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R E P O R T

of the

W A T E R I N G C O M M I T T E E

to the

S E L E C T A N D C O M M O N C O U N C I L S .

READ JANUARY 18, 1821.

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PUBLISHED BY ORDER OF THE COUNCILS.  
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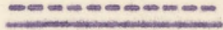
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1821.

ANNUAL REPORT

of the

WATERING COMMITTEE.



THE Watering Committee offer their Annual Report to Councils.

In pursuance of the Ordinance of 17th December, 1818, the large Iron Main has been completed, from the Reservoir at Fair Mount, to the intersection of Chesnut and Broad streets, and is found fully to answer the purpose contemplated; and when the plan shall be further pursued, by extending a ten inch Iron Main in Chesnut street, from Broad to Front street, and two of six inches in Market street, from Broad to Eighth street, the means of conveying a supply of water will probably be more than equal to the quantity that can be raised by the Steam Engines, and will be in readiness to receive the copious supply anticipated from the new Water Works. The pipes for the Main in Chesnut street are all nearly ready, and part of them are laid.

In consequence of the increased facility of procuring the water, a much larger quantity is now expended than at any time heretofore, at this season of the year; it being found, that the Engines which were before kept at work nine or ten hours in the day, are now employed thirteen or fourteen hours, and this will

account for the increased demand for fuel, stated in the estimate for the present year.

It will be seen by that estimate, that there is a deficiency in the sum raised by loan for the purpose of laying down the large Iron Main, of \$2947 23, arising from the necessity of purchasing a lot, at the cost of 1100 dollars, to get the pipes across from the Canal bank to Callowhill street, and also from the purchase of forty-two twenty inch iron pipes, more than are now found to be needful, at the cost of 1890 dollars; this increased quantity of pipes it was thought prudent to purchase, to ensure a sufficient number of good pipes, many of the pipes, when received, being believed to be not trustworthy, though subjected to the proof at the furnaces, required by the contract. The experience, however, derived from those laid down, leads to a belief, that those which were laid aside may now be safely employed, whenever the Main shall be extended in Broad street. Other circumstances, connected with a new and untried plan, operated to increase the cost, such as the necessity of deep cutting, in some parts of the Canal bank, through a gravel bank, and from the joints of the pipes requiring more lead than was expected. The whole quantity of twenty and twenty-two inch Iron Main now laid, is 9570 feet, the cost of which is about \$7 42 per foot.

In consequence of the gradual decay of the wooden pipes, and the increased quantity of water they have had to pass, many leaks have taken place, beyond any former example, the repairs of which have absorbed the supply of pipes which was on hand, and renders absolutely necessary a larger provision than usual; which of course swells the estimate for the present year, and which is fur-

ther increased by the necessity there is found of taking up the logs in Market street, and replacing them with six inch iron pipes, to vent the supply which the large Main will now afford, and to make the plan of distribution so far complete.

In laying the pipes, a great number of stop cocks and branches will be wanted, to connect the Iron Mains in Market and Chesnut streets, with the pipes in the north and south streets, Independent of the attachments of Fire plugs, Hydrant pumps, &c.

The progress made during the past year, with the Dam and other works, is considerable. The Dam, which has been raised agreeably to resolution of Councils of 3d June last, eighteen inches higher than at first proposed, is completed, except about 107 feet in the centre, which will be closed as soon as may be needful in the spring, but certainly before the 1st July, which is the last day allowed by the contract. The Canal, Locks, and other works on the west side, are nearly completed; the gates are hung, and the whole will be finished before the Dam is closed.

Great progress has been made in excavating the Mill Race and Mill Sites, the latter of which are by contract to be done by 10th April next: two of the head arches are finished, and a few weeks will suffice, when the season will permit, to finish the third.

The Mill timber is nearly all ready, and Mr. Drury Bromley, a Millwright of character, recommended by Mr. Thomas Oaks, is engaged, who will in a few days commence the preparation of the machinery. The Iron Shafts for the wheels are already cast, and will be here as soon as the navigation will permit. Contracts have been

made for the dressed stone for the Mill houses, Mill arches, &c., to be delivered by the 10th April, at which period the Committee contemplate commencing the erection of the buildings. Other parts of the work are progressing, and the Committee are using every exertion, to complete, at an early day, the work entrusted to them.

Agreeably to the authority vested in the Committee, they have authorized the Mayor to borrow one hundred and thirty thousand five hundred dollars, (including the sum reported last year,) all of which has been obtained at a premium of from two to six per cent. and the remainder will probably be had at an interest of five per cent. per annum.

The contract with Messrs. Cadwalader and others, authorized by resolution of Councils of 14th September last, has been carried into effect.

The Committee offer, as part of their Report, the annexed Accounts, viz.--

No. 1. Showing the sums expended in carrying on the Water Works, &c. for the past year, amounting to, - - - - -	\$24,018	82
The sum expended for Iron Main, - - - - -	21,930	79
Ditto for iron pipes, under appropriation of 22d April, 1819, - - - - -	16,940	79
Dam, Locks, &c., - - - - -	81,081	61
Mill buildings, pumps, &c. for the New Works, - - - - -	5,728	74
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No. 2. Is an account of the sums paid by the Superintendent into the Treasury, during the past year.

No. 3. Shows the quantity of Wooden Pipes laid last year, and also of Iron Pipes.

No. 7. Exhibits the number of Dwellings, &c., supplied with Schuylkill water, at the present time.

No. 4. Contains the estimate for carrying on the Fair Mount Works, and for Iron Pipes, during the current year, amounting to, \$41,960 84 which may in part be provided for in the following manner:--

Amount of Duplicate of Water Rents, per Account No. 5, \$19,981 80

Amount paid into the Treasury by the Superintendent, in 1820, per Account No. 2, 982 35

Amount of Water Rents received in advance, by the City Clerk, in 1820, and paid into the City Treasury, per Account No. 6, - - - - 663 23

----- 21,627 38

Leaving a deficiency of - - - - - \$20,333 46

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But it will be perceived, that of this sum, (by the Account No. 4.) \$14,660 84 consists of deficiency in the appropriation for Iron Main; and of estimate for the cost of Iron Pipes, and cost of laying them, essentially necessary to complete the plan adopted by the Councils, when they passed the Ordinance of 17th December, 1818, and as these Pipes are not part of the ordinary annual expenditure of the City, to be defrayed by annual taxes, but are part of a permanent system, which would be more equitably discharged in a course of years, by the operation of the Sinking Fund, the Committee suggest the propriety of extending the provisions of the Ordinance just mentioned, by authorizing a further loan of \$15,000, and they offer, accordingly, a draft of an Ordinance for the purpose.

557. (1820, page 7.)

Should this measure meet the view of Councils, there will then remain only \$5333 46 to be appropriated for the use of the Water Works, in the usual manner.

By order of the Committee,

JOSEPH S. LEWIS, Chairman.

January 11, 1821.

## LIST OF CERTIFICATES FOR MONIES

Drawn by the

WATERING COMMITTEE

for

FAIR MOUNT WATER WORKS,

From Dec. 31, 1819, to Dec. 31, 1820.

No.	1820.			Dolls.	C.
234	Jan'y	6	In favour of Frederick Graff, Clerk of the Water Works,	2000	00
235		15	Ditto, - - - - -	1055	25
236		22	Ditto, - - - - -	1017	00
237		28	Ditto, - - - - -	1000	00
238	Feb'y	1	Ditto, - - - - -	777	62
239		5	Ditto, - - - - -	4000	00
240		21	Ditto, - - - - -	2013	33
241	March	2	Ditto, - - - - -	4079	20
242		7	Ditto, - - - - -	4000	00
243		15	Ditto, - - - - -	2000	00
244	April	1	Ditto, - - - - -	3760	28
245		13	Ditto, - - - - -	6326	39
246		29	Ditto, - - - - -	2000	00
247	May	1	Ditto, - - - - -	2275	09
248		13	Ditto, - - - - -	3487	50
249		17	Ditto, - - - - -	1000	00
250		20	Ditto, - - - - -	1898	93
251		27	Ditto, - - - - -	3000	00
252	June	1	Ditto, - - - - -	1572	93
253		7	Ditto, - - - - -	4403	33
254		17	Ditto, - - - - -	3306	16
255		24	Ditto, - - - - -	4460	00
256		30	Ditto, - - - - -	3562	50
257	July	3	Ditto, - - - - -	2259	59
258		8	Ditto, - - - - -	3217	75
259		18	Ditto, - - - - -	1667	87
260		22	Ditto, - - - - -	3000	00
261		26	Ditto, - - - - -	5000	00
262			Ditto, - - - - -	3000	00
263	Aug.	2	Ditto, - - - - -	2660	34
264		5	Ditto, - - - - -	1853	50
265		12	Ditto, - - - - -	1013	33
266		15	Ditto, - - - - -	2975	00
267		29	Ditto, - - - - -	2693	72
268	Sept.	1	Ditto, - - - - -	5349	47
269		16	Ditto, - - - - -	3190	00
270		30	Ditto, - - - - -	3500	00
271			Ditto, - - - - -	4800	00
272	Oct'r	2	Ditto, - - - - -	2500	00



No.	1820.		Dolls.	C.
273	Oct'r	2 In favour of Frederick Graff, Clerk of the Water Works,	3352	43
274		Ditto, - - - - -	1795	10
275	6	Ditto, - - - - -	3666	67
276	28	Ditto, - - - - -	3675	00
277	Nov'r	1 Ditto, - - - - -	2052	97
278	11	Ditto, - - - - -	3575	00
279	25	Ditto, - - - - -	6940	00
280	Dec'r	2 Ditto, - - - - -	1819	31
281	9	Ditto, - - - - -	3500	00
282	23	Ditto, - - - - -	1220	71
283		Ditto, - - - - -	3893	86
284	30	Ditto, - - - - -	2533	62
			149700	75

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A B S T R A C T   O F   P A Y M E N T S  
MADE UNDER THE  
FOREGOING CERTIFICATES.

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DISTRIBUTION.

No.	1820.		Dolls.	C.
235	Jan'y	15	10	00
236		22	17	00
238	Feb'y	1	287	37
			17	00
241	March	2	15	50
			251	21
244	April	1	18	29
			67	80
			28	05
			70	50
247	May	1	345	56
			50	25
			175	00
			38	10
248		13	305	35
			27	50
252	June	1	32	19
			13	42
			11	00
			305	62
257	July	3	14	00
			249	54
263	Aug.	2	110	00
			30	00
			233	33
			386	23
268	Sept.	1	14	37
			38	18

No.	1820.			Dolls.	C.	Dolls.	C.
268	Sept.	1	George Smith, for nails, spikes &c. to August 2d, - - - - -	15	59		
			Ann Smith for hauling gravel, &c., - - - - -	28	00		
			Wages of workmen for August,	415	81		
273	Oct'r	2	Joseph Caskey for whiskey, - Ann Smith for sundry hauling in September, - - - - -	36	26		
			Frederick Graff for sundry small bills paid by him, - -	16	75		
			Wages of workmen for September	13	19		
274			Samuel Richards for iron cast- ings, - - - - -	335	02		
				26	20		
277	Nov'r	1	Farris & M'Affee for 64 loads of rubbish and 1 load of sand, - - - - -	7	05		
			Richard Smith for turning 390 pump boxes, - - - - -	24	37		
			Stephen Simmons for sundry lumber, - - - - -	251	95		
			John Warnick for nails, sprigs, tacks, &c., - - - - -	24	28		
			Thomas Morgan for 8 gallons neat's oil, - - - - -	12	00		
			Michael Fox for 6200 paving bricks, - - - - -	50	60		
			Wages of workmen for October,	352	84		
279		25	Archy Moore, digging and tak- ing up pipes near Reservoir,	100	00		
280	Dec'r	2	Passmore & Sparhawk for 2 doz- en shovels and 18 spades,	11	40		
			George and Jacob Peterman for horse feed to November 25th,	29	69		
			Henry Abbett for 1 dozen spades and 1 dozen spade handles,	9	50		
			William Kemble for 546 lbs. gun-borings, casks & charges	33	76		
			Ann Smith for hauling straw to fire-plugs, &c., - - - -	12	52		
			Wages of workmen for November,	352	84		
282		23	Archy Moore, balance for dig- ging and taking up water- pipes, - - - - -	115	37		
			Edward Smith for sundry iron,	58	49		
			Frederick Stilwaggon for 176 bushels of coals & hauling,	66	88		
			Daniel Knight for moving sta- ble and repairing fences, -	13	75		
			William Davis for ropes, - -	20	40		
			Samuel P. Wetherill & Co., for paints, oil, &c., - - - - -	35	08		
			William Reihle for 369 lbs. of pump leather, - - - - -	110	70		
			Cartnell & English for shoe- ing horse, &c., - - - - -	15	23		

No.	1820.		Dolls.	C.	Dolls.	C.	
282	Dec'r	23	Rowley and Alberger for plum- er's work to pumps, &c., -	69	97		
			Michael Williamson for sundry wrought iron, - - - - -	137	82		
283			Israel Roberts for 18 copper balls for pumps, - - - - -	36	00		
			William Dilworth for iron- mongery, - - - - -	77	11		
			William White for 86 1/2 yards of flannel, - - - - -	26	89		
284	30		John Warnick for nails, apikes &c., - - - - -	12	56		
			William B. Emerick for 1/3 of lot in Cherry street and interest, - - - - -	119	50		
			Dixey & Manderfield for 25 hydrant pumps, - - - - -	137	50		
			Ann Smith for hauling pipes to the pond, &c., - - - - -	86	95		
			Frederick Graff for sundry small bills paid by him, -	19	23		
			Wages of workmen for December,	515	25		

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6996 66

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ENGINES.

235	Jan'y	15	Michael Fox for 2500 bricks had in 1819, - - - - -	20	25		
238	Feb'y	1	Wages of workmen for January, 1820, - - - - -	271	75		
			Ann Smith on account for haul- ing wood, - - - - -	75	00		
241	March	2	Wages of workmen for February, Ann Smith on account for haul- ing wood, - - - - -	255	75		
				35	00		
244	April	1	Wages of workmen for March, Ann Smith on account for haul- ing wood, - - - - -	291	75		
				40	00		
245		13	Caldwell & Fisher for 100 cords of wood, - - - - -	462	50		
			Henry Nixon, 6 months' rent of wood wharf, due April 15,	175	00		
247	May	1	Ann Smith on account for haul- ing wood, - - - - -	17	50		
			Ann Smith on account for hauling wood to engines, - -	40	00		
			Wages of workmen for April, -	257	50		
			Caldwell & Fisher for 100 cords of wood, - - - - -	462	50		

No.	1820.			Dolls.	C.	Dolls.	C.
248	May	13	Thomas Hodgson for 100 cords of wood, - - - - -	460	00		
250		20	E. & T. Ballett for 612 lbs. of tallow, - - - - -	85	68		
			Thomas Hodgson for 100 cords of wood, - - - - -	460	00		
252	June	1	Ann Smith for sundry hauling in May, - - - - -	36	75		
			Wages of workmen for May, - -	322	74		
253		7	Caldwell & Fisher for 100 cords of wood, - - - - -	462	50		
			Thomas Hodgson for 100 cords of wood, - - - - -	460	00		
255		24	Thomas Hodgson for 100 cords of wood, - - - - -	460	00		
256		30	Caldwell & Fisher for 100 cords of wood, - - - - -	462	50		
257	July	3	Ann Smith, balance for hauling 1059 cords of wood, delivered in 1819, - - - - -	127	70		
			Ann Smith for sundry hauling in June, - - - - -	28	00		
			Thomas Hodgson for 100 cords of wood, - - - - -	460	00		
			Wages of workmen for June, - -	349	43		
258		8	John Marley on account for cording wood, - - - - -	30	00		
259		18	Thomas Hodgson for 200 cords of wood a \$4 75, - - - - -	950	00		
263	Aug.	2	Ann Smith for hauling wood on the wharf, - - - - -	23	94		
			Wages of workmen for July, - -	344	71		
266		15	Thomas Hodgson for 100 cords of wood, - - - - -	475	00		
267		29	Caldwell & Fisher, balance for 506 3/4 cords of wood, - - -	493	72		
268	Sept.	1	Wages of workmen for August,	267	25		
273	Oct'r	2	Thomas Hodgson for 200 cords of wood, - - - - -	950	00		
			Wages of workmen for September	278	37		
277	Nov'r	1	Thomas Morgan for 32 gallons of neat's foot oil, - - - -	48	00		
			Ann Smith on account of hauling wood, delivered in 1820,	125	00		
			Henry Nixon for 6 months' rent of wood wharf, due October 15,	175	00		
			Wages of workmen for October,	283	68		
280	Dec'r	2	Christian Frank for glazing in 1819 and 1820, - - - - -	10	65		
			Wages of workmen for November,	283	68		
282		23	John Marley, balance for cording 1614 cords of wood,	34	56		
			William Davis for chandelery,	269	40		
			Samuel P. Wetherill for emery, whiting, oil, &c., - - - -	25	00		
283			Israel Roberts for copper work to south engine, - - - - -	37	80		

No.	1820.		Dolls.	C.	Dolls.	C.	
283	Dec'r	23	Thomas Hodgson, balance for - 1107 1/4 cords of wood, - -	453	74		
			E. & T. Dallett for 1820 lbs. of tallow, and 227 lbs. of candles, - - - - -	208	65		
284		30	William Byrne for repairs of brick work to boilers, - -	12	75		
			Ann Smith, balance for hauling 780 cords of wood, delivered in 1820, - - - - -	70	00		
			Wages of workmen for December,	319	75		
				<hr/>		12750	45
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INCIDENTAL EXPENSES.							
240	Feb'y	21	Arabella Jones, 6 months' ground rent, due Feb. 1, 1820,	15	33		
244	April	1	Frederick Graff for sundry small bills paid by him, -	73	17		
245		13	John Carter for hack hire, -	54	00		
247	May	1	Isaac Milnor for sundries, - -	46	09		
250		20	J. S. Lewis, and J. Bacon, post- age, &c. paid by them, - -	5	83		
			Lydia R. Bailey for printing 250 copies of reports, con- tracts, &c., - - - - -	60	74		
			William Jackson for advertising in 1819, - - - - -	6	67		
253	June	7	John Carter for hack hire, - -	73	00		
257	July	3	John Carter for hack hire, - -	87	00		
259		18	Thomas Mitchell for drawing sundry agreements, - - - -	9	00		
263	Aug.	2	Thomas Mitchell for drawing sundry agreements, - - - -	5	00		
			John Kenworthy for painting shop signs, - - - - -	7	50		
264		5	Matthew Randall for recording deeds, stationary, &c., - -	103	50		
265		12	Arabella Jones for 6 months' ground rent, due Aug. 1, -	13	33		
268	Sept.	1	J. M. Cunningham for permit book and notices, - - - - -	12	00		
			Horace Binney for drawing agree- ments and advice, - - - - -	140	00		
273	Oct'r	2	Frederick Graff for sundry small bills paid by him, - -	177	22		
			John Carter for hack hire, - -	100	00		

No.	1820.		Dolls.	C.	Dolls.	C.
276	Oct'r 28	Horace Binney, retaining fee, and professional services,	100	00		
280	Dec'r. 2	Frederick Erringer for poor tax for 1820, - - - - -	18	20		
		John Carter for hack hire bal- ance to Nov. 28, - - - - -	124	50		
		Francis Mitchell for poor tax Fair Mount estate, for 1820,	29	60		
		Isaac Milnor's estate for sun- dries, - - - - -	139	32		
282	23	Abraham Small for register book of water rents, &c., -	74	62		
		George Hyde & Son for incident- als, - - - - -	23	50		
283		John Binns for advertising in 1820, - - - - -	4	67		
284	30	Samuel Relf, agent, for adver- tising in 1820, - - - - -	5	66		
		Frederick Graff for sundry small bills paid by him, - - - -	29	00		
		Zachariah Poulson, advertising in 1820, - - - - -	7	66		
		Thomas Mitchell for drawing sundry agreements, - - - -	29	00		
			<hr/>		1573	11
  <hr/>  <b>SALARIES.</b>  <hr/>						
235	Jan'y 15	James Young, 6 months' salary, due Dec. 31, 1819, - - - -	25	00		
244	April 1	Frederick Graff, one quarter's salary, - - - - -	500	00		
257	July 3	James Young, 6 months' salary,	25	00		
260	22	Frederick Graff, one quarter's salary, - - - - -	500	00		
274	Oct'r 2	Frederick Graff, one quarter's salary, - - - - -	500	00		
284	Dec'r 30	James Young, 6 months' salary, due Dec. 31, 1820, - - - -	25	00		
		Frederick Graff, balance for 1 year's salary, due Dec. 31, 1820, - - - - -	500	00		
			<hr/>		2075	00

## DAM, LOCKS, &amp;c.

No.	1820.		Dolls.	C.	Dolls.	C.
234	Jan'y	6	Ariel Cooley, on account for building Dam, Locks, &c., -	2000	00	
235		15	Ditto, ditto, - -	1000	00	
236		22	Ditto, ditto, - -	1000	00	
237		28	Ditto, ditto, - -	1000	00	
239	Feb'y	5	Ditto, ditto, - -	4000	00	
240		21	Ditto, ditto, - -	2000	00	
241	March	2	Ditto, ditto, - -	2000	00	
243		15	Ditto, ditto, - -	2000	00	
244	April	1	Ditto, ditto, - -	2000	00	
245		13	Ditto, ditto, - -	2000	00	
246		29	Ditto, ditto, - -	2000	00	
248	May	13	Ditto, ditto, - -	3000	00	
250		20	J.S.Lewis and J.Bacon, for 10 casks Roman cement, - - - -	100	00	
251		27	Ariel Cooley, on account, - -	3000	00	
253	June	7	Peter A. L. Quick for 4500 feet, 3 by 4, scantling, -	31	50	
			John Laforge for 53100 feet of oak joist, &c., - - - -	376	33	
			Ariel Cooley on account, - -	3000	00	
254		17	Thomas Conarroe, attendance on inspection of joist, wages of men, &c., - - - -	81	38	
			Ariel Cooley on account, - -	2000	00	
255		24	Ditto, ditto, - -	3000	00	
258	July	8	Ditto, ditto, - -	3000	00	
260		22	Ditto, ditto, - -	2500	00	
261		26	Ditto, as per contract for raising the Dam 18 inches higher, \$4250, and on account of former contract, \$750, - - - -	5000	00	
264	Aug.	5	Ditto, ditto, - -	1750	00	
266		15	Ditto, ditto, - -	2500	00	
267		29	William Briggs on account, for raising Canal and Locks 18 inches higher, - - - -	600	00	
268	Sept	1	Ariel Cooley on account, - -	2500	00	
269		16	Ditto, ditto, - - - -	2500	00	
			William Briggs on account, for raising Canal and Locks, - -	600	00	
270		30	Ariel Cooley on account, - -	3500	00	
272	Oct'r	2	Ditto, ditto, - - - -	2500	00	
273			Thomas Clarke, 140 days superintending the works, - - - -	280	00	
276		28	Ariel Cooley on account, - -	2500	00	
			William Briggs on account, for raising Canal and Locks, - -	1000	00	
			Frederick Erdman on account, for planking south face of Dam, - - - - - - - -	75	00	
277	Nov'r	1	John Warnick for 959 lbs. of large spikes, - - - - - -	86	31	



No.	1820.		Dolls.	C.	Dolls.	C.	
278	Nov'r	1	Ariel Cooley on account, - -	2500	00		
			Frederick Erdman on account,	75	00		
			William Briggs, balance for				
			raising Canal and Locks, -	1000	00		
279		25	Henry Nixon, interest due on				
			\$4000 for the purchase of				
			the inlet of Race, due Aug-				
			ust 25, 1820, - - - - -	240	00		
			Ariel Cooley on account, - -	4000	00		
			Frederick Erdman on account,	100	00		
280	Dec'r	2	J.S.Lewis & J.Bacon for 18				
			casks of Roman cement, - -	162	00		
			Thomas Clarke, 30 days super-				
			intending the works, - - -	60	00		
			Watson & Bunting for 1362 feet				
			of lumber, and hauling, - -	21	32		
			Samuel Hains for measuring				
			rocks to be removed, &c.,	23	50		
281		9	Ariel Cooley on account, - -	3000	00		
282		23	Robert Brooke for levelling				
			Dam, Locks, Canal, &c., - -	7	00		
			Lancaster Schuylkill Bridge				
			Company, 1 year's toll for				
			1820, - - - - -	13	50		
283			Conarroe & Scott for survey				
			and plan of inlet of Canal,				
			&c., - - - - -	14	00		
			Ariel Cooley on account, - -	3000	00		
284		30	John Warnick for spikes for				
			planking south face of Dam,	105	96		
			Frederick Erdman, balance for				
			planking 1058 ft. 6 in. of				
			Dam, - - - - -	278	81		
				<hr/>		81081	61
-----							
IRON MAIN.							
238	Feb'y	1	Wages of workmen for January,				
			1820, - - - - -	102	50		
			Ann Smith for sundry hauling				
			in Dec. 1819 and Jan. 1820,	24	00		
241	March	2	Wages of workmen for February,	100	74		
			J.S.Lewis & J.Bacon for the				
			payment for lead, - - - - -	1421	00		
242		7	Samuel Richards, on account				
			for iron pipes, - - - - -	4000	00		

No.	1820.		Dolls.	C.	Dolls.	C.
244	April	1	Stilwaggon & Knight for 75 bushels of coals, - - - - -	30	00	
			Ann Smith for hauling iron pipes, - - - - -	33	25	
245		13	Daniel Large for hydraulic proving pump, - - - - -	134	89	
			Samuel Richards, on account for iron pipes, - - - - -	3500	00	
247	May	1	Thomas Sparks for 40 C. O gr. 24 lb. of pig lead, - - - -	321	71	
			Ann Smith for hauling pipes, clearing turnpike, &c. in April, - - - - -	83	43	
			Wages of workmen for April, - - - - -	477	66	
249		17	Samuel Richards, on account for iron pipes, - - - - -	1000	00	
250		20	J.S.Lewis & J.Bacon, balance of acceptance for the payment of lead, - - - - -	68	91	
			William D. Caldwell, 2/3ds payment for a lot of ground, - - - - -	1110	10	
252	June	1	William Somerville for sundry castings, - - - - -	43	56	
			Ann Smith for hauling pipes, stone off the turnpike, &c., - - - - -	81	89	
			Wages of workmen for May, - - - - -	559	53	
254		17	J.S.Lewis & J.Bacon for the purchase of lead and insurance, - - - - -	1224	78	
255		24	Ditto, ditto, for the payment of iron pipes from London, - - - - -	1000	00	
257	July	3	Ann Smith for hauling pipes, &c., in June, - - - - -	63	87	
			Wages of workmen for June, - - - - -	689	40	
258		8	Robert Brooke for surveying, and plans of Callowhill St., - - - - -	187	75	
259		18	Abraham Barker for 3 T. 16 C. 0 gr. 4 lb. of lead, - - - - -	558	87	
			Thomas Sparks for 1 T. do., - - - - -	150	00	
263	Aug.	2	Ditto, for 3 do., - - - - -	450	00	
			Ann Smith for hauling pipes, &c. in July, - - - - -	75	56	
			Wages of workmen for July, - - - - -	754	56	
			J.S.Lewis & J.Bacon, freight of iron pipes, lead, &c., - - - - -	223	51	
267		29	Samuel Richards on account, for iron pipes, - - - - -	1000	00	
268	Sept.	1	R. E. Smith, 39 days' wharfage for iron pipes in 1819 and 1820, - - - - -	58	50	
			Ann Smith for hauling pipes, stones, &c., - - - - -	36	00	
			Wages of workmen for August, - - - - -	688	99	
273	Oct'r	2	Joseph Caskey for whiskey, - - - - -	75	00	

No.	1820.			Dolls.	C.	Dolls.	C.
273	Oct'r	2	Ann Smith for hauling pipes, &c. in September, - - - - -	16	62		
			Frederick Graff for sundry small bills paid by him, -	20	05		
274			Wages of workmen for September, Samuel Richards, balance for 832 pipes of 20 inches, branches, &c., - - - - -	396	19		
277	Nov'r	1	Stephen Simmons for sundry lumber, - - - - -	791	38		
			Ann Smith for hauling gravel on the turnpike, &c., - - -	70	53		
280	Dec'r	2	Patterson Hartshorne for 4 days' wharfage of iron pipes, Edward W. Carr for 4 sets of cock screws, - - - - -	29	37		
			Henry Bell for sundry lumber, Ann Smith for hauling gravel on the turnpike, &c., - - -	13	42		
282		23	William Davis for ropes and spun yarn, - - - - -	56	87		
			William Lehman for 336 lbs. of vitriol, and carboy, - - -	12	80		
283			Michael Williamson for wrought iron, - - - - -	31	74		
			William Dilworth for spades, shovels, &c., - - - - -	30	00		
284		30	Ariel Cooley for 113 1/2 per- ches of stone, at 25 cents, Ann Smith for hauling gravel on the turnpike, &c., - - -	35	00		
				28	37		
				34	12		
				-----		21930	79
-----							
IRON PIPES.							
244	April	1	John Newsham for turning 11 patterns, - - - - -	8	00		
			Edward W. Carr for 10 sets of screws for cocks, - - - - -	75	56		
			Charles Green for brass facings and screws for ditto, - - -	42	10		
			Wages of workmen for March, -	136	25		
252	June	1	Edward W. Carr for 12 sets of screws for cocks, - - -	94	98		
			Wages of workmen making pat- terns, &c., - - - - -	71	25		
256		30	Reeve Lewis & Co. on account for iron pipes, - - - - -	3100	00		

No.	1820.		Dollrs.	C.	Dollrs.	C.	
257	July	3	Charles Green for 120 1/4 lbs. of brass castings, - - - - -	48	10		
			John Newsham, for turning patterns, - - - - -	15	00		
			Ann Smith for hauling pipes, &c. in June, - - - - -	16	00		
			Wages of workmen for June, -	86	55		
262	July	26	Reeve Lewis & Co. on account for iron pipes, - - - - -	3000	00		
263	Aug.	2	Ann Smith for hauling pipes in July, - - - - -	16	00		
267		29	Reeve Lewis & Co. on account for iron pipes, - - - - -	600			
271	Sept.	30	Ditto, do., - -	4800	00		
273	Oct'r	2	Edward W. Carr for 16 sets of cock screws, - - - - -	121	00		
			Ann Smith for hauling pipes in September, - - - - -	22	82		
			Wages of workmen for September,	200	54		
274			Samuel Richards for 15 pipes of 15 inches, &c., - - - - -	477	52		
277	Nov'r	1	Stephen Simmons for lumber, -	59	41		
			Charles Green for brass castings, - - - - -	30	00		
			Ann Smith for hauling pipes in October, - - - - -	5	13		
			Wages of workmen for October, connecting pipes, &c., - -	355	20		
279		25	Reeve Lewis & Co. on account for iron pipes, - - - - -	2500	00		
280	Dec'r	2	Ann Smith for hauling pipes, &c., - - - - -	13	25		
			Wages of workmen for November,	355	20		
281		9	Reeve Lewis & Co. on account for iron pipes, - - - - -	500	00		
282		23	Michael Williamson for wrought iron, - - - - -	30	00		
284		30	Reeve Lewis & Co. balance for iron pipes, &c. delivered in 1820, - - - - -	23	21		
			Frederick Graff for sundry small bills paid by him,	9	80		
			Wages of workmen for December,	127	92		
				-----		16940	79

BUILDINGS.

265	Aug.	12	Ariel Cooley, on account for quarrying out mill-seats,	1000	00		
268	Sept.	1	Ditto, do. for do., -	1000	00		
273	Oct'r	2	Frederick Graff for sundry small bills paid by him, -	12	20		
277	Nov'r	1	Henry Nixon, 3 months' rent of store-house, &c. due Oct. 15, - - - - -	37	50		
284	Dec'r	30	Ann Smith for hauling mill-wheel timber, - - - - -	12	37	2062	07

RESERVOIR.

No.	1820.		Dolls.	C.	Dolls.	C.
268	Sept.	1				
			134	78		
269		16	90	00		
273	Oct'r	2	25	25		
			62	60		
			9	69		
			203	66		
277	Nov'r	1	24	75		
280	Dec'r	2	24	72		
282		23	24	90		
284		30	23	25		
					623	60
-----						
PUMPS.						
275	Oct'r	6	3666	67		
					3666	67
					149700	75
-----						

No. 1.

ABSTRACT OF PAYMENTS

MADE BY THE

WATERING COMMITTEE

From Dec'r 31, 1819, to Dec'r 31, 1820.

	Dolls.	C.
Distribution, - - - - -	6996	66
Engines, - - - - -	12750	45
Incidental Expenses, - - - - -	1573	11
Salaries, - - - - -	2075	00
Dam, Locks, &c/, - - - - -	81081	61
Iron Main, - - - - -	21930	79
Iron Pipes, - - - - -	16940	79
Mill Buildings, - - - - -	2062	07
Reservoir, - - - - -	623	60
Pumps, - - - - -	3666	67
	149700	75

No. 2.

SUMS PAID INTO THE TREASURY

BY THE SUPERINTENDENT,

From Dec'r 31, 1819, to Dec'r 31, 1820.

	Dolls.	C.
1820. July 5 To John Bacon, Treasurer, - - - - -	623	90
Dec'r 29 To ditto do.	358	45
	982	35

STATEMENT OF PIPE

USED IN THE DISTRIBUTION,

From Dec'r 31, 1819, to Dec'r 31, 1820.

	Feet.	Feet.
For two Fire plugs in the State House yard, - -	310	
Hospital yard, which was paid for, - - - - -	230	
Lombard street, from Ninth, to west of Tenth street, - - - - -	465	
Raspberry alley, from Locust, southward, - - -	262	
Eleventh, from Sassafras, northward, - - - - -	290	1557
Repairs in streets, and for fire plugs, - - - -		2031
		<u>3588</u>
Logs in the pond, December 31, 1819, - - - - -	1600	
Logs purchased in 1820, - - - - -	2072	
	<u>3672</u>	
Logs laid and used in repairs as above, - - - -	3588	
Leaves in the pond, December 31, 1820, - - - - -	84	

There also have been laid, in High street, east of Centre Square, 860 feet of 6 inch, and in Broad street, 315 feet of 10 and 15 inch Iron Pipes.

No. 4.

ESTIMATES FOR THE YEAR 1821.

	Dolls.	C.	Dolls.	C.
For working of engines and materials, - - -	3900	00		
2000 cords of wood, cording, hauling, and piling, - - - - -	11500	00		
Rent of wood wharf, - - - - -	350	00		
Hauling wood now on the wood wharf to the engines, - - - - -	250	00		
			<u>16000</u>	00

	Dolls.	C.	Dolls.	C.
For 5000 feet of pipe timber, boring, hauling, and laying, at 60 cts., - - - - -	3000	00		
Sundry castings, wroughtiron, &c., - - -	800	00		
Hydrant pumps and fixtures, - - - - -	400	00		
Repairs of pumps, fire plugs, &c., - - -	4500	00		
10,000 feet of lumber, for sundries, - -	400	00		
Salaries of Superintendent and Messenger,	2050	00		
Incidental expenses, - - - - -	150	00		
			11300	00
Sum deficient in the appropriation for Iron Main, - - - - -	2947	23		
And of appropriation for Distribution, Salaries, Incidentals, Reservoir, and Engines, - - - - -	268	82		
Making together, - - -	3216	05		
From this sum is to be taken the sum unex- pended of the appropriation of 22d April 1819, for Iron Pipes, - - - - -	2239	21		
Leaving, - - - - -	976	84		
And there should be added this sum, to make good the contracts for Iron Pipes and branches last year, not yet paid for,	2622	00		
Making together, - - -	3598	84		
For 450 pipes of 6 inches, at \$1 40 per foot, - - - - -	5670	00		
100 pipes of 3 and 4 inches, at \$1 per foot, - - - - -	900	00		
20 tons of cocks, branches, &c. at \$80, Cost of lead and expenses of laying Iron pipes on hand, and those contracted for, - - - - -	1600	00		
	2892	00	14660	84
			41960	84

FREDERICK GRAFF,

Superintendent of the Water Works.



No. 5.

STATEMENT

of the

ACCOUNTS OF THE WATER RENTS.

	Dolls.	C.
Amount of Water Rents, as delivered to the Collectors,	22202	00
Less 10 per cent., for allowances and commissions, - -	2220	20
	19981	80

No. 6.

RECEIPTS OF RENTS

PAID INTO THE TREASURY.

	Dolls.	C.
From 1st January to 31st March, - - - - -	219	30
1st April to 30th June, - - - - -	234	34
1st July to 30th September, - - - - -	123	76
1st October to 31st December, 1820, - - - - -	85	83
	663	23

No. 7.

## L I S T

of

## DWELLINGS, MANUFACTORIES AND INSTITUTIONS,

Supplied with the Schuylkill Water, to the 31st December, 1820.

		Dolls.	C.	Dolls.	C.	
13	Horses, - - - - -	at	1	00	13	00
45	Houses in courts, - - - - -		2	00	90	00
6	Ditto, do. - - - - -		2	50	15	00
298	Baths, - - - - -		3	00	894	00
16	Houses in courts, - - - - -		2	00	32	00
2	Baths in county, - - - - -		4	50	9	00
3499	Dwellings, schools, &c., - - - - -		5	00	17495	00
2	Ditto, do. - - - - -		6	00	12	00
2	Ditto, do. - - - - -		6	50	13	00
1	Bake house, - - - - -		7	00	7	00
73	Dwellings in county, - - - - -		7	50	547	50
11	Hatters, Hydrants in courts, - - - - -		8	00	88	00
5	Hydrant pumps, Vinegar yard, &c., - - - - -		9	00	45	00
63	Inns, stables, banks, taverns, &c., - - - - -		10	00	630	00
6	Soap boilers, hatters, &c., - - - - -		12	00	72	00
10	Dyers and other manufactories, - - - - -		13	00	130	00
47	Distilleries, soap boilers, and paper hanging manufactories, - - - - -		15	00	705	00
2	Hydrants in courts, - - - - -		16	00	32	00
21	Sugar houses, distilleries, &c., - - - - -		20	00	420	00
1	Hydrant in Shields's court, - - - - -		22	00	22	00
2	Stables, - - - - -		24	00	48	00
13	Sugar houses, hatters, inns, &c., - - - - -		25	00	325	00
9	Prisons, soap boilers, dyers, &c., - - - - -		30	00	270	00
1	Brewery, - - - - -		34	00	34	00
6	Tanyards, stables, and morocco factory, - - - - -		35	00	210	00
6	Breweries, stables, &c., - - - - -		40	00	240	00
5	Hospitals, breweries, &c., - - - - -		50	00	250	00
2	Breweries, - - - - -		59	00	118	00
1	Brewery, - - - - -		70	00	70	00
1	Bath house, - - - - -		80	00	80	00
1	Alms house, - - - - -		100	00	100	00
4170					23016	50

Amount of Duplicates of Water Rents, for 1821.

		Dolls.	C.	Dolls.	C.
North Mulberry Ward,	- - - - -	1302	50		
Upper Delaware, do.,	- - - - -	1362	00		
		-----		2664	50
South Mulberry do.,	- - - - -	1574	50		
Lower Delaware do.,	- - - - -	1448	00		
		-----		3022	50
North do.,	- - - - -	2781	00		
High street do.,	- - - - -	1332	00		
		-----		4113	00
Middle do.,	- - - - -	1832	00		
Chesnut do.,	- - - - -	1356	00		
		-----		3188	00
South do.,	- - - - -	1932	00		
Walnut do.,	- - - - -	1058	00		
		-----		2990	00
Locust do.,	- - - - -	2277	00		
Dock do.,	- - - - -	1174	00		
		-----		3451	00
Cedar do.,	- - - - -	1961	00		
New Market do.,	- - - - -	1626	50		
		-----		3587	50
				-----	
				23016	50
				-----	

Signed, MATTHEW RANDALL,

City Clerk.

## R E P O R T.

THE Watering Committee feel great reluctance in coming before Councils, when they ask for additional sums to perfect a system which has already cost so much to the public; but when the public interest requires it, they conceive it their duty to take the responsibility of recommending measures, however costly they may prove in their execution.

It is well known to Councils, that, until a very recent period, all the conduits in the City were of wood; that many of them have already been down longer than it was originally calculated they would last; and that expensive repairs have been made and are constantly making. During the present year alone, the repairs, including the repaving, will amount to upwards of five thousand dollars; and from former experience, the conclusion is obvious, that, during the ensuing winter and spring, the expense will be abundantly increased, as every hour diminishes the strength of the pipes. In High, Mulberry, Chesnut, Walnut, Front, Second, Third, Fourth, and Fifth streets, the wooden pipes have been laid near twenty years; in Spruce, Union, Lombard, and Cedar, eighteen years; and in other streets they were afterwards gradually extended. The original calculation of duration was about fifteen years; when, it was expected, they would require to be replaced by others. This, now, is unfortunately the case; and it has fallen to the present Committee to consider whether these shall be of wood or of iron, and after some experience, and much acquired information, they have but one opinion, which is, that iron is the only kind to be thought of. "In London", says Mr. Walker, "the use of iron pipes is universal: whenever the old wooden mains begin to decay, it is thought better to take them up altogether, and to substitute iron, than to continue repairing them."

Independent of the expense of repairs, the tearing up of the pavements is unpleasant, and tends to render their passage uncomfortable, and sometimes dangerous.

The expense of iron, compared with wood, is also to be considered as giving great advantage to the former.---An iron pipe, of the usual dimensions of the wooden pipes heretofore in use, will cost about one half more than wood, and probably will last ten times as long.

Wooden pipes, when laid down, are often, on trial, found defective; and in a short time are to be replaced at considerable expense. In the course of the few years which any part of <sup>a</sup> section lasts, probably three fourths are shifted, whilst the iron pipes are not subject to these casualties; because, before they are laid, they are subjected to a proof of their strength, and are composed of materials, not subject, like to wood, to early decay. Since the iron pipes, upon the present plan, have commenced to be laid, no instance of a leak has occurred.

High street, on both sides, Second street, from Mulberry to Spruce street, Third street, from Mulberry to Spruce, Front street, from Mulberry to South, and Mulberry, from Eighth to Front street, require immediate attention; and the cost of the iron pipes for these streets alone, will be about forty-six thousand dollars.

In addition to this, it will be necessary, in perfecting a proper system for iron pipes, to lay some in places where it would not otherwise be immediately necessary to renew the wooden ones, for the purpose of affording a more full and regular supply, particularly to the eastern part of the City, at its north and south extremities.

In examining the means of procuring these pipes, and those

which will be wanted in a succession of years, the Committee have endeavoured to form a plan the least burthensome at the present day, and fixing upon posterity a portion of the cost of an improvement, of which they will also derive the benefit. This, they conceive, should be to raise all the money on loan, from time to time, payable in thirty years from the time it is taken up; that it shall be a five per cent. loan; and that any premiums received should be placed in the Sinking Fund, and a pledge to place also in the sinking fund an annual appropriation of two per cent. of the amount of each loan, out of the water rents, City rental, or by taxes.

The Committee would willingly put the evil day afar off, but it is in vain to shut their eyes to what they must too soon be convinced is false economy, and that an expenditure, in the course of a few years, of one hundred thousand dollars, for iron pipes, will save half a million in repairs, upon the old system; which, being radically wrong, never can be made a good one.

The Committee offer, as part of their report, a draft of the proposed plan of laying the iron pipes, and a letter, with estimates, from the Superintendent of the Water Works. They also offer the draft of an Ordinance on the subject.

By Order of the Watering Committee.

JOSEPH S. LEWIS, Chairman.

November 22, 1821.

Office, Cherry street, November 19, 1821.

Joseph S. Lewis, Esq.

Chairman of the Watering Committee.

Sir,

In making an estimate for replacing the decayed wooden pipes with iron, it is impossible to select such streets, where the pipes are most decayed, without having some reference to the general plan laid down, as a system to be pursued with iron pipes. If the intermediate streets, which require re-laying, were only done in select parts with iron, there would be much difficulty hereafter, when further sections were to be laid, in joining the pipes, as well as in retaining the proper depths required. In many places, the wooden pipes are not more than eighteen inches under the surface of the streets; the iron pipes require to be laid full four feet: independent of this inconvenience, unless the eight and ten inch mains can be brought on to aid the supply, which is insufficient in the wooden pipes, the effect of an additional supply of water would be lost, as laying detached parts of streets would only be made more durable with iron, but the deficiency of water would still be felt. It is obvious, that a six or eight inch pipe, placed between pipes of smaller dimensions, cannot aid in giving an increased quantity of water. These circumstances have induced me to estimate a greater quantity of ten inch main, in order to surround the parts of the City where the wooden pipes are most decayed, High, Front, and Mulberry streets excepted; after which, the internal spaces may be readily filled up with six inch pipes, which will give an immediate increase of water. In describing an enclosure, with

eight and ten inch mains, due reference has been had to curtail the distance as much as possible. I have therefore selected that part of the City where the wooden pipes have been laid since the years 1801, 2, 3, 4, and 5, which are chiefly encompassed from Mulberry to Spruce, and from Fifth to Front streets, including Front, from Mulberry to South street, Mulberry, from Fifth to Eighth, and High, from Centre Square to Front street. Annexed is an estimate for laying sundry streets, with the cost of branches, stop-cocks, fire-plugs, materials, and work, included.

## ESTIMATE.

			Feet.
High street, from Centre Square to Front street, two ranges of - - - - -		six inch pipes,	12,812
Mulberry street, from Eighth to Front street,	10	do. - -	3,480
Chesnut street, north side, from Fifth to Front street, - - - - -	10	do. - -	2,024
Walnut street, from Dock to Front street,	6	do. - -	706
Spruce street, from Fifth to Front street,	10	do. - -	2,024
Fifth street, from Mulberry to Spruce street,	10	do. - -	2,897
Fourth street, from Mulberry to Spruce street,	6	do. - -	2,897
Third street, from Mulberry to Spruce street,	6	do. - -	2,897
Second street, from Mulberry to Spruce street,	6	do. - -	2,897
Front street, from Mulberry to South street,	8	do. - -	4,158
For small streets and alleys, three and four inch pipes. - - - - -			5,000



## RECAPITULATION OF ESTIMATE.

22,209 feet of 6 inch pipes at \$1 50 per foot, - -	\$33,313 50
4,158 do. 8 do. 2 00 do., - - -	8,316 00
10,425 do. 10 do. 3 00 do., - - -	31,275 00
5,000 do. 3 and 4 inch, 1 00 do., - - -	5,000 00
<u>41,792 feet of pipe.</u>	<u>\$77,904 50</u>

N. B. The squares coloured red, in the plan, show the streets calculated to be laid with iron pipes, and embraced in the estimate.

In order to complete the estimate for iron pipes, not including alleys, from Vine to South, and from Fifth to Front streets, I take the liberty of extending the calculations accordingly. The streets coloured black will show the additional quantity of pipes required for that purpose.

	Feet.
Fifth street, from Vine to Mulberry, and from Spruce to South, - - - - - 10 inch pipes, - -	2,783
Fourth street, - - - - - ditto, - - - 6 do. - -	2,783
Third street, - - - - - ditto, - - - 6 do. - -	2,783
Second street, - - - - - ditto, - - 6 do. - -	2,783
Front street, from Vine to Mulberry, - - 8 do. - -	1,467
Vine street, from Fifth to Front, - - - 10 do. - -	2,024
Sassafras street, from Fifth to Front, - 6 do. - -	2,024
Pine street, from Fifth to Front, - - - 6 do. - -	2,024
Lombard street, from Fifth to Front, - - 6 do. - -	2,024
South street, from Fifth to Front, - - - 10 do. - -	2,024

RECAPITULATION.

14,421 feet of 6 inch pipes at \$1 50 per foot, - - -	\$21,631 50
1,467 do. 8 do. 2 00 do. - - -	2,934 00
6,831 do. 10 do. 3 00 do. - - -	20,493 00
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22,719 feet of pipes.	\$45,058 50
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With great respect,

Your humble servant,

FREDERICK GRAFF.

JAN. 17, 1822

AN ORDINANCE empowering the Mayor to raise Money to be applied to laying down Iron Pipes of Conduit through the Streets of the City, in lieu of the Wooden Pipes now in use, and for other purposes.

1 WHEREAS the wooden pipes of conduit have, from age and other  
 2 causes, become very defective, whereby a great waste of water  
 3 takes place, and much injury, by leaks, is done to the property  
 4 of the inhabitants, and who are also deprived of the use of the  
 5 water whilst the pipes are repairing; and whereas it will con-  
 6 duce to the best interest of the City, to replace the wooden  
 7 pipes, from time to time, with iron pipes, [and to discontinue,  
 8 in future, the laying down of wooden pipes, altogether.] There-  
 9 fore,

1 SECTION 1. Be it ordained and enacted by the citizens of  
 2 Philadelphia in Select and Common Councils assembled, That the  
 3 Mayor of the City be, and he is hereby authorized to borrow,  
 4 upon the credit of the Corporation, and at an interest not ex-  
 5 ceeding five per centum, any sums not exceeding twenty-five  
 6 thousand dollars in any one year, nor in the whole one hundred  
 7 and twenty-five thousand dollars, to be applied to the purchase  
 8 and laying down iron pipes of conduit through the streets of the  
 9 City, and that the water rents, and the income of the corporate  
 10 estates, (not already appropriated,) shall be, and the same

11 hereby are pledged, for the payment of the interest, and the  
12 repayment of the principal, of all moneys which may be borrowed  
13 by virtue of this Ordinance.

1       SECTION 2. And be it further ordained and enacted by the  
2 authority aforesaid, That the moneys to be raised by virtue  
3 of this Ordinance, shall be borrowed at such times, and in  
4 such sums as may be fixed on by the Watering Committee, and  
5 shall be placed in the Treasury, subject to the drafts of the  
6 Mayor, upon certificates granted by the Chairman of the said  
7 Committee, in the usual manner.

1       SECTION 3. And be it further ordained and enacted by the  
2 authority aforesaid, That for each sum borrowed by virtue of  
3 this Ordinance, it shall be the duty of the Mayor to issue a  
4 certificate or certificates, to the lenders of the amount bor-  
5 rowed, in sums of one hundred dollars each, and that the inter-  
6 est on the same shall be payable half yearly, on the first day  
7 of January and first day of July, which certificates shall be  
8 transferable in the same manner as the certificates of the fund-  
9 ed debt of the City, provided that no certificate shall issue  
10 for any sum containing a fraction of one hundred dollars.

1       SECTION 4. And be it further ordained and enacted by the  
2 authority aforesaid, That the moneys which may be borrowed by  
3 virtue of this Ordinance, shall not be repaid, without the con-  
4 sent of the persons holding the evidence thereof, in less than  
5 thirty years from the date on which the loans shall be made.

1           SECTION 5. And be it further ordained and enacted by the  
2 authority aforesaid, That, for the purpose of redeeming the  
3 debt to be created by virtue of this Ordinance, any premiums  
4 received on the loans shall be placed in the sinking fund, [and  
5 a sum equal to two per cent. of each loan shall also be added  
6 to the sinking fund, within two years from the dates of the  
7 loans respectively, and the same sum annually thereafter, out  
8 of the water rents of the City, until the said debt be extin-  
9 guished.]

Portions in [ ] brackets were not included in  
Ord. approved Jan. 17, 1822. d.j.d.