  | Isaiah Dixey, for 198 pump boxes, | 1237 |
|  |  | Rowley \& Alberger, for plumber's work to pumps, \&c., | 18215 |
|  |  | Amos Jeans, for lumber, - - - | 547 |
|  |  | Daniel Arnold, for 101 yards repaving, | 2424 |
|  |  | George Peterman, for horse feed, | 5955 |
|  |  | Amount carried forward, | 429891 |







## No. 10.

## ABSTRACT OF PAYMENTS

## MADE BY THE

## WATERING COMMITTEE,

From December 31st 1830, to December 31st 1831.


No. 11.

## SUMS PAID INTO THE TREASURY

## BY THE SUPERINTENDENT.

From December 31st 1830, to December 31st 1831.

| 1831. |  | Dolls. ${ }^{\text {C. }}$ |
| :---: | :---: | :---: |
| Jan'y 19, | To Cornelius Stevenson, Treasurer, for rent of Francis street wharf, old pipes, \&c., |  |
| Mar. 30, | To ditto, for old pipes, wood, \&c., | 13020 |
| June 22, | To ditto, for rent of Francis street wharf, and for old pipes and castings, | 16120 |
| July 25, | To ditto, received of Francis Harley, for 15 tons old castings, | 30000 |
| Oct'r. 3, | To ditto, for old dam plank, old pipes, \&c., | 9610 |
| Dec'r.27, | To ditto, for old wood, pipes and castings, and 3958 feet logs sold to the poor, | 20192 |
|  |  | 1072110 |

## 15

No. 12.

## ESTIMATE FOR THE YEAR 1832.

For working machinery at Fair Mount, and for materials,
For castings, hydrant pumps, lumber, repaving, and for general repairs to the Distribution,
For laying iron pipes where streets may be ordered to be paved, or where applications are made for a supply of water,
For Salaries and Incidentals,
For forming safety banks around the exposed parts of Reservoir No. 4, where the present embankments are considered too high without additional support,
For placing 10,000 yards additional backing of rubble stone on the back of the dam,
For general repairs at Fair Mount, for the payment of taxes, for sodding, and planting of trees, for gravelling the walks of the late improvement, and for erecting a fountain,
For iron pipes and laying, between Spruce and Cedar streets, and between Eighth and Eleventh streets, which are already contracted for, by order of Councils,
For laying a 16 inch main in Chesnut street, from Schuylkill Eighth to Fifth street, and connexions thereto,
For laying a 12 inch main in Spruce street, from Eleventh to Broad street, and connexions thereto,


FREDERICK GRAFF,
Superintendent of the Water Works.

## ACCOUNT OF IRON PIPES LAID,

Commencing with the 22 and 20 inch Iron Main, in October 1819.






Laid Vine street, between Broad and Schuylkill

Eighth street, to connect the two mains, 16 inch pipes,
Laid Schuylkill Sixth street, from Chesnut street northward, - - eastward,
Laid Perry street, from Pine to Lombard street,
Laid two fire plugs in High above Front street, 4
Laid Juniper street, from High to Mulberry street, 3
Laid Filbert street, from Thirteenth to Juniper street,
Laid Cherry street, from Tenth to Eleventh street, 6
Laid alley north side of Cherry street, between
Tenth and Eleventh streets, - -
Laid Pine street, above Thirteenth street, connexions with Adams street,
Laid connexions of fire plugs, \&c. - 4
Laid Vine and Thirteenth streets, connexions with Spring Garden,
Laid Schuylkill Seventh street, north from Chesnut street, and connected to Lyndall's alley,

Amounts carried forward,

\left.| Feet. | Feet. |
| ---: | ---: |
| 9,216 | 172,792 |$\right]$


| Amounts brought forward, | $\begin{gathered} \text { Feet. } \\ 3,343 \end{gathered}$ | $\begin{gathered} \text { Feet. } \\ 189,660 \end{gathered}$ |
| :---: | :---: | :---: |
| Laid Lyndall's alley, from Schuylkill Seventh street westward, - - 3 inch pipes, | 4 |  |
| Laid Montgomery street, from Twelfth to Thirteenth street, | 446 |  |
| Laid Mifllin street, from 'Thirteenth to Perry street, 3 do. | 198 |  |
| Laid Twelfth street, north and south of Arch street, - | 100 |  |
| Laid west side of Broad street, north of Chesnut street, - - - - 6 do. | 6 |  |
| Laid Zane street, between Seventh and Eighth streets, | 396 |  |
| Laid an alley running south, connected to ditto, 3 do. | 225 |  |
| Laid Eleventh street, from Vine to Chesnut street, 10 do. | 2,611 |  |
| Laid Tenth street, from Vine to Spruce street, 6 do. | 4,042 |  |
| Laid Ninth street, from Vine to Spruce street, 6 do. | 4,042 |  |
| Laid Race street, from Eighth to Eleventh street, 6 do. | 1,338 |  |
| Laid Cherry street, from Eighth to Tenth street, 6 do. | 892 |  |
| Laid Mulberry street, from Eighth to Twelfth street, | 1,784 |  |
| Laid Filbert street, from Eighth to Eleventh street, 6 do. | 1,338 |  |
| Laid Mechanic street, from near Race to Vine street, | 557 |  |
| Laid Chester street, from Race to Vine street, 4 do. | 657 |  |
| Laid Maple, James, and Lemon streets, - 3 do. | 1,000 |  |
| Laid North street, from Tenth to Eleventh street, 3 do. | 446 |  |
| Laid Raspberry lane, from Race to Cherry street, 3 do. | 358 |  |
| Laid alley above Arch street, between Tenth and |  |  |
| Eleventh streets, - - 3 do. | 446 |  |
| Laid alley in Eleventh street, below Arch street, 3 do. | 290 |  |
| Laid Hunter street, in Eleventh above High street, 3 do. | 300 |  |
| Laid Liberty court, Ninth above High street, 3 do. | 234 |  |
| Laid Orleans street, from Lombard to Mifflin street, - | 180 |  |
| Laid connexions to fire plugs, \&c. - 4 do. | 640 |  |
| Laid Fayette street, from Arch to Filbert street, 3 do. | 362 |  |
| Pipes laid in 1831, viz. |  |  |
| Laid Eleventh street, from Chesnut to Spruce street, - - - 10 inch pipes, | 1,430 |  |
| Laid Spruce street, from Eighth to Eleventh street, - 12 do. | 1,340 |  |
| Laid George street, from Eighth to Eleventh street, | 1,340 |  |
| Laid Walnut street, from Eighth to Eleventh street, | 1,340 |  |
| Laid Locust street, from Eighth to Eleventh street, | 1,340 |  |
| Laid Juniper street, and Juniper alley, from Wal- |  |  |
| nut to George street, between Tenth and Eleventh streets, 3 do. | 590 |  |
| Laid Currant alley, from Walnut to Spruce street, 3 do. | 823 |  |
| Laid Bird's alley, from Locust to Spruce street, 3 do. | 450 |  |
| Laid Watson's alley, and Pryor's court, - 3 do. | 790 |  |
| Laid Raspberry alley, from Walnut to Spruce street, - $\quad$ do. | 823 |  |
| Laid Acorn alley, from Locust street southward, 3 do. | 303 |  |
| Amounts carried forward, | 0,5 | 6, |

1831. 

| s brought forward, | Feet. $10,569$ | $\begin{aligned} & \text { Feet. } \\ & 216.335 \end{aligned}$ |
| :---: | :---: | :---: |
| Laid Blackberry alley, from Walnut to Spruce street, - - - 3 inch pipes, | 823 |  |
| Laid connexions of fire plugs, \&c. 3, 4, and 6 do. | 0 |  |
| The above was left unfinished of contract of 1830, | 11,742 |  |
| Incidental work for 1831, viz. |  |  |
| Laid Budden's alley, from Thirteenth to Juniper street, - - - 3 inch pipes, | 300 |  |
| Laid Hunter street, above High street, from Tenth street west, | 20 |  |
| Laid Schuylkill Seventh street, from Chesnut to south of George street, - - - 6 do. | 365 |  |
| Laid Leiper street, from Thirteenth below High street, around to Clover street, |  |  |
| Laid Olive street, from Broad street westward, 3 do. | 289 |  |
| Laid alley south of Spruce street, from Broad to near Thirteenth street, - - - 3 do. | 458 |  |
| Laid Locust street, from Thirteenth to Broad street, - - - - 6 do. | 53 |  |
| Laid Juniper street, from Walnut to Spruce street, 3 do. | 870 |  |
| Laid alley north of High street, between Thirteenth and Juniper streets, - - 3 do. | 280 |  |
| Laid connexions of fire plugs, \&c. - 3 do. | 160 | 5,630 |
|  |  | 231,965 |
| Pipes laid from October 1819, to December 31st, 1831, 231,965 feet, being nearly 44 miles. |  |  |
| There have also been laid, wooden pipes in repairs, in 1831, 1131 feet. |  |  |
| The two mains, All other pipes laid, 19,722 feet. 212,243 feet. |  |  |
| Together, - - 231,965 feet. |  |  |
| 212,243 feet of various sized pipes, laid in the City, cost $\$ 335,04682$, or equal to an average price per foot, of \$1 58 cents. |  |  |

A GENERAL VIEW of the leading particulars of the WATER WORKS, from their commencement, March 1799, to December 31, 1831.


Cost of ground purchased at Fair Mount, sum paid for damages for ground overflowed by the Dam, for extra Water Power, \&c.


$$
\begin{aligned}
& 400 \text { fuenblie by draft fumpln, allowed to duphly } 6 \text { famoten with - } 3400 \text { day } 10389 \text { familin }
\end{aligned}
$$

$$
\begin{aligned}
& \text { squat } t=\frac{3417}{13.806} \text { farmution }
\end{aligned}
$$

## Abstract of the number of feet of Iron Mains and Iron Pipes, laid in the City, from

 the commencement, October 1819, to December 31, 1831.\begin{tabular}{|c|c|c|c|c|}
\hline \& Laid in 1819 and 1820, main No. 1,
Ditto, \& - of 22 inch pipes,
of 20 do. \& $$
\begin{aligned}
& \text { Feet. } \\
& 2,661 \\
& 6,909
\end{aligned}
$$ \& Feet.

9,570 <br>
\hline 1821 \& Laid sundry pipes in the City, \& - - - \& \& 8,475 <br>
\hline 1822 \& - Ditto, - \& - - - \& \& 16,035 <br>
\hline 1823 \& Ditto, \& - - - \& \& 14,993 <br>
\hline 1824 \& Ditto, \& - - - \& \& 20,500 <br>
\hline 1825 \& Ditto, \& - - - \& \& 11,394 <br>
\hline 1826 \& Ditto, \& - - - \& \& '27,496 <br>
\hline 1827 \& Ditto, \& - - - \& \& 41,044 <br>
\hline 1828 \& Ditto, \& . \& \& 23,285 <br>

\hline 1829 \& Laid iron main No. 2, \& of 20 inch pipes, of 16 do. \& $$
\begin{array}{r}
9,216 \\
936
\end{array}
$$ \& <br>

\hline 1829 \& Laid additional pipes in the City, \& - - - \& \& 10,152
6,716 <br>
\hline 1830 \& Ditto, - \& - - - \& \& 26,675 <br>
\hline 1831 \& Ditto, \& - - - . \& \& 15,630 <br>
\hline \& Together, \& \& \& 231,965 <br>
\hline
\end{tabular}

The mains Nos. 1 and 2 required 19,722 feet, average $\$ 663$ per foot. Pipes laid in the City, - 212,243 do. 158 per foot.

Together, $\quad 231,965$ feet, being nearly 44 miles.


Account of Water Rents received in the City from the year 1802 included, up to December 31, 1831.


Statement of account of Water Rents of the City and Districts.



The Commissioners and inhabitants of the Township of Moyamensing, closed contract for a supply of Schuylkill Water, 6th January, 1832.

From the Water Rent charges to the Districts, a deduction of 6 per cent. is allowed for collection and losses.

Memorandum of various parts of the Works, \&c.

| 1799 | March, Mr. Latrobe commenced the first Water Works, by steam power. |
| :---: | :---: |
| 1812 | August 1, Commenced the steam power works at Fair Mount. |
| 1815 | Sept. 7, Supplied the City from the steam works at Fair Mount. |
| 1819 | April 8, Councils agreed to build the water power works at Fair Mount. |
|  | April 19, Commenced building the dam at Fair Mount works. |
| 1821 | April 28, Laid the corner stone of mill buildings at Fair Mount. |
|  | June 25, Put in the last crib of the dam at Fair Mount. |
|  | July 23, The water flowed over the dam at Fair Mount. |
| 1822 | Feb. 21, The great ice freshet, which raised 8 feet 11 inches above the combing of the dam at Fair Mount. |
|  | July 1, Began to supply the City with water from water wheel and pump No. 1. |
|  | Sept. 14, Ditto, - - ditto, - No. 2. |
|  | Oct. 25, Stopped the steam works at Fair Mount. |
|  | Dec. 24, Started wheel and pump No. 3. |
| 1827 | Nov. 10, Started wheel and pump No. 4. |
| 1832 | Started wheel and pump No. 5. |

The dam at Fair Mount is 6 feet 6 inches above high tide in the Schuylkill.
The mill buildings are 238 feet front, by 56 feet deep.
The water is raised from the dam into the Reservoirs, 96 feet perpendicular height.
Pump No. 1, raises per 24 hours, into the Reservoir, when
not impeded by the tides, - - $\quad$ 1,313,280 gallons of water.
Pumps No. 2 and 3, ditto, ditto, each, 1,346,400, together, 2,692,800 do.
Pump No. 4, - - $\quad$ - $\quad$ 1,615,680 do.
From which deduct one-fourth for impediments by the tides
and freshets, - - - . $1,405,440$
Leaves the four pumps competent to supply, per 24 hours, $4,216,320$ gallons.
The average quantity of water required to supply the City and Districts, per 24 hours, during the year 1831, was about $2,000,000$ gallons. In the summer months, when the streets were washed by means of the fire plugs, upwards of $3,000,000$ gallons of water were consumed daily.

## FREDERICK GRAFF,

Superintendent of the Water Works.


No. 15.

## Cash paid City Treasurer for the year 1831.

By Register, as per account No. 22,
By Superintendent, as per account No. 22, for daxtales dola 27,994 71

By Armon Davis, Collector, \$19,133 84 ?
By Robert Rice, Collector, 18,566 07 \} as per account No. 22,
Making,
$\frac{1117210}{6519462}$

Cash paid to City Treasurer, and placed by him to the Credit of the year 1832.


No. 16.

## STATEMMENT,

Showing the Settlement of the Duplicates of Water Rents for the year 1831.


## No. 17. <br> STATEMENT,

Accounting for the amount of Water Rents returned as unpaid, for the year 1831, by Messrs. Rice and Davis, Collectors, and allowed to them in the settlement of the above-mentioned Duplicates.


No. 18.

## STATTEMENT,

Showing the Settlement of the Duplicates of Water Rents charged to the Board of Commissioners of the District of the Northern Liberties, for the year 1831.


No. 19.

## STATEMENT,

Showing the Settlement of the Duplicates of Water Rents charged to the Board of Commissioners of the District of Spring Garden, for the year 1831 .

## Amount of duplicates,

Deduct six per cent., commissions on $\$ 4,886$ 75,

Amount received, and paid byं Register into the Treasury, Amount relinquished by the Commissioners,


No. 20.

## STATEMENT,

Showing the Settlement of the Duplicates of Water Rents charged to the Board of Commissioners of the District of Southwark, for the year 1831.


No. 21.
Amount of the City Duplicates of Water Rents, for the year 1832.


No. 22.

## STATEMMENT,

Showing the amount of cash received for the year 1831, and as paid into the Treasury by the Register, the Superintendent, and the Collectors of Water Rents.


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No. 23.

Amount of the Duplicates of Water Rents of the City and Districts, for the year 1832 .


No. 24.

## AMOUNT OF WATER RENTS,

Received by the Register, from the Incorporated District of Southwark, on countersigning Permits, from the 1st of December, 1830, to 1st of December, 1831.
Water rents, for the year 1831, $\ldots \ldots{ }^{\text {. }}$

## No. 25.

## AMOUNT OF WATER RENTS,

Received by the Register, from the Incorporated District of Spring Garden, on countersigning Permits, from the 1st of December, 1830, to the 1st of December, 1831.


No. 26.

## AMOUN'T OF WATER RENTS,

Received by the Register, from the Incorporated District of the Northern Liberties, on countersigning Permits, from the 1 st of December, 1830, to the 1st of December, 1831.


No. $2 \%$.

## S'ATMMENT,

Showing the amount taken from the Duplicates of Water Rents of the City and Districts, for the year 1832.


It will be perceived, that the aforesaid deduction decreases the amount of increase by permits issued during the year 1831, for the year 1832, to that amount.

No. 28.

## STATEMENT,

Showing the increase of Water Rents in the City and Districts, for the year 1832.


No. 29.
An Account, showing the amount of Water Rents due the City, by ${ }^{1}$ the Incorporated District of Spring Garden, for the year 1832, with an account of the number of Dwellings, \&c., supplied with the Schuylkill Water, to the 31st of December, 1831.


## No. 30.

An Account, showing the amount of Water Rents due the City, by the Incorporated District of Southwark, for the year 1832, with an account of the number of Dwellings, \&c., supplied with the Schuylkill water, to the 31st of December, 1831.


## No. 31.

An Account, showing the amount of Water Rents due the City, by the Incorporated District of the Northern Liberties, for the year 1832, also the number of Dwellings, \&c., supplied therein, with the Schuylkill water, to the 31st of December, 1831.


No. 32.
Dwellings, Manufactories, and Institutions, supplied with the Schuylkill Water, in the Southern District of the City, to the 31st of December, 1831.


## No. 33.

Dwellings, Manufactories, and Institutions, supplied with the Schuylkill Water, in the Northern District of the City, to the 31st of December, 1831.


## No. 34.

## STATEMENT,

Showing the quantity of Iron Pipes laid, and the number of Fire
Plugs erected in the District of the Northern Liberties, during the years $1826,1827,1828,1829,1830$, and 1831.

## IRON PIPES LAID IN 1831.



No.
110 North-west corner of Green and Oak streets.
111 Corner of Fourth and Culvert streets.
112 South-west corner of Fourth and Green streets.
113 North-west corner of George and Burge streets.

## IRON PIPES laid in the NORTHERN LIBERTIES.



FIRE PLUGS erected in the NORTHERN LIBERTIES.

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No. 35.

## STATEMENT,

Showing the quantity of Iron Pipes laid, and the number of Fire Plugs erected in the District of Southwark, during the years 1826, 1827, 1828, 1829, 1830, and 1831.

## IRON PIPES LAID IN 1831.

|  |  | Feet. \|nn | Feet. $\mid$ In |
| :---: | :---: | :---: | :---: |
| 6 inch diameter, | From Christian to Carpenter street, - | 4904 |  |
| 6 do. | Fifth street, from Carpenter to Federal street, | 972 |  |
| 3 do. | Sutherland street, from Queen to Christian street, | 3679 |  |
| 6 do. | Carpenter street, from Third to Fourth street, | 4297 |  |
| 3 do. | Atherton street, from Carpenter to Marriott's lane, | 2573 |  |
| 3 do. | China street, from Front to Second street, - | 461 | $2,97711$ |

FIRE PLUGS ERECTED IN 1831.

[^0]
## IRON PIPES laid in the District of SOUTHWARK.



FIRE PLUGS erected in the District of SOUTHWARK.

## STATEMENT,

Showing the quantity of Iron Pipes laid, and the number of Fire Plugs erected in the District of Spring Garden, during the years 1826, 1827, 1828, 1829, 1830, and 1831.

## IRON PIPES LAID IN 1831.



## FIRE PLUGS ERECTED IN 1831.

## No.

46 Coates's street, west of Seventh street.
47 Eighth street, north of Buttonwood street.
48 Eighth street, north of Spring Garden street.
49 Wood street, west of Garden street.
50 Eleventh street, north of Callowhill street.
51 Eleventh street, north of James's street.
52 Eleventh street, north of Buttonwood street.
53 Eleventh street, north of Spring Garden street.

FIRE PLUGS erected in the District of SPRING GARDEN.


[^0]:    No.
    75 In Fifth street, 84 feet north of Marriott's lane.
    76 In Fifth street, 228 feet south of Carpenter street.
    77 In Fifth street, 185 feet north of Federal street.
    78 In Sutherland street, 137 feet south of Queen street.
    79 In Carpenter street, 54 feet east of Fourth street.
    80 In Atherton street, 35 feet south of Marriott's lane.
    81 In China street, 139 feet east of Second street.

