

628 .1
THIRD SEMI-ANNUAL
Chicago
REPORT

OF THE

BOARD OF WATER COMMISSIONERS,

Franklin Institute Library

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CHICAGO.

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Water Commissioners

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CHICAGO:

PRINTED AT THE DEMOCRAT OFFICE, 45 LA SALLE ST.

Steam Presses,

1853.

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THIRD SEMI-ANNUAL
Chicago
REPORT

OF THE
BOARD OF WATER COMMISSIONERS,

OF THE CITY OF CHICAGO,

TO THE

COMMON COUNCIL OF THE CITY OF CHICAGO.

PUBLISHED BY ORDER OF THE COUNCIL.

CHICAGO:
PRINTED AT THE DEMOCRAT OFFICE, 45 LA SALLE ST.

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REPORT.

*To the Honorable the Mayor and Aldermen of the
City of Chicago, in Common Council assembled:*

The Water Commissioners, in obedience to the requirements of the fourteenth section of the act, present the following Report to your honorable body, exhibiting a statement of their acts and proceedings for the previous half year, accompanied by statements of the Secretary and Treasurer of the Board; and also the report of the Engineer in charge of the work, of which the undersigned have the supervision. The statements reported herewith will furnish a complete exhibit of the funds and securities in our custody or control; also the debts due and owing to and from this Board, as well as an accurate account of our expenditures.

One of the first steps to a successful prosecution of the work entrusted to our management, was to secure the necessary means to that end. In the month of April last, the loan first authorized was made upon favorable terms, by a negotiation with Messrs. Duncan, Sherman & Co. of New York. The second loan authorized was effected in August last, with the same house upon terms more advantageous to the city than that first negotiated; a fact which shows that the credit of the city is in an improving condition. The whole amount of Bonds issued and disposed of is *four hundred thousand dollars*, bearing interest at the rate of *six per centum per annum*, having twenty-five years to run: interest payable semi-annually on the first days of January and July. The net amount realized from the sale of these Bonds is *three hundred and sixty-one thousand two hundred and eighty dollars*, equivalent to a premium of three thousand dollars on Bonds bearing seven per centum per annum, the maximum rate of interest recommended to be paid on the loan by your honorable body.

We did not venture to make expensive contracts for the furtherance of the work under our management until the loan for the construction of it had been effected. As soon after this as

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was practicable we invited proposals for contracts, which of course consumed much time; but we have endeavored to press forward with all proper vigilance, and it is hoped that what has been already accomplished will give satisfactory evidence to your honorable body and the citizens generally that no time will be wasted in accomplishing the object for which this Board was constituted.

The progress of the work will be fully and satisfactorily set out in the report of the Engineer. The great demand for labor, occasioned by the prosecution of other public works in this vicinity, and the increased demand for building materials occasioned by the rapid growth of our city, with the advance in the price of iron, has had a tendency to swell the cost of the works projected beyond the estimate first published by us. Fortunately the undersigned had made purchase of nearly all the iron requisite for the use of the city, and had contracted for a portion of the work to be done so early in the past season as to prevent much of the loss which otherwise might and would have followed had action been procrastinated by them; and although some parts of the work remaining to be done and materials to be furnished will cost more than was estimated at the outset, your Commissioners still believe the work will be completed at about the amount first spoken of. Most of the contracts have been made upon terms highly advantageous to the city and at rates greatly more favorable than could now be secured. It will be seen by the report of the Engineer that extensions have been made to the work not contemplated in the plan as modified, but which are a part of the plan adopted by the Board; it being in the opinion of the undersigned necessary for the interest of the city to make these additions at the present time; and it may not be improper for your Commissioners to refer to the rapid and astonishing growth of the city since their appointment, as a matter which will soon call for a further extension of the Water Works in conformity with the plan proposed. It must be apparent to all, if the present tide of increase continues, that an extension of these valuable works will be required at an earlier period than our first report contemplated. This growth, apart from all considerations of pride to the city, furnishes some evidence in favor of the great need there was of the works themselves, and of the beneficial results to be obtained by the plan adopted, and that an ample remuneration is to be returned to the city for any expenditure made in this healthful and salutary project.

The character and extent of the contracts entered into, and the purchases made by us will be more fully and explicitly stated in the accompanying report of the Engineer.

It was a part of the original plan to have the pumping main

pass under the river at Clark street: it has been thought advisable to change the location of this pumping main, so as to cross from Wolcott to State street. It is intended to place this pipe early in the ensuing spring; and it is desirable if the city authorities intend to widen the river at the latter point that such widening should be effected before the pumping main in question should be placed in its position; and we therefore respectfully urge this matter upon the attention of the Common Council.

One matter of perplexity and embarrassment to the undersigned has been acted upon by your honorable body; and the suggestion made to the undersigned in reference to it has received our deferential and respectful consideration. We refer to the Chicago Hydraulic Company. A committee of the Common Council sometime in March last advised the payment of \$30,000 for the property and franchises of that Company, or \$15,000 for the franchises alone; and had that Company then manifested a willingness to receive the compensation we were advised to pay, the undersigned would probably have acted upon one or the other of the recommendations made by your honorable body; but that Company has never intimated a willingness to accept either of the sums proposed.

Having failed in an attempt made by them to prevent the building of these works, by defeating the negotiation of the loan of money necessary to their completion, that Company has appealed to the law, and has sought to enjoin the city from taking further proceedings towards supplying the inhabitants with pure and wholesome water upon the assumption that their charter was *exclusive*. This application for an injunction has been denied, and a copy of the decision of the Court in the case accompanies this report. This result is in accordance with the opinions of eminent counsel heretofore obtained by this Board, and without which they would not have proceeded to the extent they have in the performance of the duty confided to them. It is but proper for the undersigned to say that since that Company has resorted to its legal rights, they will leave the rights and immunities of that Company where the law has placed them, until the city authorities or the people themselves shall otherwise direct. The undersigned have no interest in this question, either personally or pecuniarily, different from all their fellow citizens. They are public agents, desirous only of performing their duty with fidelity to the public, and until otherwise advised they will not feel that that duty will be best performed by a purchase, which, when made, will not be of any benefit except to the few who may be recipients of the public money, because they are members of a corporation who have no adequate equivalent to yield in return for what bounty they might receive.

It is gratifying to the undersigned to state they have reason to believe that they will be prepared to supply that portion of the city which is within the limits stated in their former report, by or before the first day of November next.

Respectfully submitted,

JOHN B. TURNER, }
H. G. LOOMIS, } *Commissioners.*
A. S. SHERMAN, }

CHICAGO, January 15, 1853.

STATE OF ILLINOIS, }
Cook County, } ss. I, HENRY L. RUCKER, a Justice of
the Peace of said county, do hereby
certify that the above statement was duly sworn to before me, by
the above named Commissioners, this 17th day of January, A. D.
1853. H. L. RUCKER, *Justice Peace.*

[COPY.]

THE CHICAGO HYDRAULIC COMPANY

versus

THE BOARD OF WATER COM'RS AND THE CITY OF CHICAGO.

Points decided on motion for injunction:

1. That the charter of the Chicago Hydraulic Company does not *expressly* confer upon the Company the *exclusive* privilege of supplying the city of Chicago with water. That there are some words in the charter which might indicate an intention to give such exclusive privilege, but the meaning in this respect is not clear and is left ambiguous; that there are no words at all of exclusion in that part of the charter which confers the power on the Company of introducing water into the city; and if such power is to be considered as exclusive, it is to be gathered solely by inference, derived from words of exclusion relating to other and distinct powers. That the rule is well settled that an exclusive privilege by an incorporated Company cannot be inferred, but must expressly appear by words of exclusion or of restriction in the charter, and that if there is any doubt or ambiguity in the charter in this respect it is to be construed most strictly against those claiming the pretended right.

2. That if there are no express exclusive powers conferred by their charter upon the complainants to introduce water into the city of Chicago, such exclusive power cannot be inferred from the nature of the grant. That a charter is a contract between the

government and the corporators, conferring upon the latter certain powers and franchises, and that while the government cannot, during the existence of the contract, interfere with the corporation in the exercise of the powers and franchises conferred; yet that, so long as it does no act to deprive or molest a previously incorporated Company in the exercise of its powers and privileges, the government is not to be considered as having by implication debarred itself from conferring like powers and privileges upon other and rival incorporations, the exercise of whose powers and privileges would interfere with or even totally destroy the profits and income of the first Company. That the question in the present case, so far as regards this point, is the same in substance as that decided by the Supreme Court of the United States, in the case of the Charles River Bridge *vs.* the Warren Bridge, 11 Peters, p. 240, and that Court being the final Court of review in the matter here presented, involving as it does, the constitutionality of a State law, its decisions upon the question are to be considered as binding on all inferior Courts.

3. That if the 19th section of the act to incorporate the Board of Water Commissioners imposes a duty upon them to purchase the corporate rights and property of the Old Hydraulic Company, as claimed, nevertheless such duty is not a condition precedent to the exercise of the other powers conferred upon the Board by the act of incorporation, the exercise of which this suit seeks to enjoin. That the powers of the Board of Water Commissioners are independent of the duties imposed by the 19th section, if any are imposed, and that it therefore becomes unnecessary, so far as respects this suit, for the Court to inquire whether or not there is any duty imposed upon the Water Commissioners to purchase the rights and property of the Old Hydraulic Company, since the remedy would be by mandamus or some other proceeding.

*Board of Water Commissioners of the City of Chicago, in
account with H. G. Loomis, Treasurer.*

1852.

June 30. By balance,		Cr.
By Duncan, Sherman & Co.,	\$116,482 36	
Am't to my credit, July 9th,	\$22,425 83	
" 29th,	22,509 17	
August 10th,	22,555 00	
Amounts carried forward,	\$67,490 00	\$116,482 36

Amounts brought forward,	\$67,490 00	\$116,482 36
August 29th,	22,609 17	
October 28th,	23,630 00	
November 9th,	23,675 83	
" 12th,	18,950 67	
" 17th,	23,446 00	
" 27th,	23,750 83	
December 1st,	14,260 50	
" 9th,	9,520 33	

By Henry Tucker,		
Sec'y, Cash,	Sept. 23d,	21 35
	Dec. 29th,	12 00
		33 35

By interest on deposits,		
Duncan, Sherman & Co.		
July 1st,	217 30	
September 30,	230 75	
December 31,	1099 16	
		1,547 21

George Smith & Co.		
September 30,	333 37	
December 31,	202 10	
		535 47

I. H. Burch & Co.		
October 1st,	230 21	
December 31st,	167 07	
		397 28

H. A. Tucker & Co.		
October 1st,	395 54	
December 31st,	283 65	
		679 19

R. K. Swift, Oct. 1st,	127 84	
Dec. 31st,	114 63	
		242 47

Chicago M. & F. I. Co.		
September 30th,	399 59	
December 31st,	294 73	
		694 32

City of Chicago, Dec. 31		865 28
		4,961 22

By exchange for sales, drafts, as follows:		
\$35,879 26	"	a $\frac{3}{4}$ per ct 269 11
\$600 at $\frac{3}{8}$ specie, 2 25	\$5,249 at $\frac{1}{2}$	2,624 28 49
		297 60
		\$354,107 86

1852.			Dr.
June 30	} For amt't paid on Henry Tucker, to Sec. Checks numbered 1 to		
Dec. 31,		379. New York funds,	99,023 01
		Currency,	46,072 04
			<u>145,095 05</u>
Sept. 8,	Paid Duncan, Sherman & Co., for		
	105 In. Coupons, July '52,	\$10	1,050 00
	50 " " " "	5	250 00
	Commissions as per contract,		3,750 00
Oct. 10,	1 Interest Coupon, July, 1852,		10 00
			<u>5,060 00</u>
Dec. 31,	Balance to new account,		203,952 81
			<u>\$354,107 86</u>

1852.	<i>Credit</i>	
Dec. 31.	By balance,	\$203,952 81

Which amount is deposited under advice and control of the Board, and payable on demand, as follows:

Henry Tucker, Sec'y, for petty expenses,	25 21
Duncan, Sherman & Co., bal. 1st purchase,	305 46
	2d purchase, 143,186 90
Chicago Marine & Fire Ins. Co.,	9,820 78
H. A. Tucker & Co.,	10,240 16
City of Chicago,	25,000 00
I. H. Burch & Co.,	5,764 77
George Smith & Co.,	5,459 54
R. K. Swift,	4,149 99
	<u>\$203,952 81</u>

Of the amount on deposit in Chicago, \$35,658 18 is payable in New York funds.

H. G. LOOMIS, Treasurer,
Chicago, December 31st, 1852.

OFFICE OF THE BOARD OF WATER COMMISSIONERS OF THE CITY OF CHICAGO,
January 1, 1853.

To the Board of Water Commissioners
of the City of Chicago:

GENTLEMEN:—I present you herewith a statement, exhibiting the present condition of the Water Works, as shown by the books, to December 31, 1852, inclusive. Also, a statement showing the expenditures in detail, from the commencement of the works, to December 31, 1852, inclusive.

Very respectfully, yours,
HENRY TUCKER, Sec'y.

STATEMENT

Of the affairs of the Chicago Water Works, Dec. 31, 1852.

Dr.

H. G. Loomis, Treasurer—

Balance in his hands, June 30, 1852, as per report,	\$116,482 36	
Proceeds of Bonds credited him by Duncan, Sherman & Co., N. Y.,	230,675 00	
Accrued Interest of Bonds credited him by Duncan, Sherman & Co.,	1,658 33	
Paid him for returned freight on lead,	21 35	
“ “ “ rent of Charles Cleaver,	12 00	
Exchange on drafts sold,	297 60	
Interest received on sundry deposits,	4,961 22	
		354,107 86
Less amount of Secretary's warrants, Nos. 1 to 379, inclusive,	\$145,095 05	
Amount of July, 1852, Coupons paid by him,	1,310 00	
Am't of Commission paid Duncan, Sherman & Co. per contract,	3,750 00	150,155 05
		203,952 81
<i>Office Expenses—</i>		
Balance June 30, 1852, as per report,	\$507 65	
Expenses paid from June 30 to Dec. 31, 1852, including secretary's salary, to Nov. 1,	595 15	
Amounts carried forward,	\$1,102 80	\$203,952 81

Amounts brought forward,	\$1,102 80	\$203,952 81
Less am't of secretary's salary, from May 10 to Nov. 1, transferred to salaries account,	572 32	
		530 48
<i>Engineering Account—</i>		
Balance June 30, 1852, as per report,	\$3,442 53	
Expenditures paid from June 30 to Dec. 31, 1852,	3,342 13	
		6,784 66
<i>Incidental Expenses—</i>		
Balance June 30, 1852, as per report,	\$1,189 82	
Expenses from June 30 to Dec. 31, '52,	324 41	
		1,514 23
<i>Office Furniture—</i>		
Balance June 30, 1852, as per report,	\$220 36	
Expenditures from June 30, 1852 to Dec. 31, 1852,	218 94	
		439 30
<i>Discount on Bonds—</i>		
Balance June 30, 1852, as per report,	15,645 00	
Discounts on 100 bonds, amounting to \$100,000,	10,430 00	
Commission paid Duncan, Sherman & Co., as per contract,	3,750 00	
Discount on 175 bonds, amounting to \$150,000,	8,895 00	
		38,720 00
<i>Reservoir Lot in South Division—</i>		
Balance June 30, 1852, as per report,	\$8,963 30	
Amount paid for sidewalk on Quincy street, and labor,	33 50	
		\$9,001 80
Less amount received from C. Cleaver for rent lot 42,	12 00	
		8,989 80
<i>Engine House Lot—</i>		
Balance June 30, 1852, as per report,	3,013 81	
Amount paid for nails for fence,	15	
		3,013 96
<i>Chollar, Sage and Dunham—</i>		
Amount paid them to Dec. 31, 1852, for account of Water Pipes, received under their contract,		65,774 47
Amount carried forward,		\$329,719 71

Amount brought forward,		\$329,719 71
<i>Lead and Packing Account—</i>		
Balance June 30 1852, as per report,	1,436 71	
Amount paid for 70 tons lead,	6,506 68	
	<hr/>	
	7,943 39	
Less amount used in laying pipes	4,081 94	
	<hr/>	3,861 45
<i>Hydraulic Presses—</i>		
Balance June 30 1852 as per report	80 00	
Expenditures from June 30 to Dec. 31, for Presses &c.,	1,102 84	
	<hr/>	1,182 84
<i>Pipe Yard—</i>		
Balance June 30 1852, as per report,	16 42	
Expenditures from June 30 to Dec. 31	2,473 70	
	<hr/>	2,490 12
<i>Well Chamber at Engine House—</i>		
Balance June 30 1852, as per report,	69 58	
Expenditures from June 30 to Dec. 31	10,501 27	
<i>Steam Pump—</i>		10,570 85
Cost of pump, boiler, and fixtures,	912 93	
Less charged T. N. Ferrell for use of same as per contract	100 00	
	<hr/>	812 93
<i>Iron Account—</i>		
Freight Insurance paid on Iron from E. Corning & Co.,	1,168 18	
<i>Pipe Laying Account—</i>		
Expenditures to Dec. 31 1852,	7,710 30	
<i>Mason Work of Engine House—</i>		
Expenditures to Dec. 31 1852,	2,844 65	
<i>Iron Roof of Engine House—</i>		
Expenditures to Dec. 31, 1852,	498 70	
<i>Hydrant Boxes—</i>		
Expenditures to Dec. 31, 1852,	593 93	
<i>Inlet Pipe—</i>		
Expenditures to Dec. 31, 1852,	1,501 28	
<i>Crib—</i>		
Expenditures to Dec. 31, 1852,	1,580 20	
<i>Trenching and Backfilling—</i>		
Expenditures to Dec. 31, 1852,	5,916 23	
<i>Carting Pipes—</i>		
Expenditures to Dec. 31, 1852,	363 37	
Amount carried forward,		\$370,814 74

Amount brought forward,		\$370,814 74
<i>Erastus Corning & Co.—</i>		
Amount advanced on Iron received from them,	4,700 00	
<i>Quintard Merrill & Co.—</i>		
Amount paid them on account contract for Steam Engine and Pumps,	12,423 35	
<i>Stop Cocks—</i>		
Expenditures to Dec 31, 1852,	768 38	
<i>Carpenter's Work of Engine House—</i>		
Expenditures to Dec. 31, 1852,	109 23	
<i>Salaries—</i>		
Salaries of the Board and Secretary to Jan. 1, 1853,	5,672 32	
<i>Water Pipes—</i>		
Expenditures to Dec. 31, 1852,	197 62	
<i>Zinc Account—</i>		
Cost of 23 casks zinc,	1,416 14	
<i>John Kettering—</i>		
Horse and harness sold him,	96 25	
<i>Hydrants—</i>		
Expenditures to Dec. 31, 1852,	448 60	
<i>Engine House—</i>		
Expenditures to Dec. 31, 1852,	60 06	
<i>Duncan, Sherman, & Co., Coupon account—</i>		
Amount remitted them to pay the Jan. 1, 1853, interest,	\$9,750 00	
Amount remitted them to pay one Ju- ly 1, 1852, coupon,	10 00	
	<hr/>	9,760 00
<i>Steam Engine and Pumps—</i>		
Expenditures to Dec, 31, 1852,	28 00	
	<hr/>	\$406,494 69

Per Contra.

<i>Bond Account—(See Note A.)</i>		
Balance June 30, 1852, as per report,	150,000 00	
275 Bonds issued, amounting to	250,000 00	
	<hr/>	400,000 00
<i>Interest on Bonds—</i>		
Balance June 30, 1852, as per report,	1,067 54	
Accrued interest on Bonds received,	1,658 33	
Exchange on drafts sold by Treasurer,	297 60	
Interest received on sundry deposits,	4,961 22	
	<hr/>	
Amounts carried forward,	\$7,984 69	\$400,000 00
	B	

Amounts brought forward,	\$7,984 69	\$400,000 00
Less amount of July 1852, coupons paid by Treasurer.	1,310 00	
Less amount of July 1852, coupons paid by city clerk and taken up by me,	180 00	1,490 00
		6,494 69
		<u>\$406,494 69</u>

A.

Statement of Bonds Issued and Registered, of which copies of the Registry have been sent to the City Clerk.

225 6 per cent bonds dated May 1, 1852, due July 1, 1877, each for \$1,000,	225,000 00
50 6 per cent Bonds dated May 1, 1852, due July 1, 1877, each for \$500,	25,000 00
125 6 per cent bonds, dated Oct. 1, 1852, due Jan. 1, 1878 each for \$1000,	125,000 00
50 6 per cent bonds dated Oct. 1, 1852, due Jan. 1, 1878, each for \$500,	25,000 00
450 Bonds,	Total, \$400,000 00

Principal and Interest payable at the Banking House of Messrs. Duncan, Sherman, & Co., New York. Coupons of Interest payable semi-annually on the first day of July and January of each year.

STATEMENT

Showing the Expenditures in detail from the commencement of the Works to December 31, 1852.

<i>Office Expenses—</i>	
Printing,	\$37 25
Stationery and Account Books,	123 67
Cleaning Office,	15 05
Gas Fixtures,	9 94
Signs,	5 00
Moving Safe into office,	3 50
Miscellaneous Petty Expenses,	67 51
Rent,	214 59
Postages,	13 82
Fuel,	31 00
Gas,	9 15
	<u>530 48</u>

This account does not now include the Salary of the Secretary, which will be found under the head of Salaries.

Amount carried forward, \$530 48

Amount brought forward,	\$530 48
<i>Office Furniture—</i>	
Desks, Tables, etc.,	182 44
Stoves,	27 36
Notarial Press and Seal,	38 50
Letter Press,	10 00
Safe,	176 50
Clock,	4 50
	<u>439 30</u>

Engineering Account—

Survey of buildings,	75 00
Draughting and copying,	391 00
Tools, &c.,	27 61
Labor and expenses in making surveys,	21 05
Miscellaneous,	89 97

Salaries—

W. J. McAlpine Chief Eng., to Dec. 1, 1852,	2,410 26
E. W. Smith, Resident Eng., to Jan. 1, 1853,	2,436 00
G. G. Lansing, Ass't Eng. to Oct. 15, 1852,	326 66
B. F. Walker, Ass't Eng., to Jan. 1, 1853,	262 50
O. Koechler, Rodman, to Oct. 20, 1852,	160 00
D. M. Day, clerk, to Jan. 1, 1853,	70 00
	<u>5,665 42</u>

Stationery,	152 84
Printing,	91 75
Postages,	5 91
Horse \$101, harness \$20 25	121 25
Deduct horse and harness sold	
J. Kettering,	96 25
Buggy wagon,	67 50
Cushions, &c.,	5 50
Expenses keeping horse,	78 49
Hiring horse and buggy,	2 50
Boat, cost of same,	85 12
	<u>6,784 66</u>

Amount carried forward, \$7,754 44

Amount brought forward,		\$7,754 44
<i>Incidental Expenses—</i>		
Traveling expenses,	122 51	
Statistics for Dec. 8, 1851, report,	57 06	
Recording Deeds,	2 40	
Miscellaneous,	16 50	
Attorney's fees,	675 00	
Express charges,	66 07	
Telegraph despatches,	38 31	
Printing, bonds \$270,38, report &c., \$190	460 38	
Advertising,	76 00	
	<hr/>	1,514 23
<i>Reservoir Lot in South Division—</i>		
Cost of lot,	8,750 00	
Labor filling up the same,	213 30	
Sidewalk on Quincy street,	37 06	
Labor,	1 44	
	<hr/>	
Deduct rent from C. Cleaver, for lease of lot 42,	9,001 80	
	12 00	
	<hr/>	8,989 80
<i>Engine House Lot—</i>		
Cost of Lot,	3,000 00	
Superintendence and labor,	13 81	
Repairing fence,	15	
	<hr/>	3,013 96
<i>Chollar, Sage and Dunham, West Troy—</i>		
Freight and cartage paid on water pipes for their account,	8,454 78	
Remitted them on relative estimates on pipes,	46,809 44	
Remitted them on account of final estimates on pipes,	10,500 00	
Frame for Hydraulic Press, charged them by agreement,	10 25	
	<hr/>	65,774 47
This account is for payments on water pipes received, amounting to 1,534 tons 671 lbs. as estimated on, and for freight and charges on 116 tons received, but not yet estimated on. The account cannot at present be closed until the final statement now being prepared by the resident Engineer is adjusted. When closed it will be transferred to water pipes account.		
Amount carried forward		\$87,046 90

Amount brought forward,		\$87,046 90
<i>Lead and Packing Account—</i>		
Cost of 434 pigs or 15 tons lead purchased in St. Louis,	1,436 71	
Cost of 2033 pigs, or 70 tons lead purchased of John Bracken,	6,506 68	
	<hr/>	7,943 39
Less 1,260½ pigs used in laying pipes,	4,081 94	
	<hr/>	3,861 45
Leaving 1,206½ pigs on hand, costing balance of account \$3,861 45		
<i>Hydraulic Presses—</i>		
Cost of Water Indicator,	80 00	
" Hydraulic Press in Albany,	300 00	
Freight and charges on do	16 25	
Packing and Hose for do	23 20	
Fixtures for do	3 00	
Iron work for do	40 14	
Castings for do	1 75	
Lumber for do	85	
Cost of Hydraulic Press in Chicago,	597 01	
Iron work for do	59 17	
Timber for do	5 46	
Carpenter's work for do	2 25	
Conducting hose for do	15 00	
Cost of water tub,	38 76	
	<hr/>	1,182 84
<i>Well Chamber at Engine House—</i>		
Examination for bottom of well, T. N. Ferrell contractor, amount of estimates,	69 58	
Superintendence,	10,153 40	
Iron Work,	222 00	
Timber,	86 13	
Labor,	21 42	
	18 32	
	<hr/>	10,570 85
<i>Steam Pump—</i>		
Cost of same, and freight,	415 31	
Boiler and setting up,	262 35	
Iron work and copper pipe,	232 21	
Lumber and work,	3 06	
	<hr/>	
Amounts carried forward,	\$912 93	\$102,662 04
B*		

Amounts brought forward,	\$912 93	\$102,662 04
Less amount charged T. N. Ferrell for use of same,	100 00	
		812 93
<i>Iron Account—</i>		
Freight on iron from E. Corning & Co.	1,146 99	
Insurance on boiler plates, do	21 19	
		1,168 18

This account is for Iron purchased of E. Corning & Co., for the Engine House, Reservoir Building, and River Pipes. Most of the Iron has been received, but is not yet entered to this account, owing to variations in weight, and prices to be adjusted.

<i>Pipe Laying Account—</i>		
Hoisting Gins,	107 61	
Tool Wagons,	121 23	
Coal House,	8 20	
Tables, boxes, &c.,	29 68	
Tools,	316 95	
Repairing Tools,	36 32	
Labor,	2,562 47	
Miscellaneous,	259 48	
Coke and Charcoal,	105 62	
Packing Yarn,	80 80	
Pig Lead,	4,081 94	
		7,710 30

<i>Mason Work on Engine House—</i>		
C. O. Connor, contractor, on estimates,		2,844 65
<i>Iron Roof for Engine House—</i>		
Iron purchased,	42 53	
Patterns,	29 57	
John Clark, contractor on estimates,	426 60	
		498 70

<i>Hydrant Boxes—</i>		
Lumber,	229 98	
Nails,	24 99	
Carpenter's Work,	296 65	
Iron Work and Hardware,	42 31	
		593 93

<i>Inlet Pipe—</i>		
J. H. C. Reissig, for iron end of pipe,	183 48	
T. N. Ferrell, contractor, on estimates,	1,154 90	
Amounts carried forward,	\$1,338 38	\$116,290 73

Amounts brought forward,	\$1,338 38	\$116,290 73
Nails and Spikes,	21 48	
Carpenter's Work,	34 45	
Lumber,	89 47	
Iron Work,	17 50	
		1,501 28
<i>Crib—</i>		
T. N. Ferrill, contractor, on estimates,	1,093 93	
Labor,	87 64	
Dockage,	26 00	
Iron Work,	12 00	
Plank,	128 31	
Dredge and Pile Driver,	182 32	
Tow Boat,	50 00	
		1,580 20

<i>Trenching and Back-filling—</i>		
Trenching to August 16,	355 47	
J. & H. Fuller, contractors, on estimates,	5,560 76	
		5,916 23

<i>Carting Pipes—</i>		
M. Casey, for carting,	36 90	
J. & H. Fuller, contractors, on estimates,	326 47	
		363 37

<i>Erastus Corning & Co., Albany—</i>		
Amount remitted them for ac. of iron rec'd, This account is for advance made on 39,315 lbs Eng. Iron, 68,449 lbs Am. Iron, and 71,251 lbs boiler plates, received; when closed, will be transferred to iron account.		4,700 00

<i>Quintard, Merritt & Co., New York—</i>		
Amount remitted them on estimate on steam engine and pumps, as per contract,	12,000 00	
Freight on boiler, and moving same,	423 35	
		12,423 35

This account is kept open as only the boiler has been received; when the engine and pumps are received, it will be transferred to steam engine and pumps account.

<i>Stop Cocks—</i>		
H. P. Moses, contractor, on estimates,	718 38	
F. & T. Townsend, one stop cock, for pattern,	50 00	
		768 38

<i>Carpenter's Work on Engine House—</i>		
Poinier & Millwain, contractors, on estimates,		109 23
Amount carried forward,		\$143,652 77

Amount brought forward,		\$143,652 77
<i>Pipe Yard—</i>		
Labor,	1,718 81	
Carpenter's Work,	56 20	
Lumber and Plank,	144 34	
Truckages,	2 34	
Scales,	84 48	
Valve Plates,	19 53	
Window Sash,	5 76	
Drilling Machine,	41 15	
Miscellaneous,	46 60	
Iron Work,	82 61	
Tools,	29 48	
Packing Yarn,	31 82	
Rent,	227 00	
	<hr/>	2,490 12
<i>Water Pipes—</i>		
Inspection of pipes, at Troy,		197 62
<i>Salaries—</i>		
A. S. Sherman, Com'r, salary from April 1, 1851, to January 1, 1853,	1,750 00	
H. G. Loomis, Com'r, for salary from April 1, 1851, to January 1, 1853,	2,100 00	
J. B. Turner, Com'r, salary from April 1, 1851, to January 1, 1853,	1,050 00	
Henry Tucker, Sec'y, salary from May 10, 1852, to January 1, 1853,	772 32	
	<hr/>	5,672 32
<i>Zinc Account—</i>		
Twenty-three casks zinc purchased for covering roof of Engine House, <i>John Kettering, Chicago,</i>		1,416 14
Horse and harness sold him to be paid in stone,		96 25
This account when settled will be charged to river pipes, <i>Hydrants—</i>		
Nugent & Owens, contractors, on estimate,	425 85	
Iron Bolts,	4 75	
F. & T. Townsend, 1 hydrant for pattern,	18 00	
<i>Engine House—</i>	<hr/>	448 60
Lumber,	53 08	
Hardware and Nails,	98	
Carpenter's Work,	6 00	
	<hr/>	60 06
Amount carried forward,		\$154,033 88

Amount brought forward,	\$154,033 88
<i>Steam Engine and Pumps—</i>	
Inspection of same in New York,	28 00
	<hr/>
Total,	\$154,061 88
CHICAGO, January 1st, 1853.	
HENRY TUCKER, Sec'y.	

ALBANY, January 3, 1853.

To the Water Commissioners of the city of Chicago :
GENTLEMEN :—During the last year considerable progress has been made in the construction of the Works for the supply of the City with water.

The loan of \$250,000, authorized by the Legislature, was negotiated on the 17th of April. On the 20th of April proposals were invited for constructing the Condensing Engine, and Pumps, from the following firms :

Messrs. Kemble, & Co., of New York.

" Quintard, Merritt, & Co., New York.

" H. K. Dunham, & Co., do

" I. F. Secor, & Co., do

The Essex Company of Lawrence, Mass.

Messrs. Dunham & Secor declined offering proposals.

The offer of the Essex Company was \$20,105 00

" " Messrs. Kemble & Co., 23,890 00

" " Messrs. Quintard, Merritt, & Co. 24,500 00

The offer of the Essex Company was based upon the boiler of the small size, and to increase it to the size of that proposed by the Morgan Works, would have added about \$3,000 to their offer, making it amount to about \$23,000.

The Messrs. Kemble, Quintard & Co. did not define the style of finish, nor the equipments which they proposed to furnish with the Engine and Pumps, and on the 4th of May I addressed them a note, requesting them to furnish specifications of the size, and manner of finishing, and equipping the same.

On the 6th, these gentlemen submitted particular specifications, on a careful examination of which, it was found that the Morgan Works, Messrs. Quintard, Merritt, & Co., agreed to furnish more work, and finish it up in a manner which brought their offer a little lower than that of Messrs. Kemble & Co.

The offer of the Essex Company was \$1,500 less than that of the Morgan Works, but as their establishment was not adapted to the construction of such heavy Engine work, it was deemed im-

prudent to entrust one so important to them, at the small difference between their offer and those of Messrs. Kemble & Co., and the Morgan Works.

The contract was accordingly made with Messrs. Quintard, Merritt & Co.

These gentlemen have substantially completed the work of the Engine and Pumps, and have landed the Boiler at Chicago.

They have, however, failed to deliver the Engine and Pumps at Chicago as provided in the contract.

This subject will be further adverted to in a subsequent part of this report.

I have carefully examined the work done on the Engine and Pumps, and am gratified in being able to state, that the materials are of the very best description, the proportions are strong and massive, and the finish equal to the best work done on such Engines. The Engine was warranted to run twelve months.

Proposals were also invited at the same time for 1000 tons of cast iron pipes, from the following persons, viz :

T. H. Jones, Philadelphia.

Messrs. Kemble, New York.

Stillman, Allen, & Co., New York.

Chollar, Sage, & Dunham, West Troy.

Essex Company, Lawrence, Mass.

The offer of Messrs. Chollar, Sage, and Dunham, was found to be the lowest, and as their offer embraced all of the pipes required for the completion of the works, and was deemed very moderate, a contract was made with them for the following pipes :

8 Pipes	24	inches	interior	diameter
358	"	16	"	"
990	"	12	"	"
450	"	10	"	"
1050	"	8	"	"
2900	"	6	"	"
8600	"	4	"	"
2400	"	3	"	"

and the necessary branches, tapers, sleeves, etc.

A provision was made in the contract reserving to the Water Commissioners, the power to have any portion of the pipes, except the first named one thousand tons, cast at foundries in the City of Chicago. None of the proprietors of these foundries were willing to contract for pipes on as favorable terms as those contained in this contract.

The average price of the pipes according to the contract of Messrs. Chollar, Sage, & Dunham, is about \$44.50 per ton delivered at Chicago.

It was a fortunate circumstance for the City that this contract was made at so early a date, and with responsible parties. The price of Iron has gone up over \$10 per ton since it was made.

This circumstance has probably been the cause of a less amount of work being done than was anticipated when the contract was made. By the terms of the contract, all but seven hundred tons were to have been delivered at Chicago by the 10th of November last. The amount actually delivered is 1,650 tons, but this includes nearly all of the branches, tapers, and the other miscellaneous and difficult pieces, so that it may be regarded as a substantial compliance with the terms of the contract. A large amount has since been cast, and is now at the Foundry at West Troy, ready to be shipped on the opening of navigation. The amount of this contract when completed will be about \$132,096.95. The rise in the price of iron since it was made, is about \$30,000.

Public proposals were invited on the 22d of June for the following work :

Crib and Inlet Pipe.

Pump Well.

Engine House.

Reservoir Building.

Reservoir Tank.

Cast Iron Arches, columns and floor beams for Reservoir.

River Pipes.

Iron Roof for Engine House and Reservoir, and the cast iron cornice and stairs of the Reservoir Building.

The terms offered for the Engine House and Reservoir Building were deemed too high, and no contracts were made at that time for these buildings, nor the roofs and work connected therewith.

A contract was made for the Crib, Inlet Pipe, and Pump Well, with T. N. Ferrill. The importance of an early commencement and vigorous prosecution of the work on the Pump Well, to insure its completion in time to permit the erection of the Engine House before freezing weather began, was duly appreciated. The construction of this work, though of moderate extent, was attended with great difficulty, owing to the porous and sliding nature of the beach sand, in which it was necessarily placed. The pit was excavated to the depth of 15 feet below the level of the water in the Lake adjoining, which flowed freely through the porous sand. Fortunately provision had been made for the removal of a large quantity of water from the pit, by means of one of Worthington's Steam Pumps, which was kept running night and day for about three months.

The great demand for building materials and Mechanics in the

city, rendered it difficult to keep up the force as full as was desirable, and the completion of the work was consequently delayed several weeks beyond the period named in the contract.

The work has been well done, and under all the circumstances of the case, the contractor deserves credit for his skill and perseverance under so many disheartening difficulties.

The Crib and Inlet Pipe have both been constructed, and 96 lineal feet of the latter adjoining the Pump Well, has been put down.

For the same causes as just above mentioned, this work has also been delayed, for which, however, the contractor was excusable.

The Lake has been so boisterous during the whole season that there has never been a period when it would have been entirely safe to have undertaken the placing of the Crib and Inlet Pipe in the Lake. Three attempts were made to commence this work, but storms drove the men off before anything was accomplished.

The Commissioners, by agreement with the Contractors, have assumed the completion of the work, deducting the sum of \$250 for the expense of sinking the Crib and Inlet Pipe.

The excavation of the Well was commenced on the 26th of June, and was extended to the full depth on the 14th of August.

It was found necessary (as had been anticipated,) to secure the slopes by temporary sheet piling, and an Engine and Pump was furnished at the expense of the Commissioners, the Contractors paying \$100 for the use of it.

Three feet of the bottom of the Pit was stiff clay, but it was deemed advisable to place the foundation of the well on piles. The piling was commenced on the 14th of August, and on the 28th it was completed. Piles 12 feet long were driven into the foundation.

The Masonry was commenced on the 8th of September, and raised to a sufficient height to allow the Engine House to be commenced on the 16th of October. The Masonry of the Well (except the coping) was completed on the first of November.

Some modifications were made in the plans of the Engine House, reducing the cost of the work. The Masonry was contracted for to Charles O'Connor, on the 9th of July, and Carpenter and Joiner work to Poinier & Millwain, on the 10th of July.

The foundation of the main building was commenced on the 20th of October. On the 10th of November he commenced laying brick; but the weather became too cold to continue the work, and but twenty thousand were laid.

Proposals were made and accepted from E. Corning & Co., for the wrought iron for the roofs of the Engine House and Reservoir, and for the Tank and River Pipes.

A contract was made on the 13th of July with John Clark, for working the materials of the roof of the Engine House, and considerable progress has been made thereon.

The zinc was purchased for the roof of Engine House, of McCall, Blake & Fairchild, and on the 9th of November a contract was made with Thomas George for putting it on, as well as the cornice and brackets.

A contract was made on the 10th of July with J. H. C. Reissig for working the materials for the River Pipes.

The delay in the receipt of the iron has prevented the completion of this work at the time named in the contract, the first of January, but it can be completed and sunk during the present winter.

Several modifications have been made in the plans of the Reservoir Building.

The uncertainty of cast iron, when used under such enormous pressure as would be brought upon the arches and column, in the original plan, induced me to recommend the substitution of a centre tower and arches of brick masonry. This change has reduced the estimate of the expense of the work, and rendered it more secure, though it has marred the appearance of the interior of the building.

A contract was made with Peter Page on the 31st of December for the Mason work of this building, to be completed by the 1st of August next.

The other portions of the building have not been contracted for.

A contract was made on the 12th of August with John & Henry Fuller, for excavating and back filling the trenches, taking up and relaying the road plank, and hauling the Water Pipes. This work was continued until December 10th, when the labor of pipe laying was closed for the season.

A contract was made with Nugent & Owens on the 2nd of August for the Hydrants, and with H. P. Moses on the 5th of August, for the Stop Cocks. 12 Hydrants and 32 Stop Cocks have been completed and tested.

A contract was made with H. P. Moses on the 31st of December, for building and setting up the duplicate non-condensing Engine.

A Hydraulic Testing Press was purchased from the Water Commissioners of the city of Albany, and another has been made by Nugent & Owens, and was delivered on the 1st of November.

The laying down of the Water Pipes has been done by men employed by the day.

This work was commenced on the 31st of July, and was continued until the 10th of December.

There has been $8\frac{3}{4}$ miles of Pipe laid, as follows:

16 inch	1,978	lineal feet,
12 "	3,552	" "
10 "	364	" "
8 "	4,976	" "
6 "	5,743	" "
4 "	26,437	" "
3 "	4,103	" "
	<u>47,153</u>	" "

The amount of work which has been done on the several contracts above named, is as follows:

The condensing Engine, Quintard, Merritt & Co,	\$12,451 35
" cast iron Pipes, Chollar, Sage & Dunham,	65,972 09
" Crib work and Inlet Pipe, T. N. Ferrill,	3,081 48
" Pump Well,	10,570 85
" Engine House Masonry, Charles O'Connor,	2,844 65
" Carpentry for same, Poiner & Millwain,	109 23
" Iron Roof for Engine House, John Clark,	498 70
" Zinc covering for roof, McCall, Blake & Fairchild,	1,416 14
" working and putting up roof, Thomas George,	
" working materials for River Pipe, J. H. C. Reissig,	
" Mason work of Reservoir Building, Peter Page,	
" excavating trenches, John & Henry Fuller,	6,279 60
" laying of Pipes,	7,710 30
" expenses of Pipe Yard,	2,490 12
" Hydrants, Nugent & Owens,	448 60
" Stop Cocks, H. P. Moses,	768 38
" Hydraulic Presses,	1,182 84
" lots for Reservoir and Engine House,	12,003 76
" Salaries, Incidentals and Engineering,	14,940 99
	<u>142,769 08</u>

In addition to the above amount, there has been expended for materials and fixtures, not included above, but which is included in the estimate for work to be done,

11,292 80

\$154,061 88

The following estimates are made of the cost of completing the works upon the revised plans:

The condensing Engine,	\$12,076 65
" cast iron Pipes,	66,322 48
" Crib work and Inlet Pipes,	3,195 82
Amount carried forward,	<u>\$81,594 95</u>

Amount brought forward,	\$81,594 95
The Pump Well,	343 00
" Engine House, Masonry and Carpentry,	6,795 05
" iron roof for Engine House,	1,696 23
" working and putting up zinc for same,	478 00
" River Pipe and placing,	3,405 30
" Mason work for Reservoir Building,	19,855 63
" Joiner and Miscellaneous work at do,	10,871 69
" trenching and hauling of Pipes,	15,254 57
" laying down Pipes,	18,725 01
" expenses of Pipe Ward,	2,500 00
" Hydrants, Boxes and inserting,	3,960 24
" Stop Cocks " "	4,186 36
" Non-condensing Engine and Pumps,	6,100 00
" standing column and fixtures,	927 28
" Pipes at Reservoir,	400 00
" Tank,	11,236 30
For superintendence and contingencies on work remaining to be done, 10 per cent.,	<u>18,832 96</u>
	\$207,162 57

On comparing the present estimates with those which were made in my first report, it will be seen that materials and labor at Chicago have generally cost more than was anticipated.

The difficulties which were enumerated in constructing the pump well, and the necessity of changing the plans to meet these difficulties and to accommodate the form of the pumps, have added about \$4,000 to the cost of this work. The increased cost of land and of the Reservoir Building amounts to about \$11,600 more.

From the fortunate circumstance of having made the heavy contracts for cast iron pipes, and wrought iron for the roofs, tanks, &c. at a time when the price of iron was very much lower than it is at present, a considerable saving in the cost of the work has been effected.

In my former report it was contemplated that the Pipes should be extended in 1853, equal to an expenditure of \$10,000. The present estimate includes the expense of this extension of the Pipes. It was then contemplated to lay 26 miles of Pipe, whereas it is now the intention to lay 30 1-10 miles. There has also been an increase in the size of Pipes and number of branches, and other pieces, in consequence of the proposed extension.

In the former report it was contemplated to erect the duplicate Engine and Pumps in 1855, at a cost of \$9,000; and in 1860, to add another Boiler to the condensing Engine, at an expense of \$4,000. Both of these expenditures are provided for in the present estimates.

In the former report it was also contemplated to omit one wing of the Engine House. The erection of this wing is provided for in this report at a cost of \$4,992.

The estimate of the total cost of the works in the third plan modified as stated in my former report, is \$318,224 59

To which should be added for the extension of the Pipes, the duplicate Engine and Boiler and one wing of the Engine House, 22,992 01

\$341,216 60

The present estimated cost of same work

is, on work already done, \$142,769 08

On work remaining to be done, 207,162 57

349,931 65

Making a difference of \$8,715 05

Delays have occurred in the work during the past season, which are to be regretted.

The Condensing Engine and Pumps were so nearly completed at the close of navigation, that it is very evident with a little extra exertion they could have been delivered at Chicago last fall, and set up during the winter.

The completion of the Pump Well was delayed by the cause before mentioned, but by extra exertion, it could also have been completed a month earlier, which would have permitted the Engine House to have been commenced in season to be completed before cold weather set in.

The delivery of the cast iron pipes was delayed in consequence of the high price of iron, and the low terms of the contract, and this delayed the commencement of the laying down of the pipes and extended it into the unfavorable season of the year, thus enhancing the cost of the work.

The limited supply of pipes, but more particularly of the branches, tapers, etc., added to the cost of performing this part of the work.

The necessity of employing many inexperienced men to perform the various operations, has increased the cost of a portion of the work, yet under all these disadvantages it will be seen that the economy of the expenditure will compare favorably with that made in any similar work.

The proposed operations for the ensuing year.

There remain but two critical pieces of work to be performed. The work in the Lake, and extending the Pumping Mains across the river.

For the former we have the whole season, and the most favor-

able time may be availed of, as the work on the Crib and Inlet pipe is now completed, and they are ready to be placed in the Lake whenever it is sufficiently calm to warrant the undertaking.

The river pipes will soon be completed and must be laid down before navigation opens in the spring.

The Engine House can easily be completed before the arrival of the Engine.

The Engine and Pumps will be forwarded by the first vessels up the Lake, and they can be set up by the 1st of July next.

In the mean time the duplicate Engine and Pumps can be made and set up.

From the large amount of work already done at the Foundry at West Troy at casting the pipes, there is every appearance that an ample supply will be furnished to enable this work to be completed in the month of July next.

After a careful examination of the whole subject, I am of the opinion that the water may be prepared for distribution to the citizens of Chicago by the first day of October next.

It is proper that I should state that the superintendence of the work has been entirely under the charge of E. Willard Smith, Esq., Resident Engineer, to whom is due many of the most valuable suggestions in regard to the plans of the work.

Respectfully submitted,

WM. J. McALPINE,

CHIEF ENGINEER.