

## Cleveland Water Works, No. 4.

Messrs. Editors—In the fall of 1846, four miles of "Ball's Indestructible Cement Water Pipes" were laid for mains and distribution for the water works at Saratoga Springs, N. Y., under a head of about 80 feet. The water commissioners, in December, 1849, state (speaking of the cement pipe) that, "since it was fully completed, it has cost comparatively nothing to keep it in repair; and, although some portions are exposed to the frost, it seems to stand well the test, and answer all the purposes for which it was designed and constructed. We believe it preferable to iron pipe—is much cheaper and more durable, and we would not exchange it for any other kind of pipe invented, if we could, without any additional expense or inconvenience. The water comes through clear and pure, and where we have had occasion to take any part of it up to improve or alter the grounds, it appeared to be just as sound and imperishable as the moment it was laid down."

In the year 1852, over fourteen miles of "Ball's Cement Pipe," of various sizes, from 9 inches to 3 inches bore, were laid for the use of the Rockland Water Works, in Maine, under a pressure of 80 feet head. John T. Berry, Esq., President of the above Water Co., under date of March 30, 1854, states as follows:—"The reasons that I give, why this pipe is preferable to cast iron, are, that the water that runs through this pipe is perfectly pure, and the pipe does not corrode like cast iron; likewise, in repairing cast iron, to take out one piece, you are obliged to take up three; and in this pipe, you can take out any length, or piece, without molesting the remainder."

The Water Commissioner, of Watertown, N. Y., after a very full examination of the relative merits of cast iron, and Ball's cement pipe, adopted the latter for their Works, which were erected last season; their greatest pressure is about 200 feet head. According to Mr. Scowden's report for Cleveland, the elevation from the lake surface to the top of the reservoir is only 155 feet, and the average head for street distribution will not exceed 70 feet.

The City of Bridgeport, Conn., erected Water Works last year, and used Ball's Cement pipe. Their greatest pressure is 105 feet.—This kind of pipe was introduced last year into the Buffalo Water Works to a limited extent, and thus far gives entire satisfaction. The probabilities are, that it will take the place of iron in that city, for all future extension pipes. The cities of Plymouth and Pittsfield, Mass., Elizabethtown, N. J., and Massillon, Ohio, are about erecting Water Works, with the use of the Cement pipe. The city of Brooklyn, N. Y. votes upon the proposition for Water Works, at some time during the current month, with no other estimates for pipes than Ball's Cement Pipes.

The facts, testimonials and authorities furnished in the several communications on the subject under consideration, establish the following conclusions:

1st. That there are very serious objections to cast iron pipes for water purposes, (aside from their great expense,) which are inherent in the nature of the material, and which investigations and applications of science have not, as yet, been able to obviate.

2d. That Ball's Indestructible Cement pipes are free from all these objections, and that they possess certain characteristics which give them a decided superiority over cast iron pipes, such as indestructibility, increasing in solidity and strength by age; the greatest possible purity as conductors of water; freedom from the least unpleasant taste in the water, &c.

3d. That the strength of the Cement pipe is fully equal to any ordinarily required necessity, (as shown by the severe tests to which it was subjected in the N. Y. Corporation yard, as described in the statement of Engineer Serrell,) and is more than sufficient for the pressure required by the Cleveland Works, and that its power of resistance is probably much greater than that of cast iron pipe.

4th. That this pipe, having been in use for water purposes, for various periods of time, from one to eight years, and having answered the purposes of its use well, and having given entire satisfaction where used, is a demonstration, from PRACTICAL EXPERIMENT, of the great value of this kind of pipe for water purposes.

5th. The rapidly increasing introduction of this pipe into Water Works, in various cities of this country, is an evidence that these cities are fully satisfied, on examination, of the superiority of the Cement pipe over cast iron.

6th. That the Cement pipe is from THIRTY THREE to FIFTY per cent. cheaper than cast iron pipe.

The above conclusions are all important, and bear directly upon the question, as to THE KIND of pipe to be adopted in the Cleveland Water Works. The adequate supply of an already large and growing city with pure water, is a very important event, and is marked by three peculiar features, viz.—The immense benefits conferred upon the inhabitants, the character of the enterprise, being designed, not for a year, a generation, or an age, but for all generations and ages to the end of time, and the large amount of money NECESSARILY required, not only in the erection of the Works at first, but in their annual extension and repair. The two latter features of the enterprise should induce the most thorough examinations, by scientific and competent parties, in relation to sources of supply of pure water, location of reservoirs, plans for the Works, kinds of material to be used throughout, &c. The strictest economy should be exercised, having due regard to permanency, and to the securing in the best manner the benefits sought.

It has been shown, that the adoption of the Cement pipe, instead of cast iron pipe, will save \$63,000, at the commencement of the Works; and in the subsequent annual extension of the street distribution, the reduction of expense will not be less, probably, than from \$10,000 to \$15,000. This consideration alone, (all other things being equal,) it would seem, must of necessity determine the use of the Cement pipe; yet, we are informed that the Water Commissioners are about to adopt cast iron pipe; and that, without complying with the provisions of the law requiring them to advertise for proposals, they have already substantially arranged the terms of a contract for the pipe with a Cincinnati House. Are there not numerous and responsible Iron Founders in Cleveland? and is it not due to them, that they should, at least, have the privilege of submitting proposals for the contract? Have the citizens of Cleveland no interest in having a contract, which, according to the Engineer's estimate, amounts to \$137,000 for pipe alone, thrown open freely to the bids of all, and especially of their own fellow citizen mechanics, that the city may enjoy the benefits of a fair competition, as a means of reducing the cost of the Works?

These inquiries have a SPECIAL SIGNIFICANCE just now, in the face of the announcement, through the city papers, that the taxes for the current year, for city purposes alone, are 11½ mills on the dollar, (raising about double the amount raised last year,) to which, if we add 5½ mills for county and State taxes, (and they will no doubt be equal to that sum,) we have 17 mills, which, on \$23,000,000, being the amount of taxable property of the entire city, as ascertained from the County Auditor's books, will raise \$391,000, which; allowing the population to be 50,000, (and that is a large present estimate,) is \$7.82 to every man, woman and child in the city. Reduce the population to families of five each, and we have 10,000 families. Suppose the actual number of personal tax payers equal to the number of families, and the average tax to each tax payer would be \$39.10.

If the people would have their interests protected, THEY must look after them, and must hold their public servants to a strict accountability.

P. S. Since the above was written, our attention has been called to a notice for "proposals for cast water pipes, (signed 'T. R. Scowden, Engineer,')" found on the fourth page of the Plain Dealer, one of the four daily papers in the city, of which the writer was ignorant when the foregoing article was penned. Not any of the other city papers contains said notice.