The Water-Works Question.

REPORT OF THE COMMITTEE APPOINTED TO VISIT CHICAGO, DETROIT, &c.

H. Wohlgemuth, one of the Board of Water-Works Commissioners, and T. J. Dennis, Mayor, members of the committee appointed to visit Chicago, Detroit, Cleveland and Cincinnati, for the purpose of examining the water-works of said cities, and reporting as to the operations of the same, with a view to adopting some plan for bringing water from Sangamon river to this city, submitted the following report to the Board of Water-Works Commissioners, at a recent meeting held in the Mayor's office:

SPRINGFIELD, ILLS., Oct. 10, 1865.

To the Honorable Board of Water-Works Commissioners:

We, the undersigned, wish to submit herewith the following report: That on a recent visit made to the city of Chicago, the party, consisting of H. Wohlgemuth, C. W. Matheny, George Brinkerhoff, secretary of the Board, and T. J. Dennis, Mayor, went for the purpose of inspecting the water-works at Chicago and several other cities, and to obtain all information possible as regards the project of bringing water from Sangamon river into the city of Springfield on the most practicable and economical plan, not temporary, but on a permanent footing. We find that the workings of the water-works, pumping machinery, stand-pipes, and reservoirs of Chicago are much like those proposed to be built by us some time since, a contract having once been let, according to plans and specifications, and approved, and the work commenced; but, on account of the war which we have just passed through, and other financial matters, the work was not proceeded with. Our city has been very prosperous, and that, too, under many disadvantages; and now that wealth has rapidly accumulated here, and our city is expanding in every direction and rapidly increasing in population, and is, no doubt, destined soon to numb r 40,000 inhabitants, the people have become restless, having made up their minds to have water-works, whereby they can have a plentiful supply of water, which is so necessary to their health, and comfort, and also for the protection of property, for manufacturing purposes, &c. For these and other reasons we have come to the conclusion that we can and must have water for the city of Springfield, and that too at no distant day.

Your committee would, therefore, recommend that the plans as contemplated in the original design be adopted; that is, using the Worthington pump, with the exception of some changes in the building of the standpipe; also enlarging the reservoir to capacity of 500,000 gallons of water, instead of 250,000 gallons.

Your Committee having recommended a re-survey of the ground, and that a profile be prepared, which has been accomplished during the last week by Mr. P. Enos, Civil Engineer; your committee have, during the last week, been out to Sangamon river examing the water and the place where it is proposed to build the engine-house, and consider it a very proper location; and as for the water, there is and always will be a supply, and that of a clear and cool quality, far superior to most water obtained in other cities.

After having obtained all the information we could in Chicago, the question arose, what kind of pipe to use? Shall it be Tamarac, wooden pipe, cement or iron pipe. Myself, (H. Wohlgemuth) in company with Mayor Dennis, proceeded to the city of Detroit to obtain what information we could in regard to the use of wood or Tamarac pipe. They use in Detroit, for main pipe, iron, and for distributing pipe the Tamarac, which they have been using since the commencement, and are still being used and liked very much, lasting for many years, and are not considered so expensive as iron or cement pipe. Serious objections, however, might be raised, as wooden pipes are being done away with in all places where they have formerly used them. We had in Detroit all kindness shown us by the city authorities. The acting Mayor, Mr. Samuel S. Elwood, was especially courteous, and has our thanks for many attentions. The works at Detroit are of the best order. Their pumps are two in number, one of 150 horse power and second one of 300 horse power. They work their engine about 14 hours out of 24 hours, using no stand pipe, but pumps water immediately into the reservoirs, which are two in number, and are placed about 1¼ miles from the city, each reservoir holding five millions of gallons of water. The city has some 60,000 inhabitants, and are using on an average from 50 to 60 gallons of water to each person per day.

Having satisfied ourselves about the use of Tamarac pipe, we proceeded to the city of Cleveland, calling upon the Secretary of the Water Works and were introduced to the Chief Engineer, Mr. ——, whom we consulted particularly about the practicability of using "cement pipe," which has been used for a long time; and has given entire satisfaction. Mr. ——, Chief Engineer, is advocating the use of that pipe very strongly, and is of the opinion that it is fully equal to the iron pipe, and will last longer, its durability entirely depending upon the construction of the pipe and laying it, a great deal depending upon making the connections proper. This pipe can be tapped securely at any given point. The pipe used for carrying water to buildings can be iron or lead. The main pipe used in Cleveland is mostly iron, but all collateral and distributing pipes are of cement. We were assured by the Chief Engineer that the cement pipe would stand any pressure; that they had tested its strength and brought as much as 200 pounds of pressure to bear upon every cubic inch, but had been unable to break it, and he was satisfied that it would stand as much as 600 pounds of pressure to the cubic inch. The sizes of cement pipe vary from a thirty inch down to a half inch pipe. The size mostly used in Cleveland is four inch pipe, and of this there is probably some twenty-eight miles laid. After taking into consideration all matters connected with the cement pipe, myself and Mr. Dennis were inclined to the opinion that cement pipe would answer all our purposes, and be quite a saving of dollars and cents. We visited the water works, which are near the lake shore. The machinery used is the "Cornish Compression Pump," built at the Allaire Works, New York, and is of one hundred and fifty horse power, and cost $100,000. They work one engine at a time, which will throw in sixteen to eighteen hours, six millions of gallons. The consumption during the summer season is about two and a half millions of gallons per day. Their reservoir is about a quarter of a mile from the pumping machinery, upon a high elevation, and holds six millions of gallons.

The stand-pipe is but a short distance from the engine house, and is one hundred and seventy feet high, nine feet and six inches higher than the basin. The stand-pipe is built of boiler iron, well riveted together and cased in with wood, a stairway leading to the top. The outside is sheathed with tin, painted and sanded, which not only adds to its beauty, but makes it strong and secures it against the weather. We recommend that a similar one be built for our proposed works, as we believe it to be cheaper than brick, and fully as durable and secure. We further recommend that the stand-pipe be built independent of the smoke-stack, and at some little distance from the engine house upon the highest point of the bluff, which will save fifty feet in the height and at less cost. A stand-pipe 145 feet high is probably all we want.

The question has been raised: Is it necessary to have a stand-pipe at all? We would answer that, in our opinion it is quite necessary, and it is also the opinion of experienced engineers that there ought to be, especially when we have to bring the water from Sangamon river, 4½ miles, the pressure would be so immense, and the strain upon the engine so heavy as soon to impair, and perhaps break it. The stand-pipe is merely a relief to the engine and therefore very necessary.

Leaving Cleveland, we went to Cincinnati, Ohio, and soon after our arrival, visited the city buildings, calling upon the secretary of the water works, stating our mission to him, and were soon introduced to the board of water works directors, who were just then in session, together with the superintendent, Mr. Joseph Myers, and the chief engineer, Mr. Henry Earnshaw, to whom we were under many obligations for their kind attentions while in their city. They took great pains to give us all the information possible in connection with the water works, as did Mr. H. Pearse, one of the directors. We shall feel under lasting obligations to them, and we hope to be able, should they ever visit our city, to reciprocate their courtesies and attentions.

At an early day, wooden pipes were used in Cincinnati, a sample we saw in the ground, on Eighth street, which had been laying, probably, for many years, and still remains solid. Cincinnati is now, and has been using for years, nothing but iron pipes. We were shown some iron pipes sixteen inches through, which had laid in the ground nineteen years, which were being taken up and larger pipes, thirty-five inch, laid in their place. The pipe which was laid nineteen years, was quite perfect, with no marks of corrosion upon it, and as they usually whitewash the pipe before it is laid in the ground, the pipe taken up had still the whitewash upon it. So the objection raised in regard to the rusting or corroding of the iron pipe is a mistake; and it is our opinion that the iron pipe is the kind we ought to have. The opinion is unquestionably confirmed by most if not all hydraulic engineers, that the most durable pipe is iron.

On Friday morning, the 22d, we went, in company with Mr. Earnshaw, engineer, to examine the water works and reservoir. The engines used here are immense, and still they have another near completion, which will enable them to supply the city with plenty of water for all of its inhabitants, and for all other purposes. They use a stand pipe for the reason that it is a relief to the engine.

We also inspected the reservoirs, of which there are two closely connected, built upon a high elevation near the river bank, and not a great distance from the engine house. The basins are built of massive stone, as if intended to last for ages. Each one holds five million of gallons of water.

Having all confidence in Mr. H. Earnshaw as an experienced and practical engineer, we left plans and specifications with him for examination, and to suggest any changes he may deem proper; also to furnish us with an estimate of the cost of laying iron pipe of sufficient size to supply the city with water for from forty to fifty thousand inhabitants, from the Sangamon river to the reservoir; also estimating cost of a reservoir of sufficient capacity to hold five hundred thousand gallons of water, and give his opinion as to the general operations of water works carried out in accordance with the original plans and specifications. We are of the opinion, and do recommend that the main pipe be iron, and we are also fully satisfied that all distributing pipes might be made of cement. It might be probable that a 16 or 18-inch cement pipe would answer all purposes for a main pipe, as the pressure brought to bear upon it would probably be not more than twenty-eight pounds to the cubic inch. But this the Board will decide upon after giving it a thorough examination.

Correspondence has been opened through the Secretary of the Board with the Cement Pipe Company in New York, and Jersey City, N. J., and an answer has been received, accompanied with a price list of all sizes of cement pipe.

A correspondence has also been opened with Mr. Worthington, and application made for a complete diagram of his pumping machinery, an answer to which, I understand, has already been received by our Secretary, so that the Board will soon be able to proceed with the work, and in the course of another year, supply the city with plenty of water for all purposes.

The question has been raised, what will it cost? Will the two hundred thousand dollars the charter of the city provides for, build it? We will frankly answer, no! For $200,000 is no more to-day than $100,000 or $125,000 was 4 or 5 years ago. But should that hinder us? We answer no! We can bring water into the city and build the Water Works complete from the Sangamon river to the Reservoir, and when our Legislature assembles let them make further provision to meet the deficiency. The whole cost will reach about $300,000, to distribute water through the principal parts of the city.

As further comments would be unnecessary at the present time, we submit this much for your consideration.

Most respectfully,

Your obedient servants,

H. WOHLGEMUTH,
Com. Water Works Commissioner.
THOMAS J. DENNIS, Mayor.

OYSTERS AT WHOLESALE.