

FIRST ANNUAL REPORT

OF THE

Water Works Company

OF INDIANAPOLIS,

FOR THE

YEAR ENDING DECEMBER 31ST, 1871.

INDIANAPOLIS:

R. J. BRIGHT & CO., PRINTERS,

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BOARD OF DIRECTORS.

HON. ALBERT G. PORTER.
HON. THOMAS A. HENDRICKS.
HON. AQUILLA JONES, SEN.
WILLIAM HENDERSON, Esq.
HORACE R. ALLEN, M. D.
DELOSS ROOT, Esq.
JAMES E. MOONEY, Esq.
JAMES O. WOODRUFF, Esq.
JOHN R. ELDER, Esq.

PRESIDENT.

JOHN R. ELDER.

TREASURER.

WILLIAM HENDERSON.

SECRETARY.

ALEX. C. JAMESON.

ASSISTANT SECRETARY.

SIDNEY M. DYER.

SUPERINTENDENT.

CHARLES N. LEE.

MECHANICAL ENGINEER.

J. H. VAILE.

TAPPER.

JOHN CALLINAN.

REPORT.

To the Directors and Stockholders

of the Water Works Company of Indianapolis:

GENTLEMEN:—In presenting the First Report of the Company for your consideration, I propose to give a brief account of the progress of the work, from the organization of the Company in 1869 up to the present time, as far as the same can be obtained from the minutes kept by the Board of Directors prior to the time I became associated with you, in April, 1871.

The Water Works Company of Indianapolis was organized under the laws of the State of Indiana, on the 7th of October, 1869, at which time the Articles of Association were signed.

In January, 1870, a charter was granted to the Company by the City Council, giving them the right to lay their pipes in the streets of the city, and providing for the use of the water for fire protection, and such other purposes as the city might require, and authorizing the supplying of citizens with water at such rates as may be agreed on between the City Council and this Company. In view of the additional value the construction of the Water Works has given to the property of the city—the beneficial effect an abundant supply of pure water must have on the health and comfort of our citizens—the advantages afforded to the manufacturing and railroad interests by furnishing an excellent water for steam purposes—the additional protection given to property from the ravages of fire, and consequent reduction in the rates of insurance to the citizen, the charter granted by the city is not a liberal one.

I am glad to be able to report that since the Works have been completed, and their advantages and benefits to the public are becoming known and appreciated, a better feeling prevails, and

we shall receive all the security and protection usually given by cities to Water Works Companies. Our Works are so closely identified with every interest of both city and citizen that they can not be separated—what affects the one will be felt by the other—any restrictions thrown around the Company that would tend to cripple its resources, or impair the rights guaranteed by the law under which we are organized, must be felt by all the daily increasing interests depending on us for water and protection.

We publish herewith the State law under which we are organized, and the City Charter under which we are working.

ISSUE OF STOCK.

The amount of stock issued by the Water Works Company is five hundred thousand dollars, which stock was delivered to the Indiana Central Canal Company as full consideration for the Canal property. This property embraces that part of the Central Canal north of Morgan County, and includes all the real estate purchased and appropriated by the State for the use of the Canal, the right of way, banks, margins, tow-paths, side cuts, feeders, basins, dams, water power, structures, and all the appurtenances thereunto belonging. The chain of title for this property, from the State of Indiana to the Water Works Company, is full and complete, and is a matter of public record. The stock issued is full paid stock, and is not subject to further calls.

Soon after the transfer of the Canal to this Company, the aqueduct over Fall Creek gave way, carrying with it a large part of the bed of the Canal on both sides of the Creek. The Company immediately commenced the work of rebuilding, and by November, 1870, the new aqueduct was finished and the water let in the Canal. Owing to the insufficiency of the superstructure the weight of the water broke in the timbers, requiring it to be rebuilt with much stronger timbers. We now have an aqueduct, with stone abutments and pier, that promises to stand for a long time.

About the 1st of December, less than a month after the water was let in, the bank along the river, above the Michigan Road, gave way, doing very serious damage to the Canal. This break

was repaired, and the water again let in near the end of January, 1871, since which time the Canal has been as full of water as the supply in the river would afford.

While the water was out of the Canal in 1870, all the weak places in the banks along the entire line were strengthened, and it was deepened where earth had washed in to fill it up or obstruct the water way. I feel warranted in saying that the Canal is now in better condition than it has been for many years.

During the present season it is contemplated to put new head gates to the Canal, at Broad Ripple, and a tumble, or waste lock, between the upper and lower level. Timber is now on the ground for the head gate, ready to be put in as soon as the weather will allow. The present gates have been standing so long that they have become much weakened, and in case of a freshet might not be secure.

Some years since the tumble between the upper and lower level gave way, washing out the foundation, and a large part of the banks. In consequence there is no way for water to pass from the upper to the lower level when the mills on the upper level are not running. As two mills, besides our own machinery, are situated on the lower level, a great deal of water that would pass over our wheels goes to the lower arm of the Canal, through the lock on Market street, and the power is lost. A tumble will save this water, and give additional security to the banks. The cost of a tumble will be from six to seven hundred dollars, which will be more than repaid in power saved each year.

ISSUE OF BONDS.

On the 31st of May, 1870, the Company authorized the issue of \$350,000 in bonds, in denominations of \$1,000 each, the principal payable in twenty years, with interest coupons, payable semi-annually in New York, at the rate of 8 per cent. per annum, both principal and interest payable in gold. The Canal property, together with the machinery and pipes of the Water Works Company, was mortgaged to secure the payment of these bonds. It will be seen by the report of the Secretary, that all these bonds have been disposed of, and the proceeds applied to the purchase of pipes, and the construction of the Works. The interest on the bonds has been promptly paid as they matured.

Having exhausted the proceeds of the first mortgage bonds, on the 3d of May, 1871, the Board of Directors authorized the issue of \$150,000 in second mortgage bonds, principal payable in ten years, and interest payable semi-annually, at the rate of ten per cent. per annum, in currency. On the first of January thirty-four of these bonds had been sold, as will be seen by the report of the Secretary. \$45,000 of second mortgage bonds have been laid away to pay the balance that will be due the Holly Manufacturing Company, when their works have been satisfactorily tested as required by the contract, and finally accepted by this Company. The proceeds of the seventy-one remaining bonds will be applied, when sold, to meet outstanding obligations, and extend the pipes.

CONTRACTS FOR MACHINERY.

On the 2d of April, 1870, a contract was ratified with the Holly Manufacturing Company, of Lockport, New York, for all the machinery and pumps necessary to supply this city with 6,000,000 gallons of water every twenty-four hours. Under this contract, the Holly Company agreed to furnish and set up, in a building provided for that purpose, to be constructed under the direction of Mr. Holly, all the machinery embraced in this contract, consisting of Holly's Patent Turbine Water-Wheels; Holly's Patent Rotary Pumps; Holly's new and Improved Gang Piston Pumps; Holly's Patent Hydrostatic Pressure Gauge, for controlling the pressure of the water in the mains and pipes, and for varying the same as may be needed for fire purposes or domestic use. Also, all the necessary shafting, gearing, water-gauges, safety and check-valves, stop-cocks, and couplings for shafting. Also, all the necessary pipes for connecting said pumps, not including suction and discharge pipes, and all other machinery and connections made inside the pumping-house, to render the whole complete, and adapted to the purposes above specified. The machinery enumerated above is intended for running the Works exclusively by water-power.

On the 8th of August, 1871, a contract was completed with the Holly Manufacturing Company, for all the machinery necessary to run the Works by steam, independent of water-power, embracing one double cylinder quarter-crank piston engine,

with variable cut-off. Also, one Holly Patent Elliptical Rotary Engine, said piston engines to be mounted upon a heavy iron frame. Also, all necessary gearing, shafting, couplings, valves, gauges, and pillow-blocks. Also, one Holly's Patent Hydrostatic Regulator and Pressure Gauge, for the purpose of controlling the pressure of water in the pipes, and enabling the operator to change the same at pleasure, as may be needed for fire pressure or domestic use. Also, two Holly's Patent Tubular Boilers. Also, feed pumps for boilers, the necessary stop-cocks, and all connections needed to connect said engines with certain pumps, which the said Holly Manufacturing Company agree to furnish said Water Works Company; and, also, to set up said engines, boilers, and machinery, in perfect working order.

The price of the machinery for water-power was \$50,000, and for steam power, \$30,000, making a total of \$80,000.

On the 6th of May, 1871, this Company was notified by the Holly Manufacturing Company, that their machinery was in complete running order, and furnished according to contract. Arrangements were at once made by this Company to have the machinery inspected, and its capacity to supply the water required by the contract satisfactorily tested, by competent engineers. As there was no practical engineer on the Board of Directors, this course was adopted as the proper one to guard the interest of the stockholders in finally accepting the works. Gentlemen connected with Water Works in a number of Western cities were applied to, without any knowledge of their views in regard to the different systems of supplying cities with water, and the services of CHARLES HERMANY, Hydraulic Engineer and Superintendent of the Louisville Water Works, and E. M. SHIELDS, Mechanical Engineer, of Loveland, Ohio, were secured.

Up to this date no test has been made.

At a meeting of the Board of Directors, on the 24th of May last, it was ordered that a trial of the Works should be had under direction of the Engineers selected by the Board. The Engineers fixed the time of trial for the 30th of May, 1871; the place, the corner of North and Mississippi streets, and the pressure at fifty pounds.

These terms and conditions were declined by the members of the Holly Manufacturing Company, present at the meeting, and subsequently by Mr. Holly, under date of May 26th, 1871.

While this Company has been ready and willing to have a final test of the Works made at any time, no further efforts have been made to bring it about, and the matters with the Holly Manufacturing Company still remain unsettled.

It is proper I should state in this connection, that the machinery furnished, both for water and steam power, have been running continuously, day and night, since the first of June last, and has given full and complete satisfaction. It is a splendid lot of machinery, thoroughly adapted for the purposes intended, and admired by every person that visits the Works.

USE OF WATER AND STEAM.

The unusually low stage of the river during the last season, and consequent want of a full supply of water for the canal, has compelled us to run the works by steam during two-thirds of the time since they started. The following tabular statement, compiled from a record kept by the engineer in charge of the Works, will show the exact time the Works have been run by steam and water for seven months, from June 1 to December 31, 1871:

MONTHS.	BY STEAM.		BY WATER.		TOTALS.	
	Days.	Hours.	Days.	Hours.	Days.	Hours.
June.....	21	.....	9	.....	30	.....
July.....	18	13	12	11	31	.....
August.....	21	18	7	16	29	10
September.....	26	18	2	10	29	4
October.....	30	1	.....	23	31	.....
November.....	5	7	24	17	30	.....
December.....	15	5	15	19	31	.....
	138	14	73		211	14

In August, the machinery was stopped 38 hours, and in September 20 hours, to lower and replace the suction pipe while the well was being sunk.

It is possible we may not soon have a year as dry as the last has been, but it must be apparent that our works should be so

arranged that we can be entirely independent of water power in running. For getting up steam quick, for fire pressure, no better boilers could be constructed than the upright tubular boilers furnished with the machinery, but for regular, steady work, horizontal boilers are certainly the best. It will be necessary, in my judgment, to provide at once two horizontal boilers, each of which will be large enough to furnish steam for the usual city supply of water, depending on the uprights for fire pressure.

THE FLUME.

On the 1st of August, 1870, a contract was entered into with Messrs. Emerson & Bean, of this city, to construct a wooden flume, 1131 feet long, and 7 feet in diameter, to conduct the water from the upper level of the canal to the water wheels in the water works building. This flume was part of the plan and was required by the Holly Manufacturing Company, to give a head of 32 feet on the water wheels to secure a fire pressure. The original cost of the flume was \$6,166.84, but breakages and other mishaps increased the cost to \$7,507.17 before the works were started, which does not include the masonry and stone work at its head. In April and May last two breaks occurred—one near the water works building, and the other at the head on the upper level—both of which were repaired and charged on the pay rolls, and are not included in the above cost. The flume is now broken under the bridge on the National road. As it can not be repaired without letting the water out of the canal, it is not deemed advisable to do this at present.

This flume has never been used to any advantage, and under the conditions in the leases to the mills on the upper level, and the amount of water in the canal, it is very doubtful if it ever can be made available for the purposes intended.

PURCHASE OF PIPE.

On the 9th of May, 1870, a contract was made with Dennis Long & Co., of Louisville, Ky., to furnish fifteen miles of water pipe, of the sizes required, at \$58.50 per ton of 2,000 pounds, delivered in this city, to be paid for in bonds of the Company at par. This contract was filled in a satisfactory manner, and a

quality of pipe furnished that has stood the test of fire pressure with very few breaks.

On the 12th of last July, finding we would require more pipe to fill agreements entered into, we contracted for three additional miles, to be delivered here for \$49.90 per ton, and for all the special castings required at three and a half cents a pound. We had previously been paying four and a half cents a pound for special castings. In order to finish up our fall work, a subsequent order was made for a mile of pipe, for which we paid \$55.80 a ton. We now have some pipe and special castings on hand, a full list of which will be found appended to this report.

LAYING PIPE.

On the 16th of June, 1870, a contract was made with Mr. D. Root to dig and fill the trenches and lay fifteen miles of pipe. The pipe was to be laid according to the plans furnished by Mr. Holly. The prices agreed on for this work was \$10.50 per ton for laying pipe, twelve cents per lineal foot for digging and filling trenches, \$2.00 each for setting fire hydrants and valves, and seventy-five cents each for digging wells for fire hydrants. On the third of May last Mr. Root relinquished his contract, at which time he had laid 1,537½ tons of pipe, dug and filled 56,705 feet of trenches, connected 104 fire hydrants, and set 40 valves.

Since the third of May last the Company has laid 918 tons of pipe, dug 50,967 feet of trenches, set 80 fire hydrants and 20 valves, at an average cost of \$8.57 per ton for laying pipe, and eight cents per foot for digging trenches, which includes the cost of setting fire hydrants, valves and drayage.

Although Mr. Root's contract was considered a favorable one for the Company, the result proves that it is cheaper to employ hands and lay our own pipe.

THE LOWER VEIN OF WATER.

In 1870 the Company sank a four-inch iron pipe eighty feet deep to a lower vein of water, that was expected to be superior in quality, and inexhaustible in supply. This tube was placed in the pumping well, intending, if the desired result was obtained, to put down a tube large enough to furnish a full supply for the city. A soft water was reached, with head enough to flow

over the top of the tube into the well. A rim of boiler iron, four feet in diameter, was then obtained, and contracts made with several parties to sink it eighty feet to the lower vein. At the time I came into the Company, in April, the last contractor was on the eve of abandoning his contract. By actual test with a steam pump, I found the four-inch tube was discharging only six gallons of water a minute, and judging from this that a four-foot tube would not yield, by natural overflow, the 4,166 gallons of water a minute required by our charter, and knowing we could not raise the water from a depth of eighty feet with our pumps, if power was required, I made no further efforts to sink the tube. Part of the boiler iron was afterwards used in deepening our pumping well.

The water from this four-inch tube is still flowing into the pumping well, the yield continuing about the same as when first sunk. The water is pure and soft, but has a mineral taste, and after standing shows a sediment of iron that renders it, in my judgment, inferior to the water we are now pumping from our wells.

CONSTRUCTION OF WELLS AND ADOPTING WATER RATES.

My connection with the Company commenced on the 3d of April, 1871, at which time the Works were approaching completion, and by the 1st of May were in full running order. In May the time was spent in testing the pipe in the ground under fire pressure, repairing breaks caused by defective pipe, and getting the works and machinery ready for supplying the city and citizens regularly with water.

On May 30th, 1871, a notice was published in the daily papers informing the public that on and after June 1st the city and citizens would be regularly supplied with water, and pay would be required from that date.

On the 14th of June a special meeting of the City Council was held, to consider water rates to be charged the city and citizens, and the acceptance of the Works on the part of the city. At this meeting a special committee was appointed to examine the condition of the Works, the quantity and quality of water, and whether the Company had complied with all the requirements of the charter.

On the 19th of June the committee of the Council reported—"That the well from which the water is obtained, at this time, does not furnish pure filtered water, and that the Company has, so far, failed to comply with the requirements of its charter in that respect." This report was unanimously adopted. It was clearly evident to the committee, and all present at their investigations, that the provision made for water to supply the city was largely deficient in quantity and of an inferior quality, in consequence of a connection between the pumping well and the outlet of the canal. It must be evident to all stockholders that this was a very unfortunate condition for the Company to be in—with the Works ready for use, and water provided that the City Council did not feel justified in accepting.

But one thing could now be done, and that was to construct wells that would furnish an ample supply of pure filtered water, and thus regain public confidence. To accomplish this we set to work energetically. The first thing was to stop all connection between the well and the outlet of the canal. This was done most effectually. Our next effort was to sink the well deeper, in the hope that a sufficient supply of water might be obtained in this way. A tube of perforated boiler iron was sunk inside of the brick wall of the well to the depth of seven feet below the brick wall. At this depth it was found that the iron rim was not strong enough to withstand the pressure from without, and it was also found that we would endanger the foundation of the main building if we went any deeper. We, therefore, strengthened the iron rim by placing a circle of brick inside of it, laid without mortar, so that water could percolate through it. At this point we found the quality of water entirely satisfactory, and the quantity largely increased, but still not near enough to furnish the supply required. The next move was to sink a second well, twenty feet in diameter, and eighty feet distant from the first well, the two to be connected with a brick arch, laid as deep as the bottom of the wells, and five feet in diameter inside. The second well and arch were laid with dry brick, to give the water a free chance to enter from all sides. On the sides and over the arch broken stones and small boulders were placed, to afford as much water capacity as possible, and prevent the fine sand from filling up the crevices between the bricks. This work was well done, and the result is all we could expect. We now

have a continuous connected well, one hundred and twenty feet long, sunk twelve feet below the surface of the river, yielding the abundant supply of pure filtered water required by the city charter.

Soon after the sinking of the well commenced, I was fortunate in securing the services of Justus L. Cozad, a competent and experienced engineer, in whose charge I placed the work. On the 18th of October, Mr. Cozad handed me the following letter:

OFFICE OF THE WATER WORKS COMPANY,
INDIANAPOLIS, October 18, 1871.

JOHN R. ELDER, Esq.,

President Water Works Company:

SIR—The further expenditure of money to procure water for the city of Indianapolis, I deem unnecessary. During the past three months, under my direction, two wells twenty feet in diameter, and a trench nine feet wide and eighty feet in length, have been sunk twelve feet below low water in White River, at a time when the water was never known to be lower. These works, from the measurements and observations which I have made from time to time, will afford more clear, pure, filtered water than the city will require for some time to come, either for domestic use or for fire protection.

Respectfully,

JUSTUS L. COZAD, Engineer.

On the 26th of October the City Council again met to consider water rates, and after a satisfactory test of the quality and quantity of water and the capacity of the works, unanimously adopted rates for both the city and citizens, and ordered that the fire hydrants should be adopted for public uses. The annual rates for fire hydrants was fixed at fifty dollars each; the rates to private consumers will be found appended.

ANALYSIS OF WATER.

In order to restore and establish confidence in the character of the water we were now prepared to supply the city, it was thought best to have an analysis made by a chemist of established reputation. Dr. J. Lawrence Smith, analytical chemist,

etc., of Louisville, Ky., stands at the head of his profession, and we were informed by leading members of the medical profession that a report from him would be unquestioned authority. We furnished the Doctor specimens of water from central and prominent points in the city, besides the water from our well, and the following is his report of the examination:

LOUISVILLE, January 31, 1872.

MR. JOHN R. ELDER,
President Water Works Company, Indianapolis:

DEAR SIR—I received the bottles of water you sent me for examination, without any special instructions as to what you desired. I, therefore, supposed that you wished a general examination as regards their merits for domestic use and for manufacturing purposes. The waters were marked:

Bates House well water.

Water Works well water.

Cistern water, from cistern of the Indianapolis Insurance Company.

The cistern water was first examined. It was found to possess the usual smoky odor and taste that cistern water has, collected in our Western cities where bituminous coal is used. It contained but a minute trace of solid matter, not more than two grains to the gallon, which consisted of organic matter and a little carbonate of lime, the former coming from the atmosphere and the roof, and the latter from the lining of the cistern, I suppose. This water is, of course, not an agreeable drinking water from its unpalatable nature, but would answer perfectly well for all other domestic purposes, except in such cooking where the smoky flavor would be objectionable. If filtered through animal charcoal it could be rendered useful for all domestic purposes.

THE WATER WORKS WELL WATER.

The water from this well was perfectly colorless and transparent, without any matter in suspension, or sediment in the bottle. It was odorless and agreeable to the taste.

Odor.—A portion of the water was placed in a bottle, so as to occupy about one-half its capacity, and shaken frequently, and on repeated examination for four weeks, it still remained odor-

less and agreeable to the taste. Some of it was then heated, and a little caustic potash added, but still there was no apparent odor.

Ammonia.—The most delicate known test was next applied, to see if any trace of ammonia was present, (a test having reference to the presence of animal matter,) but not the smallest indication of its presence was given.

Solid Matter.—This was estimated in the usual way, by evaporating over a water bottle a certain quantity. There was found twenty-one grains of solid matter to the gallon. This solid matter was next analyzed, and found to consist principally of carbonate of lime that had been held in solution by a small amount of carbonic acid in the water. The exact constituents of the solid matter were:

	Grains.
Carbonate of lime	10.017
Carbonate of soda	0.402
Chloride of calcium	2.371
Chloride of sodium	4.705
Sulphate of lime	3.004
Organic matter	0.501

The small amount of organic matter was clearly of a vegetable nature, as indicated by its odor.

THE BATES HOUSE WELL WATER.

The water from the Bates House well contained nearly three times as much solid matter as the Water Works well. The ingredients, however, were the same, with the exception that the chlorine was in larger proportion. This water was clear and transparent, and without sediment, and would be ranked as a good water for domestic use. But I should not consider it, by any means, so good as the water from the Water Works well, situated, as the Bates House is, in the center of a thickly populated community.

The examination of a water to be used for domestic purposes is both a chemical and physiological question. The chemist first determines the constituents, and the physiologist the operation of the constituents on the animal economy in its healthy state. But, up to the present time, there is much obscurity on the latter

point. Some consider the solid contents of water hurtful, or of no use, and, therefore, prefer rain water; others regard them as beneficial. To a certain extent both views are, doubtless, correct. If waters contain animal matter in solution, such as may be indicated by the presence of ammonia, and other signs—if they contain mineral constituents like lead, copper, etc., no one can hesitate in pronouncing them deleterious to a greater or less extent, according to the amount of those constituents present. Then, again, if water contains a little sulphates and carbonates, there is equally no doubt that these constituents act in a healthy manner upon the mucous membrane of the stomach and intestines. This fact is evinced by the frequent use of mineral waters containing these substances for the benefit of one's health.

All waters, except distilled water, must contain solid constituents. Even rain water, as collected from the roof of houses, contains organic matter, dust, and where falling on metal roofs, painted with lead, is said to contain this metal.

River waters, and next to them, lake waters, have dissolved some portions of the soil over which they pass, and also contain the organic and other constituents that flow into them from the drainage of cities, fields, etc.

Well and spring waters always contain more or less of the constituents of the soil through which the water percolates.

I have contrasted the Water Works well water with the Croton water, of New York; the Fairmount water, of Philadelphia; the Ohio River water, used in the various cities on its borders, and with the well water of Louisville, and there is every reason for considering it as good a water for domestic purposes as any of the first four, and vastly superior to the last, which is still used by many for drinking purposes in preference to the Ohio River water, although the latter is certainly a superior water, the former having only the advantage of clearness at all seasons of the year, and coolness in summer.

Yours respectfully,

J. LAWRENCE SMITH,
Analytical Chemist, etc.

It affords me great pleasure to report, that although the loss of time, from the 1st of June to the 26th of October, was a very

serious interruption to the business of the Company, during the season of the year when our citizens would be most likely to make connections and take water, still this can and will be overcome by the very general satisfaction the water we furnish gives, and the confidence and interest felt for the success of the Company.

Appended hereto will be found the Secretary's report, giving a classified statement of the receipts and expenditures. Also, the report of the Superintendent, giving the amount of pipe laid, location of fire hydrants, location of street valves, and material on hand.

We also append the State law under which this Company is organized, the ordinances passed by the City Council, the water rates adopted by the Council, the rules governing those taking water, and the rules for introducing water, as matters of interest to the stockholder.

All of which is respectfully submitted,

JOHN R. ELDER,
President.

SECRETARY'S REPORT.

RECEIPTS.

Capital stock subscribed.....	\$500,000 00
Cash proceeds of \$50 first mortgage bonds.....	310,175 41
Cash proceeds of 34 second mortgage bonds.....	29,650 00
Cash proceeds of 20 notes.....	57,255 50
Rents from water power and tenements.....	8,107 82
Water rates—receipts since June 1, 1871.....	5,203 52
Construction, received for work done.....	7,309 30
Received from sales of taps, gravel, oakum and tar, etc.....	114 27
Received from sales of branch castings.....	102 72
Received from loan and warrants returned.....	782 52
Treasurer's balance, January 1, 1872.....	2,938 33
	<u>\$921,639 39</u>

EXPENDITURES.

Real estate—paid for central canal, etc.....	\$522,668 93
Holly Manufacturing Company, for machinery and freights.....	43,391 26
Dennis Long—for water pipe and freights.....	132,830 62
Valves and hydrants.....	2,579 05
Tools.....	711 64
Bills payable.....	10,300 45
Furniture, carpenters, millwrights, etc.....	6,975 60
Interest on bonds and bills payable.....	61,883 15
Wells and material, branch castings and miscellaneous material.....	14,798 94
Engineering, architects, excavations, etc.....	3,415 88
Revenue stamps, postage, stationery, telegraphs, etc.....	3,210 81
Salary and pay rolls.....	52,742 19
Fuel, lumber, brick, stone and work, boulders, etc.....	16,503 45
Aqueduct and flume.....	22,962 57
Laying pipe under contracts and tapping mains.....	18,745 15
Taps and cocks, exchange, oil, etc.....	7,919 70
	<u>\$921,639 39</u>

DETAILED ABSTRACTS OF EXPENDITURES.

Statement A—Miscellaneous.

Real estate—paid for central canal.....	\$500,000 00
Real estate—paid lien on canal.....	20,000 00
Real estate—paid for sundry pieces of ground.....	2,668 93
Holly Manufacturing Company, for machinery and freights.....	43,391 26
Interest and commission on bonds, and interest on bills payable.....	61,883 15
Bills payable—two notes.....	10,300 45
Paid subscription to Washington street bridge.....	500 00
Exchange.....	5 12
	<u>\$638,748 91</u>

Statement B—Office Expenses.

Paid for revenue stamps.....	\$509 50
Paid for postage.....	28 50
Paid for stationery.....	859 55
Paid for telegraphing.....	189 06
Paid for expressing.....	389 10
Paid for traveling expenses.....	1,806 80
Paid for advertising.....	518 60
Paid for contingent expenses, gas bills, etc.....	2,222 51
Paid for furniture.....	199 15
Paid for loan repaid.....	700 00
Paid for insurance and attorney fees.....	325 00
Paid for rents and livery bills (hay and feed).....	517 81
Paid for oil, etc.....	111 78
Paid for taxes.....	791 12
Paid for salary of officers.....	11,858 03
	<u>\$21,026 51</u>

Statement C—Street Extension and Repairs.

Paid for water pipe, to Dennis Long.....	\$132,830 62
Paid for valves and hydrants.....	2,579 05
Paid for branch castings.....	3,233 43
Paid for boulders and bouldering.....	1,723 99
Paid for laying pipe under contract.....	13,233 19
Paid for lead, yarn, etc., used in laying pipes.....	5,245 96
Paid for tapping mains.....	266 00
Paid for tools.....	711 64
Paid for wages of hands on streets.....	11,348 47
Paid for freight on valves and hydrants, and extra hauling.....	3,150 77
Paid for taps and cocks.....	612 87
	<u>\$174,935 99</u>

Statement D—Construction.

Paid for wages of hands on canal and for work in repairing flume, breaks in canal, hauling, excavating, etc., as per pay rolls from June 1, 1870, to June, 1871.....	\$28,425 73
Paid for engineering and drawing.....	216 50
Paid for glass, glazing and painting in building.....	502 01
Paid for fuel (coal and wood used at building).....	2,525 20
Paid for lumber used in construction.....	2,047 84
Paid for excavation and drainage.....	1,574 25
Paid for brick and brick work.....	5,156 73
Paid for stone and work.....	3,146 63
Paid for cement and oakum.....	1,903 06
Paid for extra labor on aqueduct.....	265 00
Paid for wood work on aqueduct, McNairy & Co.....	6,600 50
Paid for stone work on aqueduct, Renard & Burke.....	8,589 90
Paid for construction and work on flume.....	7,507 17
Paid for extra labor—carpenter work.....	2,360 00
Paid for millwright's work in flume house and building.....	427 61
Paid for roofing building.....	2,408 84
Paid for repairing break in canal.....	1,580 00
Paid for architect's service.....	466 48
Paid for construction of wells and material.....	7,924 83
Paid for extra labor (A. Billings).....	60 00
Paid for miscellaneous material and service, for work in and about building.....	3,239 70
	<u>\$86,927 98</u>

RECAPITULATION OF EXPENSES.

Statement A—Miscellaneous	\$638,748 91
Statement B—Office Expenses.....	21,026 51
Statement C—Street Extensions, etc.....	174,935 99
Statement D—Construction	86,927 98
	<u>\$921,639 39</u>

REPORT OF SUPERINTENDENT,

Showing lengths and sizes of Pipe laid for the distribution of water, from the organization of the Company to January 1, 1872.

TWENTY INCH.

	FEET
On Pearl street, from Water Works Building to Mississippi street.....	2500

SIXTEEN INCH.

On Mississippi street, from Georgia to Ohio.....	2091
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TWELVE INCH.

On Mississippi street, from Ohio to North	1547
On Mississippi street, from Georgia to South	838
	<u>2385</u>

EIGHT INCH.

On Market street, from Mississippi to Delaware.....	2570
On East street, from North to South.....	1654
On Maryland street, from Mississippi to Delaware.....	2560
On North street, from Mississippi to East	4080
On Mississippi, between Ohio and North.....	54
On Mississippi, between Georgia and South.....	35
On South, from East to Mississippi.....	4065
	<u>15018</u>

SIX INCH.

On Ohio, from Mississippi to East	4085
On Vermont, from Mississippi to East	4080
On Market, from Delaware to East	1507
On East, from North to South.....	3420
On Maryland, from Delaware to Alabama	493
On Delaware, from Maryland to Washington.....	530
On Washington, from Delaware to East.....	1567
On North, from Mississippi eastward	12
On Massachusetts avenue, from North to Sewing Machine Works.....	3150
On Mississippi, between Georgia and North.....	50

	FEET
On Mississippi, between Ohio and North.....	24
On New Jersey, between Washington and Market.....	239
On Alabama, between Washington and Market.....	239
On Pennsylvania, between Washington and Market.....	463
On Meridian, between Washington and Market.....	319
On Tennessee, between Washington and Market.....	239
On Georgia, from Mississippi to Pennsylvania.....	1983
On Illinois, from Washington to Market.....	319
On Tennessee, from Maryland to Washington.....	275
On Meridian, from Maryland to Washington.....	265
On Meridian, south of Maryland.....	240
On Geisendorf, from Works to Market.....	700
On West street, from Pearl to Ohio.....	1410
On Illinois, from North to Pratt.....	1365
On Meridian, from North to Second.....	3430
On Virginia avenue, from Washington to Maryland.....	794
On Pennsylvania, from North to St. Joseph.....	1749
On Illinois, from Pratt to Tinker.....	3110
On Meridian, from South to Morris.....	3122
On Illinois, from South to Garden.....	431
On North, from East to Winston.....	1849
On Washington, from East to Deaf and Dumb Asylum.....	5267
On Arsenal avenue, from Washington to U. S. Arsenal.....	2797
On Virginia avenue, from South to Merrill.....	1011
On Delaware, from South to J. R. R. Round House.....	1072
	51606

FOUR INCH.

On Ohio, from Mississippi (east).....	45
On Market, from Mississippi to Missouri.....	415
On Vermont, from Mississippi (east.).....	150
On Market, from Mississippi (east).....	122
On Market, from Delaware (east).....	100
On East street, from North (south).....	213
On Maryland, from Delaware (east).....	20
On Maryland, east from Mississippi.....	120
On Delaware, south from Washington.....	50
On Washington, east from Delaware.....	180
On North, east from Mississippi.....	190
On Massachusetts Avenue, north from North.....	1496
On Mississippi, north from Georgia.....	70
On Mississippi, north from Ohio.....	310
On Mississippi, south from Georgia.....	45
On New Jersey, north from Washington.....	254
On Alabama, north from Washington.....	254

	FEET
On Pennsylvania, north from Washington.....	22
On Meridian, north from Washington.....	158
On Tennessee, north from Washington.....	254
On Georgia, east from Mississippi.....	141
On Illinois, north from Washington.....	158
On Tennessee, south from Washington.....	288
On Illinois, from Maryland to Washington.....	491
On Meridian, south from Washington.....	256
On Meridian, south of Maryland.....	22
On Pennsylvania, from Washington to Georgia.....	910
On Geisendorf, north from Water Works Building.....	18
On West, north from Pearl.....	80
On Illinois, north from North.....	68
On Meridian, north of North.....	61
On Patoka alley, east of Illinois and south of North.....	475
On Muskingum alley, east of Tennessee and south of Michigan.....	485
On Muskingum alley, east of Tennessee and south of Vermont.....	445
On Severn alley, east of Tennessee and south of Vermont.....	445
On the alleys between Washington and Market and Pennsylvania and Delaware.....	490
On Hudson alley, north from North.....	775
On Erie alley, north from North.....	886
On Susquehanna alley, south from Vermont.....	82
On Market, east from West.....	525
On Ohio, east from West.....	505
On Illinois, from Ohio to New York.....	530
On Tennessee, from Ohio to New York.....	530
On Meridian, from Ohio to New York.....	465
On Pennsylvania, from Ohio to New York.....	530
On Alabama, from Ohio to New York.....	465
On New Jersey, from Ohio to New York.....	465
On Tennessee, from Vermont to Michigan.....	530
On Illinois, from Vermont to Michigan.....	530
On Meridian, from Vermont to Michigan.....	530
On Alabama, from Vermont to Michigan.....	530
On New Jersey, from Vermont to Michigan.....	465
On Virginia avenue, north from Maryland.....	18
On Alabama, south of Washington.....	275
On Meridian, north from Pratt.....	45
On South, east from Meridian.....	100
On New Jersey, from South to Virginia avenue.....	441
On Pratt, from Meridian to Pennsylvania.....	523
On Pennsylvania, from Vermont to Michigan.....	370
On South, west from Meridian.....	40
On Illinois, north from Pratt.....	91

	FEET
On St. Joseph, from Pennsylvania to Delaware.....	580
On Delaware, from St. Joseph to St. Marys.....	453
On Pratt, from Pennsylvania to Delaware.....	580
On Delaware, from Pratt to St. Clair.....	404
On Meridian, south from South.....	476
On Illinois, south from South.....	67
On North, east from East street.....	26
On Illinois, from McNabb to South.....	336
On McNabb, east from Illinois.....	131
On North, from Winston to Bellefontaine Railroad shops.....	340
On Illinois, from South to Garden.....	271
On Merrill, from Meridian to Illinois.....	345
On Washington, east of East street.....	80
On Virginia avenue, south of South street.....	70
On Delaware, south of South street.....	48
On Illinois, south from Maryland.....	235
On Illinois, from Georgia to Louisiana.....	500
On Michigan, from Mississippi to Indiana Avenue.....	400
On Indiana Avenue, south from Michigan.....	114
On New York, east from Pennsylvania.....	375
	25,358

RECAPITULATION OF WATER PIPE EXTENSIONS.

	Feet.
Twenty inch pipes.....	2,500
Sixteen inch pipes.....	2,091
Twelve inch pipes.....	2,385
Eight inch pipes.....	15,018
Six inch pipes.....	51,606
Four inch pipes.....	25,358
	98,958

98,958 feet, or 18 miles and 3,918 feet.

LOCATION OF FIRE HYDRANTS,

Placed by the Water Works Company by order of Council.

	Single.	Double.
Northeast corner of Georgia and Tennessee.....	1	.....
Northeast corner of East and Washington.....	1	.....
Southwest corner of Vermont and Tennessee.....	1	.....
Southeast corner of Michigan and New Jersey.....	1	.....
Southwest corner of Michigan and Alabama.....	1	.....
Southwest corner of Michigan and Tennessee.....	1	.....
Southwest corner of Michigan and Illinois.....	1	.....
Southwest corner of Michigan and Meridian.....	1	.....
Southwest corner of New York and Tennessee.....	1	.....
Southwest corner of New York and Illinois.....	1	.....
Northeast corner of Ohio and Mississippi.....	1	.....
Northwest corner of Ohio and Missouri.....	1	.....
Northeast corner of Ohio and West.....	1	.....
Southwest corner of Market and West.....	1	.....
Southwest corner of Market and Missouri.....	1	.....
Southwest corner of Washington and West.....	1	.....
Northeast corner of Washington and West.....	1	.....
Southwest corner of Ohio and Tennessee.....	1	.....
Southwest corner of Ohio and Illinois.....	.....	1
Southwest corner of Ohio and Pennsylvania.....	1	.....
Northeast corner of Ohio and Delaware.....	1	.....
Northeast corner of Ohio and Alabama.....	1	.....
Northeast corner of Ohio and New Jersey.....	1	.....
Southeast corner of New York and New Jersey.....	1	.....
Southeast corner of New York and Alabama.....	1	.....
Southwest corner of New York and Pennsylvania.....	1	.....
Southwest corner of Alabama and Massachusetts Avenue.....	1	.....
Southwest corner of Vermont and Delaware.....	1	.....
Southeast corner of New York and Meridian.....	1	.....
Southwest corner of Vermont and Meridian.....	1	.....
Southwest corner of Vermont and Pennsylvania.....	1	.....
Southwest corner of Vermont and Illinois.....	1	.....
Northeast corner of Vermont and New Jersey.....	1	.....
Northeast corner of Ohio and Meridian.....	1	.....
Southeast corner of East and North.....	1	.....
Northeast corner of East and Market.....	1	.....
Northeast corner of East and Ohio.....	1	.....
Northeast corner of East and Michigan.....	1	.....
Southwest corner of East and Vermont.....	1	.....
Southwest corner of East and Washington.....	.....	1
Northeast corner of East and Pearl.....	.....	1
Northeast corner of East and New York.....	1	.....
North side Washington, between Delaware and Pennsylvania.....	.....	1

Location of Fire Hydrants—Continued.

	Single.	Double.
On Court between Delaware and Pennsylvania.....	1	
Northeast corner of Georgia and Illinois.....	1	
Northeast corner of Georgia and Meridian.....	1	
Southwest corner of Georgia and Meridian.....	1	
At the Water Works building.....	1	
Southwest corner of National Road bridge and Geisendorf st.....	1	
Southwest corner of Meridian and Walnut.....	1	
Southwest corner of Meridian and Pratt.....	1	
Southwest corner of Meridian and St. Clair.....	1	
Southwest corner of Market and New Jersey.....	1	
Southwest corner of Market and Alabama.....	1	
Southwest corner of Market and Delaware.....	1	
Southwest corner of Market and Circle.....	1	
Southwest corner of Meridian and Circle.....	1	
Southwest corner of Market and Pennsylvania.....	1	
Northeast corner of Washington and New Jersey.....	1	
Northeast corner of Washington and Alabama.....	1	
Northeast corner of Washington and Pennsylvania.....	1	
Northeast corner of Washington and Meridian.....	1	
Southwest corner of Market and Circle.....	1	
Southwest corner of Market and Illinois.....	1	
Southwest corner of Market and Tennessee.....	1	
Southeast corner of Market and Mississippi.....	1	
Northeast corner of Washington and Illinois.....	1	
Northeast corner of Washington and Tennessee.....	1	
Southwest corner of Washington and Mississippi.....	1	
Northeast corner of Washington and Mississippi.....	1	
Southwest corner of New York and Mississippi.....	1	
Southwest corner of Vermont and Mississippi.....	1	
Southeast corner of Michigan and Mississippi.....	1	
Southeast corner of North and Mississippi.....	1	
Northwest corner of North and Mississippi.....	1	
Southwest corner of Maryland and Mississippi.....	1	
Southwest corner of Maryland and Tennessee.....	1	
Northwest corner of Maryland and Kentucky Avenue.....	1	
Southwest corner of Washington and Tennessee.....	1	
Southwest corner of Maryland and Illinois.....	1	
Northeast corner of Maryland and Illinois.....	1	
Southeast corner of Illinois and Washington.....	1	
Southwest corner of Maryland and Meridian.....	1	
Northeast corner of Maryland and Meridian.....	1	
East side Meridian between Maryland and Georgia.....	1	
East side of Meridian, between Maryland and Washington.....	1	
Southwest corner of Maryland and Pennsylvania.....	1	
Southwest corner of Pennsylvania and Washington.....	1	
Northwest corner of Pennsylvania and Georgia.....	1	
Southwest corner of Maryland and Delaware.....	1	
South side Virginia Avenue, between Maryland and Washington.....	1	
Southwest corner of Maryland and Alabama.....	1	

Location of Fire Hydrants—Continued.

	Single.	Double.
Northeast corner of Maryland and Delaware.....	1	
Southeast corner of Washington and Delaware.....	1	
Northeast corner of Washington and Delaware.....	1	
South side Washington, between Delaware and Alabama.....	1	
South side Washington, between Alabama and New Jersey.....	1	
South side Washington, between New Jersey and East.....	1	
Southwest corner of Washington and Alabama.....	1	
Southwest corner of Washington and New Jersey.....	1	
Southwest corner of North and New Jersey.....	1	
Southwest corner of North and Alabama.....	1	
Southeast corner of North and Delaware.....	1	
Southwest corner of North and Pennsylvania.....	1	
Southeast corner of North and Meridian.....	1	
Southeast corner of North and Illinois.....	1	
Southeast corner of North and Tennessee.....	1	
Southeast corner of Massachusetts Avenue and Liberty.....	1	
Southwest corner of Massachusetts Avenue and Ash.....	1	
Southeast corner of Massachusetts Avenue and Noble.....	1	
At the Sewing Machine Factory.....	1	
Southwest corner of Massachusetts Avenue and Cherry.....	1	
Southwest corner of St. Joseph and Meridian.....	1	
Southwest corner of First and Meridian.....	1	
Southwest corner of Second and Meridian.....	1	
Northeast corner of East and South.....	1	
Southeast corner of New Jersey and South.....	1	
Southeast corner of Alabama and South.....	1	
Southeast corner of Delaware and South.....	1	
Southeast corner of Pennsylvania and South.....	1	
Southeast corner of Meridian and South.....	1	
Southeast corner of Virginia Avenue and New Jersey.....	1	
Southeast corner of Mississippi and South.....	1	
Northwest corner of Mississippi and Louisiana.....	1	
Northwest corner of Pratt and Pennsylvania.....	1	
Northwest corner of Walnut and Pennsylvania.....	1	
Northwest corner of St. Clair and Pennsylvania.....	1	
Northeast corner of St. Joseph and Pennsylvania.....	1	
Southeast corner of Washington and Meridian.....	1	
Southwest corner of Illinois and Walnut.....	1	
Southwest corner of Illinois and St. Clair.....	1	
Southwest corner of Illinois and Pratt.....	1	
Northwest corner of Illinois and First.....	1	
Northwest corner of Illinois and Second.....	1	
Northwest corner of Illinois and Third.....	1	
Northwest corner of Illinois and Fourth.....	1	
Northwest corner of Illinois and Fifth.....	1	
Northwest corner of Illinois and Sixth.....	1	
Northwest corner of Illinois and Seventh.....	1	
Southwest corner of Illinois and South.....	1	
Southeast corner of Tennessee and South.....	1	

Location of Fire Hydrants—Continued.

	Single.	Double.
Southwest corner of Meridian and Garden.....		1
Northwest corner of Meridian and Merrill.....		1
Northwest corner of Meridian and Phipps.....		1
Southwest corner of Meridian and McCarty.....		1
Southwest corner of Meridian and Macaulay.....		1
Northwest corner of Meridian and Ray.....		1
Southwest corner of Meridian and Wilkins.....		1
Northwest corner of Meridian and Morris.....		1
Southwest corner of Washington and Liberty.....	1	1
Northeast corner of Washington and Noble.....		1
Northeast corner of Washington and Winston.....	1	
Northwest corner of Washington and Hyland.....		1
On East Washington, opposite Oriental.....		1
Northeast corner of Washington and Arsenal Avenue.....	1	
Southwest corner of Washington and Reid.....	1	
Southeast corner of Illinois and McNabb.....		1
Northeast corner of Delaware and St. Clair.....		1
Southeast corner of Delaware and St. Mary.....		1
Southwest corner of Geisendorf and Market.....		1
Northeast corner of Georgia and Kentucky Avenue.....		1
Northeast corner of Tennessee and Kentucky Avenue.....		1
Northeast corner of Illinois and Garden.....		1
Northwest corner of Pennsylvania and Michigan.....		1
East side of Alabama, south of Washington.....		1
Southwest corner of Walnut and Hudson Alley.....		1
Northwest corner of Walnut and Erie Alley.....		1
On St. Clair, between Alabama and New Jersey.....		1
Northeast corner of East and Louisiana.....		1
Northeast corner of East and Georgia.....		1
Northwest corner of North and Liberty.....		1
Southeast corner of North and Noble.....		1
Southwest corner of North and Davidson.....		1
Southeast corner of Illinois and Merrill.....		1
At Engine House on Virginia Avenue.....	1	
Southeast corner of Virginia Avenue and Huron.....	1	
Northwest corner of Virginia Avenue and Merrill.....	1	
Northeast corner of Delaware and Duncan.....	1	
Northeast corner of Delaware and Merrill.....	1	
On Illinois, south of Maryland.....	1	
Northeast corner of Illinois and Louisiana.....	1	
At Engine House on Indiana Avenue.....	1	
LOCATION OF PRIVATE HYDRANTS.		
In United States Arsenal Grounds.....		5
On West Market, at Emerson & Beams.....	1	
In Deaf and Dumb Asylum Grounds.....		1
In the Severn Wheel Works Grounds on South Illinois.....		2
At Bellefontaine Railroad Shops.....		1
On South East, at Bellefontaine R. R. Engine Yard.....		1
	63	130

SUMMARY OF FIRE HYDRANTS.

Total number bought of Holly Manufacturing Company.....	200
Number of single hydrants placed.....	63
Number of double hydrants placed.....	130
Number remaining on hand January 1, 1872.....	7
Of the above list, there are, of the double hydrants placed, belonging to private parties.....	200
Of the single.....	11
	1
	12
Leaving of hydrants for which the City of Indianapolis pay.....	182
Which, with number on hand, make.....	7
	200

LOCATION OF VALVES.

SIXTEEN INCH.

On Mississippi, at the corner of Maryland.....	1
On Mississippi, at the corner of Washington.....	1
	2

TEN INCH.

On South, at the corner of Mississippi.....	1
---	---

EIGHT INCH.

On Mississippi, at the corner of North.....	1
On Mississippi, at the corner of South.....	1
On South, at the corner of Meridian.....	1
On South, at the corner of Delaware.....	1
On South, at the corner of East.....	1
On Georgia, at the corner of Mississippi.....	1
On Maryland, at the corner of Mississippi.....	1
On Maryland, at the corner of Delaware.....	1
On Maryland, at the corner of Meridian.....	1
On Market, at the corner of Mississippi.....	1
On Market, at the corner of Meridian.....	1
On Market, at the corner of Delaware.....	1
On North, at the corner of Mississippi.....	1
On North, at the corner of Delaware.....	1

On North, at the corner of Meridian	1
On North, at the corner of East	1
On East, at the corner of South	1
On East, at the corner of Peru	1
	<hr/> 18

SIX INCH.

On Geisendorf street, at the Water Works Building	1
On Wiseman alley, at the corner of Pearl	2
On West, at the corner of Washington	1
On West, at the corner of Pearl	1
On Maryland, at the corner of Mississippi	1
On Washington, at the corner of East	2
On Market, at the corner of Mississippi	1
On Market, at the corner of East	1
On Ohio, at the corner of Mississippi	1
On Ohio, at the corner of Delaware	1
On Ohio, at the corner of East	1
On Vermont, at the corner of Mississippi	1
On Vermont, at the corner of Delaware	1
On Vermont, at the corner of East	1
On Illinois, at the corner of South	1
On Illinois, at the corner of North	1
On Illinois, at the corner of Second	1
On Meridian, at the corner of South	1
On Meridian, at the corner of North	1
On Pennsylvania, at the corner of North	1
On Delaware, at the corner of Washington	1
On East, at the corner of Market	1
On East, at the corner of North	2
On Massachusetts avenue, at the corner of East	1
On Virginia avenue, at the corner of Maryland	1
On Delaware street, at the corner of South	1
On Virginia avenue, at the corner of South	1
On Washington, at the Deaf and Dumb Institute	1
On Washington, at the corner of Arsenal Avenue	1
	<hr/> 31

FOUR INCH.

On Washington, at the corner of Mississippi	2
On Market, at the corner of Missouri	1
On Vermont, at the corner of Mississippi	1
On Pratt, at the corner of Pennsylvania	1
On Massachusetts avenue, at the corner of Peru	1
On New York, at the corner of Mississippi	1
On Michigan, at the corner of Mississippi	1
	<hr/> 8

RECAPITULATION OF VALVES.

Sixteen inch	2
Ten inch	1
Eight inch	18
Six inch	31
Four inch	8
	<hr/> 60

The Company had, on the 1st day of January, 1872, issued permits to 439 water consumers.

Since the commencement of laying pipes, the following breaks have occurred:

	NO.	SIZE
On Pearl Street	3	20
On Mississippi street	1	16
On North Street	9	8
On Market street	1	8
On East street	4	8
On South street	5	8
On South street	6	4
	<hr/> 29	

These breaks nearly all occurred under a test pressure of from 140 to 160 pounds.

MATERIAL ON HAND, JANUARY 1, 1872.

	LBS.		VALUE
996 feet 6 inch water pipe	34400	at \$55.80	\$959 76
888 feet 8 inch water pipe	37710	at 55.80	1,032 30
59 feet 12 inch water pipe	5044	at 55.80	139 50
15 feet 20 inch water pipe	2828	at 55.80	97 65
160 feet 16 inch water pipe	20560	at 55.80	602 70
260 feet 4 inch water pipe	6110	at 55.80	170 19
11200 lbs scrap iron		at .01½	140 00
2—8 × 6 reducers	210	at .04	8 40
4—6 to 4 reducers	356	at .04	14 25
6—8 × 6 × 4 crosses	1599	at .04	63 96
9—8 × 6 × 6 crosses	2412	at .04	96 48
19—4 × 4 × 4 crosses	2128	at .04	85 12
5—6 × 4 × 4 crosses	907	at .04	36 28
29—6 × 6 × 4 crosses	5296	at .04	211 84
41—6 × 6 × 6 crosses	12192	at .04	487 68
5—8 × 6 tees	1895	at .03½	66 32

	LBS.		VALUE
17—6 x 4 tees	2822 at	.03½	98 77
9—4 x 4 tees	963 at	.03½	33 71
11—6 x 6 tees	2124 at	.03½	74 34
1—6 x 4 X	240 at	.01½	3 00
1—valve cover	214 at	.04	8 56
5—4 inch elbows, long	925 at	.04	37 00
7—4 inch elbows, short	420 at	.04	16 80
11—6 inch elbows	1100 at	.04	44 00
1—8 inch elbow	148 at	.04	5 92
1—6 inch sleeve	42 at	.03½	1 47
2—4 inch sleeves	70 at	.03½	2 45
4—8 inch sleeves	244 at	.03½	8 54
4—12 inch sleeves	628 at	.04	25 12
1—20 inch sleeve	573 at	.03½	20 05
55—4 inch plugs	440 at	.03½	15 70
53—6 inch plugs	769 at	.03½	26 74
2—8 inch plugs	64 at	.04	2 56
3—4 inch caps	48 at	.04	1 92
10—6 inch caps	275 at	.04	11 00
1—16 inch cap	150 at	.01½	1 88
9—6 to 4, short reducers	801 at	.04	32 04
1—4 inch qr. bend	52 at	.04	2 08
7—fire hydrants	at	40.00	289 00
			\$4,966 07

TAPPERS' TOOLS.

Breast drill	1
Valve wrenches	4
Stop-cock keys	3
Tapping Machine	1
Spindle for tapping machine	1
Ratchet for tapping machine	1
Chains and Hooks	2
Pair extra clamp for 20 inch pipe	1
Pair extra chains for 20 inch pipe	1
Hammer	1
Monkey wrench	1
Wrought iron spanner wrench	1
Stuffing-box wrench	1
Hatchet	1
Scoop	1
Pairs nipper tongs	2
Three-quarter inch waste-cock	1
Three-quarter inch nipples	3
Three-quarter inch unions	2

Blow off for fire plugs	1
New leather washers	1½ doz.
Old leather washers	1 doz.
Cold chisel	1
Three-quarter inch steel tap	1
Three-quarter inch taps	6 7-12 doz.
Five-eighth inch taps	6½ doz.
One-half inch taps	4½ doz.
One inch taps	1-12 doz.
One inch stop-cocks	2½ doz.
Three-quarter inch stop-cocks	4 doz.
Five-eighth inch stop-cocks	4½ doz.
Five-eighth inch; three-quarter inch, and one inch screw taps, each	1-12 doz.
Pipe clamps	7
Soldering kettle	1
Tap covers	½ doz.
Sledge hammer	1
Pair rubber boots	1

TOOLS FOR PIPE LAYING.

Rod chisels	½ doz.
Cold chisels	½ doz.
Two pound hammers	½ doz.
Yarn irons	½ doz.
Caulking chisels	½ doz.
Two inch pipe hooks	10-12 doz.
Lead Furnaces	2
Lead kettles	2
Iron ladles	2
One inch iron pipe	40 feet
Coils packing yarn	5
Packing yarn	100 feet
Dome for six inch valve	1
Pipe roller	1
Hand spikes	2
Rope and chain	1
Measuring line—one hundred feet	1
Handled picks	1 11-12 doz.
Sound and broken pick heads, each	3
Pick handles	11
Shovels	1 7-12 doz.
Tool box	1
Ax	1
Push cart	1

MISCELLANEOUS ARTICLES AND FITTINGS AT BUILDING.

Large monkey wrench.....	1
Four and a-half inch wrought monkey wrench.....	1
Four inch wrought monkey wrench.....	1
Three and three-quarter inch wrought monkey wrench.....	1
Three inch wrought monkey wrench.....	1
Crowbar.....	1
Large hand hammer.....	1
Double-faced hammer.....	1
Long handled sledges.....	2
Jack screws.....	4
Chisels.....	6
Oil cans.....	3
Copper floats.....	2
Lead ladle.....	1
Belt for centrifugal pump.....	1
Brooms.....	7
Set tackle.....	2
Rope for tackle.....	1
Set of blocks for tackle.....	1
Double hook rope.....	1
Steam hose, one inch ; and one and one-half inch, each.....	25 feet
Iron wrench.....	1
Tallow.....	$\frac{1}{2}$ bbl.
Glass water-gauges.....	18
Twenty-five foot ladder.....	1
Window brush.....	1
Oil barrel faucets.....	2
Gallons of oil.....	5
Coal tar.....	$\frac{1}{2}$ bbl.
Iron gravel bucket.....	1
Wood brick buckets.....	2
Jack stands, eighteen hundred pounds.....	6
Short shovel handles.....	8
Long shovel handles.....	6
Old wheel barrows.....	20
Old axes.....	3

MACHINERY, TOOLS, ETC., USED AT BUILDING, AND VALUE.

Two centrifugal pumps, at \$400 each.....	\$800 00
Fifty pounds mixed bolts, at 10 cents.....	5 00
Five hundred and twenty pounds of iron and bolts, at 5 cents.....	26 00
Seventeen feet six inch pipe.....	64 00
Six one foot elbows.....	6 00
Six one foot flanges.....	5 00

Two pieces pipe braces in well.....	14 00
Forty-seven feet, four inch wrought iron pipe.....	20 00
Fourteen feet, three inch wrought iron pipe.....	7 00
Thirty-eight feet, two inch wrought iron pipe.....	11 40
One hundred and eighteen feet, one and a-half inch wrought iron pipe.....	30 00
Four pair rubber boots, at \$4.....	16 00
Two two inch elbows.....	1 10
Two one and a-half inch elbows.....	88
Two one and one-quarter inch elbows.....	68
Three one inch elbows.....	66
Four three-quarter inch elbows.....	60
One one and a-half inch unions.....	1 60
Four one and one-quarter inch unions, at \$1.30.....	5 20
One street valve wrench.....	7 65
One tail gate wrench.....	3 00
Two ratchet drills, at \$1.75.....	3 50
One twenty-four inch, long steel chisel.....	1 50
Two steel pointed bars, at \$2.....	4 00
One gang bar.....	2 00
One socket wrench.....	2 75
One socket wrench, [for cylinder,].....	1 75
Two double end wrenches, at \$1.....	2 00
One single end wrench.....	1 00
Eight chairs, at building, at \$2.....	16 00
Two stoves, at building, \$20.....	40 00
One stove in office.....	32 00
One set small fire tools.....	3 00
One set large fire tools.....	5 00
One pair adjustable pipe tongs.....	4 00
One pair one and one-quarter inch adjustable pipe tongs.....	2 25

\$1,146 52

Value of Machinery and Fittings..... \$1,146 52

Value of Pipe and Castings on hand..... 4,966 07

\$6,132 59

Statement of number of feet of pipe laid by Water Works Company, including an estimate of the cost of pipe, and laying, since May, 1871.

	FEET	LIBS.
Sixteen inch pipe.....	535	68,748
Twelve inch pipe.....	884	75,582
Eight inch pipe.....	5,719	257,355
Six inch pipe.....	27,867	1,058,946
Four inch pipe.....	15,962	375,107
	50,967	1,835,738

50,967 feet, or 9 miles, 3,447 feet.

1,835,738 pounds, or 917 1738-2000 tons, at \$50	\$45,893 45
Cost of laying pipe.....	3,769 80
Cost of digging ditches.....	4,584 74
Cost of teaming, drayage.....	208 98
Cost of hauling pipe.....	458 50
Cost of lead used.....	2,974 07
Cost of yarn used.....	451 78
Cost of eighty fire hydrants, at \$42.....	3,360 00
Cost of twenty valves.....	662 20
	\$62,363 52

About \$8.57 per ton, for laying.

About 8 cents and a fraction per foot, for digging.

LIST OF REAL ESTATE,

Conveyed by the Central Canal Company to the Water Works Company, and held by this Company January 1, 1872, with its estimated value.

One and a half acres of land at Broad Ripple, on which flouring mill is located.....	\$1,800 00
One and a quarter acres at Broad Ripple, north of mill property, with dwelling house	800 00
Land bought of Bacon, at Broad Ripple, including ford below the dam	250 00
Four hundred and twenty feet front, on Market street, between Missouri and West streets, one hundred and ninety-five feet deep—one hundred and thirty-five feet deep to Canal, at \$70 per front foot	29,400 00
Eight hundred and nine feet six inches front on Market street, between West and Blackford streets, one hundred and ninety-five feet deep—one hundred and thirty-five feet deep to Canal, at \$50 per front foot.....	40,475 00
Five acres and thirty-nine hundredths, in out-lots 146 and 148, with a front of six hundred and seventy-five feet on Geisendorff street, three hundred feet on the north side of Market street, seventy-five feet front on the south side of Market street, seventy-five feet front on the National Road, and seventy-five feet front on Washington street, at \$4,000 per acre...	21,560 00
Out-lot 145, fronting four hundred and fifty feet on Washington street, by one hundred and ninety-five feet deep, at \$90 per front foot.....	40,500 00
Out-lot 145, fronting two hundred and twenty-five feet on Maryland street, by one hundred and ninety-five feet deep, at \$50 per front foot	11,250 00
Two and a half acres of land, at Underhill's Mill, at \$1,500 per acre	3,750 00
Lot No. 10 in out-lot 148, in Ray's Subdivision	300 00
	\$150,085 00

In addition to the above, there is property at Anderson, occupied by the Anderson Hydraulic Company for a water power, from which we will receive six per cent. per annum interest on the appraised value. This property has not yet been appraised.

LAW OF THE STATE OF INDIANA.

CHAPTER LXIV.

AN ACT to authorize the formation of companies for the construction of water works in and for incorporated cities; to enable such city to subscribe stock in such companies, and to issue and sell bonds for the payment thereof.

[APPROVED MARCH 6, 1865.]

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana,* That whenever the City Council of any incorporated city, in the State of Indiana, shall, by resolution, declare that it is expedient to have constructed works for the purpose of supplying such city and the inhabitants thereof with water, but that it is inexpedient for such city, under the powers granted in its act of incorporation, to build such works, it shall be lawful for the inhabitants of any such city, and others, to organize a company for the construction of such water works.

SEC. 2. Any number of persons, not less than twelve, desirous of forming a company for such purpose, shall make, sign, and acknowledge, before some officer, authorized to take acknowledgments of deeds, a certificate in writing, which shall state the corporate name adopted by the company, the amount of the capital stock, the term of its existence—not, however, to exceed fifty years—the number of directors, the names of those who shall manage the affairs of the company for the first year, or until their successors are elected and qualified, and the name of the city, in or for which such works are to be constructed and the business of the company carried on. Such certificate shall be filed in the office of the Recorder of the county in which such city is situate, and shall be then placed upon record, and a duplicate thereof shall be filed in the office of the Secretary of State.

SEC. 3. When the certificate shall have been filed as aforesaid, the persons who shall have signed and acknowledged the same, and their successors, shall be a body politic and corporate, and, by their corporate name, may take, hold, and convey all such real estate as shall be necessary to carry on the operations and effect the objects and purposes of said company, and it shall be lawful for such company to enter upon any lands for the purpose of examining and surveying the same for the site or sites of water works, reservoirs, and line of water pipes of such company, and to take and appropriate so much thereof as may be deemed necessary for the same, and to that end and purpose, said company shall be entitled to the writ of assessment of damages provided by law.

SEC. 4. The business of said company shall be managed by a board of not

less than nine nor more than thirteen directors, who shall be stockholders therein, and a majority of whom shall be residents of such city, and a majority of the directors chosen shall be a quorum. There shall be an election of directors within one year from the filing of the articles of association, and annually thereafter, at such time as shall be fixed by the by-laws of such company. Three weeks' notice thereof shall be given by publication in a newspaper of general circulation in such city. The stockholders shall be entitled to vote either in person or by proxy.

SEC. 5. The officers of such company shall be a President, who shall be one of the directors, a Secretary and Treasurer, and such other officers, agents, and servants as the Board of Directors shall deem necessary for the transaction of the business of the company. Such officers shall be elected annually by the Directors, and shall all be required to give bond, with penalty and surety, to the approval of said Board of Directors, conditioned for the faithful discharge of their respective duties, and shall also take an oath of office.

SEC. 6. The amount of the capital stock shall be fixed by the company, but may be increased by a vote of the stockholders, at any annual meeting, and such capital stock be divided into shares of not more than one hundred dollars each.

SEC. 7. Any such city may become a stockholder in any such company whenever the Common Council shall so direct by resolution, duly entered upon their minutes. Such resolution shall specify the number of shares to be taken, and shall require the Mayor to carry out the direction, by subscribing for the number of shares indicated upon the books of the company; and any railroad company of this State may subscribe for and own stock in such company, and shall be entitled to all the rights and privileges of other stockholders, and, to provide for the payment of such stock subscription, it shall be lawful for any such city to issue bonds, payable at such times as the Common Council shall direct, and bearing interest at any rate not exceeding seven per cent. per annum, and to negotiate the same upon the best terms they can obtain.

SEC. 8. When any such company shall have been organized under the provisions of this act, and after at least one-half of the capital stock authorized by its articles of association shall have been subscribed, it shall be the duty of the Common Council of the city in or for which such company may propose to erect water works, by resolution duly passed and entered upon its minutes, to grant to such company such right to the use of the streets, alleys, wharves, and public grounds of such city as shall be necessary to enable such company to construct the proper works for the supply of water for the use of such city and its inhabitants: *Provided,* That the Common Council of such city may, in such grant, impose such just and reasonable terms, restrictions, and limitations upon such company, in reference to the manner in which such streets, alleys, wharves, and public grounds are to be used, and in reference to the charging and collecting of tolls, water rents, or other compensation for the supply of water to be furnished by such company to said city and its inhabitants, as shall be necessary to guard against the improper use of such streets, alleys, wharves, and public grounds, and to protect said city and its inhabi-

tants from the imposition of undue or excessive rates or charges for the supply of water; but no restrictions shall be imposed by said Common Council which will prevent such company realizing upon its capital stock an annual income or dividend of ten per cent., after paying the costs of all necessary repairs and expenses.

SEC. 9. That from and after the expiration of twenty-five years from the time of the organization of any such company, the Common Council of the city in and for which such company may have erected its works, shall have the right and privilege of purchasing from such company all the buildings, fixtures, apparatus, and property of such company, with all its corporate rights and privileges, at such price as may be agreed upon between the Common Council of such city and the Board of Directors of such company, and, in case of disagreement between the parties, the price to be ascertained and determined by five disinterested persons—non-residents of such city—two of them to be chosen by said Common Council, and two by the Board of Directors of such company, and the fifth by the four so chosen: *Provided*, That the right of such city to purchase such works shall accrue immediately, if, at the end of twelve years from the time of the organization of such company, or at the expiration of any year thereafter, it shall appear that such company has imposed and collected such rates or charges for the supply of water as shall have caused the average annual income or dividend of such company upon its capital stock to exceed ten per cent., after paying the cost of all necessary repairs and expenses, and exclusive of one-half per cent. per annum, which may be set apart and reserved as a surplus or contingent fund.

SEC. 10. Such company shall have power and authority to charge and collect from such city and the inhabitants thereof, and all others, such rates for the water so furnished as shall be fixed by its by-laws, rules, and regulations, subject only to the restrictions imposed by such Common Council as aforesaid.

SEC. 11. Such company shall annually, at least ten days before the election of directors, make out a full and complete exhibit of all the operations of the company during the current year, containing a correct account of all the receipts and disbursements thereof; also, showing the amount of capital stock actually paid in, the amount paid out, during the year, in the construction and repair of the works, the amount paid out in the ordinary expenses of the company, classifying the expenditures, and giving the amount paid out under each classification, as the same appears on the books of the company, the amount collected from such city, and the amount collected from individuals, for water supplied, the amount placed to the credit of the reserve fund, the amount of dividends declared, and the amount of such dividends drawn, which exhibit shall be verified by the oath of the President and Secretary, and published in some public newspaper of general circulation in such city, ten days successively, before such annual election.

SEC. 12. It is hereby declared that an emergency exists for the immediate taking effect of this act, and that the same shall take effect and be in force from and after its passage.

ORDINANCES OF CITY COUNCIL.

AN ORDINANCE authorizing the Water Works Company of Indianapolis to construct, maintain, and operate water works, and supply water to the city and citizens of Indianapolis; defining their powers and privileges, and prescribing their duties.

SECTION 1. *Be it ordained by the Common Council of the city of Indianapolis*, That "The Water Works Company of Indianapolis," a corporation organized in the month of October, in the year 1869, under the laws of the State of Indiana, and its successors, be, and hereby is, authorized and empowered to construct, maintain, and operate water works in the city of Indianapolis, with proper structures, machinery, reservoirs, embankments, aqueducts, pipes, and conduits, to supply said city and its citizens with pure, filtered, and wholesome water; to acquire and hold, as by law authorized, any real estate, easements, and water rights necessary to that end and purpose, and to use the streets, avenues, alleys, and public grounds of said city, as it is now, or hereafter may be laid out and enlarged, for the purpose of laying therein pipes and conduits necessary to carry water throughout said city: *Provided*, The same shall be so laid as not to interfere with or abridge the rights or privileges of the Indianapolis Gas Light and Coke Company, or to interfere with other public works, including other water works built by the city, nor with the present or future drainage of said city; and the company may establish rules and regulations for and concerning the use of the water from their works, and for and concerning the conduct of such persons as may use the water from their works, so far as respects the preservation and use and restraining the waste thereof, subject to the review and approval of the City Council.

SEC. 2. That before commencing work upon any part of any street, avenue, alley, or any public ground, the Company shall give the Street Commissioner of the city at least three days notice thereof, and during the progress of the work shall not unnecessarily obstruct any street, avenue, alley, or public ground, and shall complete each part of the work therein, and restore the same to as good and like condition as before the work was commenced; and upon a failure so to do, or should the same subsequently become out of good condition because of imperfect repairs, then and in that case the city may cause the proper repairs to be made, and may retain the cost thereof out of any moneys then due, or afterwards becoming due to the Company; and the Company shall be liable for any injury to person or property caused by the negligence, mismanagement, or fault of itself or any of its employees; and should the city be sued therefor, the Company or some officer thereof shall be notified of such suit, and thereupon it shall be the duty of the Company to

defend or settle the same, and should judgment go against the city in any such case, the city shall recover the amount thereof, with all costs, from the Company, and the record of the judgment against the city shall be conclusive evidence in the cause to entitle the city to recover in any suit therein against the Company.

SEC. 3. That in the construction of said works the Company shall adopt what is known as "the Holly system," with all its latest improvements, and in its best and most efficient form, with a maximum capacity of at least six million gallons liquid measure daily, and shall maintain the same in such condition as to be capable of throwing eight streams at once, one hundred feet vertically, through one inch nozzles, and shall apply the same in the extinguishment of fires as emergencies may require, under regulations to be prescribed by the Common Council. The pumps and their machinery shall be erected under the supervision of the Holly Manufacturing Company. The Company shall supply to the city, upon the several streets and avenues in which pipes and conduits may be laid, and in such cisterns and localities off the same as the city may conduct the same to, such quantity of water as may be required by the City Council for public use, drainage and fire purposes, and to that end said Company shall erect and attach as many hydrants or fire plugs as the City Council may direct, and from the same the city may draw all water necessary for the prevention and extinguishment of fires, and washing, cleansing, cooling, flushing or sprinkling the streets, pavements, gutters, alleys, sewers and public grounds; and the city may attach to each hydrant a cock, faucet or nozzle, from which water may be drawn by citizens and passers by, for persons and animals; and the Company shall furnish to the citizens of the city upon the several streets and avenues in which pipes and water courses may be laid, and in such localities off the same as the citizens may conduct the water to, such quantity of water as they may desire. The Company shall furnish water to the city upon such terms and conditions as may be agreed upon between the City Council and the Company. The Company shall have the right to charge the city and the citizens thereof for such water as may be supplied, as much as the average price paid by other cities of the United States and citizens thereof, of like population, that are supplied with as efficient water works, unless a less price may be agreed upon; but the Company may not demand or charge a greater price. In case the Company and City Council fail to agree upon a schedule of prices to be paid by the city and its citizens, then such schedule and rate of charges shall be ascertained and determined by five disinterested persons, non-residents of the city, two of whom shall be chosen by the Company and two by the City Council, and the fifth by the four thus chosen, and the rates so fixed shall remain in force until altered by agreement or arbitration, as aforesaid, and either the city or the Company may demand a re adjustment of such rates, either by agreement or arbitration as aforesaid, at any time after the expiration of one year from the last preceding adjustment. But in no event shall the city be charged more than fifty dollars per annum for each hydrant or fire-plug. The water to be supplied as in this section provided, shall be taken from wells dug as near

White River as practicable, but north of the National Road—not connecting with the river or any other open stream or channel, so that the water of the wells shall be derived from the natural filtering or percolation through the gravel in its natural place; provided the same can be so obtained, and the City Council shall have the right to determine when the Company shall have made a sufficient effort so to obtain it.

SEC. 4. That the Company shall, within ninety days from the passage of this ordinance, commence the construction of such Water Works, and shall, within one year and three months from the time the same is commenced, have at least five miles of water pipes laid down and connected with the Water Works, and at the expiration of two years and three months, at least fifteen miles of pipes so laid and connected; and should the Company, because of any want of care and diligence on its part, fail either in the commencement or prosecution of the work, as in this section provided, or having laid down pipes as above required, shall in like manner fail to furnish the city and citizens pure filtered and wholesome water at the rates in this ordinance provided for, then and in either case the rights and privileges herein granted shall be forfeited, and shall revert to the city. And should the city or its citizens, at any time, through the willfulness or carelessness of the Company, be deprived of necessary water for thirty-six consecutive hours, the Company shall be liable to a forfeiture of its rights under this charter; or at the election of the city, the said Company shall forfeit all claim for payment for stipulated price for all hydrants supplying water to the city for a period of one year.

SEC. 5. That after the pipes and mains shall have been laid as in section four provided, the Company shall extend the same along any street, avenue, or alley of the city, whenever the City Council shall order the same: *Provided*, The City or Common Council shall furnish at least an average of one hydrant for every one thousand feet of pipe so extended, to be attached by the Company, and the use thereof to be paid for as before in this ordinance provided.

SEC. 6. That if the Company shall erect works to propel the machinery and pumps of said Water Works with water, it shall also provide and keep in constant good condition for immediate use, suitable steam machinery, not less than two engines, to propel such machinery and pumps, so situated as at any time to be attached and used.

SEC. 7. That at any time, on giving six months' notice, the city shall have the right to purchase from the Company all the buildings, machinery, and pipes of said Water Works, with all its corporate rights and privileges, (but not including any franchise herein granted or that may hereafter be granted to the Company, but not including any estimated value of this charter,) at such price as may be agreed upon by the Common Council and the Board of Directors of the Company.

In case of disagreement between said parties, the price shall be ascertained by five disinterested persons, non-residents of the city, two of whom shall be chosen by the Common Council and two by the Board of Directors of the Company, and the fifth by the four thus chosen; said ascertained price shall

be subject to the acceptance or rejection of the Common Council, and the Company shall not be allowed to sell to any person or company whatsoever without first giving the City Council the refusal to purchase at the same rates as offered to others: *Provided*, That no purchase shall be made by the City Council until the terms agreed upon or settled by arbitration as aforesaid shall be ratified by a majority of the legal voters of the city, at a special election to be held for that purpose.

SEC. 8. Nothing in this ordinance contained shall be so construed as to grant to said Company, or its successors, any exclusive privilege of constructing and operating water works in the City of Indianapolis, but the city hereby expressly reserves the right, at any and all times, to construct and operate water works for itself, or to charter another company to construct and operate water works in said city.

SEC. 9. That an ordinance authorizing the Water Works Company of Indianapolis to construct, maintain and operate water works, and supply water to the city and citizens of Indianapolis, defining their powers and privileges, and prescribing their duties, ordained and established the fifteenth day of November, 1869, be and the same is hereby repealed.

SEC. 10. This ordinance shall be in force from and after its passage: *Provided*, There shall be filed with the Mayor of the city, within thirty days from the time of such passage, a certified copy, from the records of said Water Works Company, of a resolution of the Board of Directors of said Company, accepting the terms and conditions herein recited; and it is hereby made the duty of the Mayor to make proclamation of such acceptance, accompanying such proclamation with a copy of this ordinance; and should the same not be so accepted within thirty days, then this ordinance shall be null and void.

SEC. 11. If said Water Works Company shall not accept this charter as herein provided, then and in that case, any other Water Works Company, now or hereafter organized, may accept (after the expiration of sixty days) after February 3, 1870, the same, with the rights, privileges and powers, and under the same restrictions and obligations as the Water Works Company herein first named, so soon as they shall file an acceptance of the provisions of this ordinance.

Ordained and established this 3d day of January, 1870.

DANIEL MACAULEY, *Mayor*.

Attest:

D. M. RANDELL, *City Clerk*.

[The Water Works Company notified the Mayor of the acceptance of the charter within the time specified, and the Mayor issued his proclamation, as required in section 10.]

AMENDMENT TO ORDINANCE.

AN ORDINANCE amendatory of an ordinance entitled "An ordinance authorizing the Water Works Company of Indianapolis to construct, maintain and operate water works, and supply water to the city and citizens of Indianapolis, defining their powers and privileges, and prescribing their duties," ordained and established the third day of January, 1870.

SECTION 1. *Be it ordained by the Common Council of the City of Indianapolis*, That the first clause of section 3 of an ordinance entitled "An ordinance authorizing the Water Works Company of Indianapolis to construct, maintain and operate water works, and supply water to the city and citizens of Indianapolis, defining their powers and privileges, and prescribing their duties," ordained and established the third day of January, 1870, be amended by striking out the words, "apply the same in the extinguishment of fires as emergencies may require," where they occur in said clause, and substituting therefor the words, "supply that quantity of power for the extinguishment of fires when emergencies may require," so that the clause as amended will read as follows: "That in the construction of said work, the Company shall adopt what is known as the 'Holly System,' with all its latest improvements, and in its best and most efficient form, with a maximum capacity of at least six million gallons, liquid measure, daily, and shall maintain the same in such condition as to be capable of throwing eight streams at once one hundred feet vertically through one-inch nozzles, and shall supply that quantity of power for the extinguishment of fires when emergencies may require, under regulations to be prescribed by the Common Council."

And that the last clause of said section be amended by striking out the words "National Road" where they occur in said clause, and substituting therefor the words "Maryland Street."

SEC. 2. That section 4 of said ordinance be amended by adding at the end thereof the following: "*Provided*, That whether a substantial breach of any of the provisions of this ordinance shall have been committed shall be determined by a judicial declaration by a Court of competent jurisdiction, before a forfeiture of the rights of the Company under this ordinance shall take place, or their claim for payment of the stipulated price for hydrants."

SEC. 3. This ordinance shall be in force from and after its passage: *Provided*, There shall be filed with the Mayor of the city, within thirty days from the time of such passage, a certified copy, from the records of said Water Works Company, of a resolution of the Board of Directors of said Company accepting the terms and conditions herein recited, and it is hereby made the duty of the Mayor to make proclamation of such acceptance, accompanying such proclamation with a copy of this ordinance; and should the same not be so accepted within thirty days, then this ordinance shall be null and void.

Ordained and established this twenty-fourth day of January, 1870.

DANIEL MACAULEY, *Mayor*.

Attest:

DANIEL M. RANDELL, *City Clerk*.

[The Water Works Company notified the Mayor of the acceptance of the charter, and the proclamation was published, as required in section 3.]

WATER RATES

Adopted by the City Council for the Water Works Company of Indianapolis.

An Orifice is allowed in the Main Pipes not exceeding one-half an inch in Diameter, at the following rates:

Each additional one-eighth of an inch increase in the diameter of the orifice increases the rate 10 per cent.

For each Dwelling House of six rooms, or less, occupied by one family.....	\$5 per annum.
For each additional room.....	1 per annum.
For each additional Family in one dwelling.....	3 per annum.
For each private Water-closet and Urinal, or both.....	3 per annum.
For each public Water-closet or Urinal.....	5 per annum.
For each Bathing Tub in private family.....	3 per annum.
For each Bathing Tub in public Bath House.....	15 per annum.
For each Store of twenty-five feet front, or less.....	10 per annum.
For each Storeroom as above, over twenty-five feet front.....	15 per annum.
For each office of professional persons.....	5 per annum.
For each family in rooms over stores or offices.....	5 per annum.
For each Barber Shop with one chair.....	6 per annum.
For each Barber Shop, each additional chair.....	2 per annum.
For each Stable, for private family, including water for washing carriages, for two horses or less.....	5 per annum.
For each Stable, for each additional horse.....	150 per annum.
For each Church.....	10 per annum.
For each Bakery, for the average daily use of flour, for each barrel.....	350 per annum.
Provided no Bakery shall be charged less than.....	10 per annum.
Street Sprinklers, for each Cart or Team.....	20 per month.
The right to attach a Hose of not more than five-eighths of an inch orifice, for washing windows, sprinkling gardens, in addition to the use for other purposes, and the use of the same limited to four hours a day.....	6 per annum.

SPECIAL RATES.

Hotels, Boarding Houses, Shops or Manufactories, Steam Engines, Saloons, Groceries, Provision and Meat Stores, Breweries, Livery Stables, Cold-water

Engines, Baptistries, and all other places where water is used in large quantities, at meter rates.

METER RATES.

Where the average daily consumption is 1,000 gallons or less, 4 cents per 100 gallons; over 1,000 gallons and less than 5,000 gallons, 3 cents per 100 gallons; over 5,000 gallons, 2 cents per 100 gallons.

FOUNTAINS.

One-sixteenth of an inch opening, \$10.00 per annum; each additional one-sixteenth inch up to one-half inch, \$8.00.

RULES AND REGULATIONS OF THE WATER WORKS COMPANY OF INDIANAPOLIS.

1. Water-rents must be paid semi-annually in advance, on the first days of June and December, at the office of the Company.
2. Applications for water must be made at the office of the Company by the owner or occupant of the property and must state all purposes for which it is required; and when paying the semi-annual charges, answer questions relating to its consumption. In case of misrepresentation on the part of the applicant, or of uses of the water not embraced in the applicant's bill, or of willful or unreasonable waste of water, the supply of water will be stopped, unless the party shall promptly pay such additional charges as the Company may impose.
3. In all cases where permits are granted, the Company will tap the mains, but at the expense of the applicant. Every applicant for water to be furnished by the Water Works Company of Indianapolis, expressly agrees with said Company to use said water subject to the following conditions, rules and regulations, and such others, as the said Company shall from time to time adopt. The service pipe, stops and other fixtures must be laid and attached, kept in repair, and protected from frost by the applicant or consumer; and in opening the street the paving stones and earth must be deposited in such manner as to occasion the least inconvenience to the public, and restored in as good condition as previous to removal.
4. No occupant or owner of any building, into which water is introduced, will be allowed to supply water to other persons or families, except where it is used on the premises.
5. All persons taking water shall keep their own service pipes, stop cocks and apparatus in good repair, and protected from frost, at their own expense, and shall prevent any unnecessary waste of water; and it is expressly stipulated, that no claim shall be made against the Company by reason of the breaking of any service cock or service pipe.

6. In case two or more parties or families are supplied with water from the same service pipe, if either of the parties fail to pay the water rent when due, or to comply with any rule of the Company, the Company may turn off the water from such pipe till the rent is paid, and the rule strictly complied with.

7. When the Company has turned off the water from any consumer, he shall not turn it on nor permit it to be turned on without the written consent of the Company.

8. Every service pipe must be furnished with a stop and waste below the action of frost, so situated that the water can be conveniently shut off and drained from the pipes—to prevent freezing.

9. No addition or alteration in or about any conduit pipe or water cock, shall be made, or caused to be made, by persons taking water, without notice thereof being previously given to, and permission had in writing from the Company.

10. For the violation of any of the foregoing rules, or for the non-payment of rent, the Company reserves the right to turn off the water without notice, and forfeit any payment made.

RULES AND REGULATIONS

*Governing the Introduction, Supply, and Consumption of Water
from the Water Works Company of Indianapolis.*

1. APPLICATION.—All applications for service attachments to the distributing pipes, for the purpose of introducing the water into any premises, as well as all applications for the use of water, must be made by the party desiring such attachment or use of water, and always with the consent of the owner of the premises into which water is proposed to be introduced. The applicant must state fully and truly all purposes for which water is required, and frankly, without concealment, answer all questions asked by the Water Works Company's authorized agents, relative to its consumption; sign on the Water Works Company's books an application setting forth the purposes for which water is desired. Upon complying with these conditions, the Secretary of the Water Works Company will issue a written permit, granting the applicant the privilege of a service attachment, and the use of water in the manner and for the consideration as hereinafter stipulated.

2. SIZES OF ATTACHMENTS.—All attachments for ordinary service shall be made by means of brass ferrules, of one-half ($\frac{1}{2}$), five-eighths ($\frac{5}{8}$), three-quarters ($\frac{3}{4}$), or one (1) inch diameter of water way, and in order to provide an ample supply with a minimum tax upon the capacity of the works, and at a minimum cost to the consumer, permits for making attachments to supply water for domestic purposes will be issued as follows, to wit:

For supplying dwellings of not more than ten rooms, one-half ($\frac{1}{2}$) inch ferrule.

For supplying dwellings of more than ten, and not over eighteen rooms, one five-eighth ($\frac{5}{8}$) inch ferrule.

For supplying dwellings of more than eighteen rooms, one three-quarter ($\frac{3}{4}$) inch ferrule.

For supplying stores, one ferrule from one-half ($\frac{1}{2}$) to five-eighths ($\frac{5}{8}$) inches diameter, according to the wants.

For supplying laundries, livery stables, stock-yards, coffee-houses, barber-shops, restaurants, small manufactories, etc., one ferrule from one-half ($\frac{1}{2}$) of an inch diameter up to as large as the wants will require.

For supplying hotels, hospitals, railroad stations, and manufactories requiring large quantities of water, the character and size of the attachments shall be determined by the quantities of water required in specified periods of time.

3. **SIZE OF SERVICE PIPE AND STOPS.**—All service pipes shall be one-eighth ($\frac{1}{8}$) of an inch larger in diameter than the ferrule through which they are supplied, and all stop-cocks in the line of the service pipe, or branches under ground, must be stops with circular water ways of the same diameter of water way as the pipe in which they are placed, have T handles, and be in every respect equal to the samples in the office of the Water Works Company.

4. **CHARACTER OF PIPE AND STANDARD WEIGHT.**—In all cases service pipe between the distributing pipe in the street and the stop-cock must be *lead pipe*, unless above two inches inside diameter, in which cases cast-iron pipe may be used. All lead pipe so used shall be what is called *extra strong* pipe, and of the following standard weight:

Lead pipe, $\frac{3}{8}$ inch bore.....	2 pounds	0 ounces per lineal foot
Lead pipe, $\frac{1}{2}$ inch bore.....	2 pounds	7 ounces per lineal foot
Lead pipe, $\frac{5}{8}$ inch bore.....	3 pounds	0 ounces per lineal foot
Lead pipe, $\frac{3}{4}$ inch bore.....	3 pounds	10 ounces per lineal foot
Lead pipe, 1 inch bore.....	4 pounds	12 ounces per lineal foot
Lead pipe, 1 $\frac{1}{4}$ inch bore.....	6 pounds	0 ounces per lineal foot
Lead pipe, 1 $\frac{1}{2}$ inch bore.....	7 pounds	2 ounces per lineal foot
Lead pipe, 1 $\frac{3}{4}$ inch bore.....	8 pounds	4 ounces per lineal foot
Lead pipe, 2 inch bore.....	9 pounds	8 ounces per lineal foot

and cast-iron pipes must be subjected to a hydrostatic pressure of 250 pounds to the square inch before they are laid.

All pipes and every stop-cock shall be subject to inspection by the Water Works Company's authorized agents, and if found defective in any respect, their introduction shall be prohibited.

5. **DEPTH OF SERVICE PIPE.**—Within the limits of the streets, service pipe shall in no case be laid at a less depth than three (3) feet under the surface of the street, sidewalk, or lowest part of the gutter.

6. **STOP-COCKS AND THEIR LOCATION.**—There shall be a brass stop-cock, in each service attachment, under the exclusive control of the Water Works Company; the said stop to be placed in the pipe, on the sidewalk, just inside of the line of the curbstone, and about one foot distant therefrom. Each such stop-cock shall be provided with a cast-iron box or tube, sufficiently large to afford ready access, with a key for turning on and off the water. The top of each box or tube shall be placed on a level with the grade of the sidewalk, and have an iron cover or cap suitably attached, with the word "Water" upon the said cover.

In no case shall stop-cocks be placed in vaults under the sidewalk, unless they be so protected or inclosed as to afford no other mode of access except by the removal of the cover from the box on the sidewalk.

Whenever it becomes necessary to place any stop-cock controlled by the Water Works Company deeper than four (4) feet below the surface of the pavement, the said stop must be provided with a stationary key, reaching from the stop to within six inches of the top of the box, and terminate with a T handle similar to that on the stop. There shall also be a stop-cock placed

in every service attachment—located at the first suitable point beyond the street limits—this stop to enable the consumer to turn off the water in case of accident to the pipe on his premises.

7. **HOSE ATTACHMENTS.**—Hose attachments connected with service pipe for sprinkling yards, and for washing sidewalks, walks, steps, windows, fronts, etc., shall be placed in the yard wherever convenience and yard room will permit it; where this is not the case, they may be put on the sidewalk, inside of the curbstone, about one foot distant therefrom. The box containing such hose attachment to be provided with an iron cover, suitably attached, and placed on a level with the grade of the sidewalk.

8. **WATER FIXTURES ON THE PREMISES.**—On the premises supplied with water, the fixtures, such as hydrants, draws, wash-basins, sinks, baths, water-closets, urinals, fountains, hose attachments, tanks, etc., may be such as will best suit the convenience of the consumer, excepting always those which, in the opinion of the company, are so constructed as to unnecessarily waste water, the use of which is prohibited by the Water Works Company.

9. **BRANCH SERVICE.**—Applicants desiring to supply more than one house from an attachment, will be permitted to have either a ferrule of larger diameter, or more than one, so as to equalize the water supply as nearly as possible; but there shall be one principal stop-cock on the sidewalk, which shall control the whole supply, and as many auxiliary stops as there are dwellings or premises supplied with water from the attachment, all placed outside of the premises, in such a manner as to be at all times accessible to the Water Works Company.

In premises thus supplied with water, the occupants are jointly and severally liable for the payment of the water rent for all the premises occupied; the failure on the part of the occupants of any one of them to comply with the rules of the Water Works Company, may cause the water to be shut off by the company at the principal stop-cock, and the supply to all discontinued until the rules are complied with.

10. **EXTENSIONS AND ALTERATIONS.**—For any extension or alteration in any of the water fixtures of any consumer, written permits from the Secretary of the company must invariably be obtained by the plumber engaged to do the work, before any alteration or extension can be made.

Any consumer desiring an extension for the purpose of supplying neighboring premises with water, will receive permission to do so on condition that he will become responsible for the payment of the water rent for all premises so supplied, as long as the extensions are available for supplying anybody with water.

11. **EXTRA SUPPLIES.**—Applicants desiring attachments of larger diameter than prescribed by the rules of the Water Works Company, for the purpose of controlling a large quantity of water in a short space of time, and thereby enjoy or possess water privileges not granted to the majority of consumers, will only be granted permits for such attachments on condition that the assessments, after being made according to the regular rates, shall be increased by a percentage equal to one-third the percentage in which the capacity of the extra large attachments exceed the capacity of the prescribed attachment.

Consumers requiring large supplies of water for manufacturing purposes, and who, at the same time, require, from their extra large attachments, water for ordinary domestic purposes, shall reduce the branches for the latter purposes down to the established sizes, or else be subject to the payment of an increased water rent, as above stipulated.

12. LOCATIONS OF HYDRANTS, ETC.—Hydrants, hose attachments, goosenecks, faucets, or any other device which the consumer may adopt for obtaining water from the service pipes, shall not be located in such a manner as to afford parties occupying neighboring premises, or the public, ready access to them, unless all parties having access to such devices for drawing water shall first have their premises assessed, and pay for supplying the same with water.

13. CARTS FOR SPRINKLING STREETS.—Permits for attachments to supply street sprinkling carts will be granted to sprinklers in such number, capacity, and localities as will best accommodate the public.

All persons desiring to sprinkle streets from carts supplied with water from the water works, must first obtain license from the Water Works Company for each and every cart used for this purpose, as well as guaranteeing that water from licensed carts shall not be used for any other than streetsprinkling purposes.

14. PLUMBERS.—No person or persons shall lay any service pipe, or do any kind of *plumbing work* connected with the introduction and supply of water from the water works, unless he or they first obtain written permits from the said company for all separate jobs of plumbing work which he or they may wish to perform.

15. LICENSE.—Any plumber wishing to do business in connection with the Water Works Company must give satisfactory evidence that the applicant is a regularly educated plumber; that he is willing to be governed in all respects by the by-laws, rules, and regulations which are or may be adopted by the company; and every plumber shall not only be subject and conform to all and singular the rules, regulations, and penalties which now exist, or may hereafter be passed by the Board of Directors of the Water Works Company, but he shall also enter into a covenant, with one or more sureties, if required by said company, to indemnify and save harmless the Water Works Company of and from all accidents, damages, and losses which said company may sustain by reason of his failing to comply with all the rules and regulations as are now or may hereafter be established by said company.

16. INSERTING FERRULES AND LAYING SERVICE PIPE.—In removing macadamizing, paving, bowldering, and sidewalk paving, and opening trenches for inserting ferrules, laying service pipe, and making repairs or extensions, the stone, bowlders, brick, sand, gravel, and earth, or whatever other road metal or street and sidewalk structure may have to be penetrated or passed, must be removed and replaced in a thoroughly workmanlike manner; depositing the excavated material in such manner on the streets, alleys, and sidewalks as to obstruct them as little as possible, and admit of its being replaced in precisely the same relation in which it was found, leaving the street, alley, or sidewalk in perfect repair, and keep it so for one year from

date of such work. No trench or hole in any street, alley, or sidewalk shall on any account be left open during the night. The drilling of distributing pipe, the driving of ferrules, and manipulating of stop gates shall, in all cases, be done by persons in the employ of the Water Works Company.

17. PLUMBERS' RETURNS.—Plumbers shall make full and complete returns of the uses for and to which water is applied under any permit granted. Said return must be made by the plumber doing the work, within forty-eight hours after the completion of said work, as the water will not be turned on any premises until after said return is made, and the work reported to be in accordance with the rules and regulations herein prescribed.

18. LOCATION OF ATTACHMENTS.—Plumbers, in making returns of permits, shall give the name of the street in which the attachment has been made, and whether the service pipe enters the premises on the north, south, east, or west side of the said street; and also state accurately the distance of the stop-cock box from the near side line of the nearest cross street, lane, or alley, or other well-defined public place. The measurements to be recorded in feet and tenths or twelfths of a foot, and made in a direction parallel with the side line of the named street to where said line intersects the near side line of the nearest cross street, lane, or alley. In cases where the alignment of any street, lane, or alley is not well defined, the measurement must be continued until a well-defined street line is reached, which must be intelligently described in the return.

19. RE-ISSUES.—No plumber or other person shall make any attachment to any old pipe or water fixtures in premises from which the water has been shut off and the supply discontinued, without the party desiring such work to be done having first made application and obtained a re-issue and permit for the same. Nor shall any plumber or other person make any alteration in any pipe or water fixture attached to the Water Works distributing pipes, to conduct water into adjoining premises, or into stables, baths, water-closets, wash-basins, cisterns, fountains, or for any other purposes whatever, without application having first been made and a written permit obtained from the Water Works Company for each and every separate job of such modifications in the water fixtures; and in no case shall any plumber, after the completion and trial of any job of plumbing work, be it the first introduction of service pipe, an extension, or a repair, leave the water on the premises, but shall in all cases close the stop-cock on the sidewalk and return his permit.

20. ASSESSMENTS AND PAYMENTS.—After the plumbing work is finished, returns made and found to agree with the survey of the Water Inspector, the assessments shall be made according to the established rates, in each case for the period of one year, and payments made in advance for the time intervening between the date of turning on the water and the date of the next semi-annual pre-payment of water rents. The water rents must in all cases be paid in advance, and by the regular consumers for six months in advance, from the first days of June and December in each year; all payments to be made at the office of the Water Works Company between the first and tenth days of June and December.

21. **PRIVILEGES OF WATER CONSUMERS.**—Water consumers are not guaranteed a specific quantity (except where meters are used) of water for any purpose whatever, but simply an ample quantity for the purposes named in the permit; and all other uses the water is applied to is in direct violation of the agreement made between the Water Works Company and the consumer at the time of granting the permit, and therefore subject to all reasonable penalties which the Water Works Company may see proper to impose.

22. **METERS.**—Water consumers can have meters attached to their service pipe whenever they desire it; or the Water Works Company may attach meters whenever it deems it proper to do so. When a meter is attached at the request of the consumer, he shall pay the cost of the meter and expense of attaching it, and keeping it in good repair. When meters are attached by the Water Works Company, the latter shall bear all expenses attending the attaching and use of the same; and in all cases to have free access to the meters.

23. **FILLING CISTERNS.**—Parties having cisterns on their premises may fill them with water from the Water Works, provided that their premises are assessed, and they pay for supplying the same with water, and obtain a written permit from the Water Works Company for each and every time the cisterns are to be filled. Where cisterns are so situated as to be accessible to parties occupying neighboring premises, no permit will be granted for filling them with water, unless all premises so situated shall have been assessed, and the owners or occupants thereof pay for the use of the water.

24. **USE OF HAND HOSE.**—The use of hand hose is permitted at all hours in the day for the purposes named in the permit, except sprinkling yards and gardens, washing sidewalks, walks, steps, windows, and fronts; for these purposes the use of hand hose is restricted to four hours in each day.

The use of hand hose for washing locomotives, cars, coaches, or vehicles of any description, or for any purpose in which the momentum of the water discharged from the hose nozzle is *alone* depended upon for producing the requisite friction to effect washing, is strictly prohibited, unless special permits shall have been granted, and extra water rents paid for all such wasteful uses of water.

The use of hand hose for *washing* streets and gutters, and thawing snow or ice, is prohibited.

The use of hand hose for sprinkling yards and gardens, washing sidewalks, walks, steps, windows, and fronts, with hose nozzle larger than one-quarter ($\frac{1}{4}$) of an inch in diameter, is prohibited.

The use of hand hose for any purpose whatever, without nozzles, is prohibited.

Leaky hose attachments, broken caps and boxes, converting hose into jets for amusement by either adults or children, suffering hose to run when not in use, are all strictly prohibited.

25. **REPAIRS.**—All consumers or subscribers entitled to the use of water, shall keep their own service pipe, stop-cocks, key-boxes, and covers, and other apparatus in good repair, and shall prevent all unnecessary waste of water. If

the service pipe is found leaking, requiring the water to be shut off for making repairs, and the cap to the key-box missing, the key-box filled with earth, stones, etc., the consumer or subscriber shall pay for all extra expenses attending the shutting off the water, and have the key-box properly repaired before the water shall be again turned on the premises.

26. **CONSTANT FLOW OF WATER.**—Watering troughs in livery stables, stock-yards, slaughter-houses, etc., will not be permitted to receive a constant flow of water, but only in such quantities as will supply the actual wants of the stock having access thereto, unless the consumer has a meter properly attached to the pipe. Neither will continuous streams of water be permitted to flow from hydrants, faucets, draws, water-closets, urinals, or any other apparatus connected with the service pipe, either for the want of proper repair or for protection against frost, unless connected with a meter as above. In cases where water is discharged *into tanks* and the buildings thence supplied, the tanks must be kept perfectly water tight, and the supply pipes to the same be provided with ball-cocks, which must always be kept in working order.

27. **FOUNTAINS.**—Permits for fountains will be issued semi-annually. Each such permit must specify the number of hours (and which out of the twenty-four) per day, the fountain is permitted to play. The supply pipes to all fountains out-of-doors, must be provided with stop-cocks, under the control of the Water Company.

The assessments for out-door fountains shall be made for the length of time the permit is granted, at the expiration of which the water will be turned off, and remain off until another permit is obtained. For in-door fountains, the assessments shall be made for the whole year. The assessments will, in all cases, be made for the full capacity of all the jets and sprays, and the quantity of water discharged in a given time shall be calculated at the average pressure, during the hours in which the fountain is permitted to play.

28. **BOILERS.**—Steam boilers taking a supply of water directly from the service pipe, depending upon the hydraulic or hydrostatic pressure in the pipe system of the Water Works, for supplying such boiler under working pressure, will do so at the risk of parties making such attachments, as the Water Works Company will not be responsible for any accidents or damages to which such devices are frequently subject.

House boilers, for domestic use, must in all cases be provided with vacuum valves, to prevent collapsing, when the water is shut off from the distributing pipes; and for accidents or damages resulting from the imperfect action of any such valves, the Water Works Company will, in no case, be responsible.

29. **CONSUMERS' PENALTIES.**—If any party shall refuse, or neglect to pay the water rent, within ten days after it is due, the water will be turned off, and not turned on again, until all back rent and fines are paid.

Any consumer, or subscriber, violating, or permitting violations from his attachment, any of the Water Works Company's rules and regulations governing the introduction, supply, and consumption of water, will be notified thereof, in writing, left on the premises; and if he then fails to appear promptly, and pay the fine, the water will be shut off, and a double fine imposed; which, in addi-

tion to all expenses attending the shutting off, will have to be paid before the water is again turned on the premises; as well as give satisfactory assurances that future abuses will not be permitted. In cases of persistent violations and disregard of the Water Works Company's rules, the service attachment, or ferrule, will be withdrawn from the distributing pipe, and the supply wholly discontinued.

Fines for violations of rules, to be imposed, and collected, in sums varying from two to twenty dollars, according to the nature of the violation.

30. PLUMBERS' PENALTIES.—Any plumber violating any of the Water Works Company's rules and regulations, governing the introduction, supply, and consumption of water, or who shall, either voluntarily, or at the request of any consumer, or subscriber, introduce any pipe, hydrant, bath, water-closet, urinal, or any other device or fixture, which is prohibited by the Water Works Company, shall not be allowed to do business, either for himself, or for other plumbers, in connection with the Water Works, until after the expiration of thirty days, and the payment of such damages as the Water Works Company may see proper to impose.

31. ENFORCEMENT OF RULES.—These Rules and Regulations shall be strictly and impartially enforced, by such officers or agents as the Board of Directors may appoint; the said officers, or agents, shall have unrestricted access, at proper hours in the day, to all premises supplied with water from the Water Works, for making assessments, re-assessments, and such other examination and inspection, as may from time to time be deemed necessary.