



A CONCRETE BRIDGE.

What is claimed to be the first solid cement bridge of its kind in the province was that erected last summer about a mile east of Tavistock, over a small creek on the boundary of Perth and Oxford counties. It has a span of thirty feet, with absolutely no support underneath between the abutments at each end, and yet the thickness of the floor is only fourteen inches. Seven days after this bridge was built it allowed the passage over it of a twenty-ton load without a tremor. The abutments at each end are 3½ feet thick at the base and 2½ feet at the top. Like the rest of the bridge, they are solid cement. A railing about three feet high is also of solid cement. The bridge cost \$635. Extremely interesting is the manner of its construction. A wooden substructure is first built. Upon this the floor of the bridge is laid. Upon four inches of cement inch and three-quarter steel rods are laid, running lengthwise, and ten inches apart. Three inches more of cement are laid on this, then a layer of woven wire is put on. Over this another coating of cement is laid, then another layer of wire, and on top of all enough cement to make up the total thickness of fourteen inches. The railing, which is also strengthened with wire, is an important factor, as it helps to bind the bridge together and increase its strength. This is by reason of heavy bolts run downward through the railing and fastened firmly to the floor.

Some 219,160 feet of cement walks were laid this year in the town of Orillia, Ont., at a cost of \$27,000. The work was done under the supervision of Councillor Todd. As a slight recognition of his labors a motion was introduced to grant him the sum of \$100, but certain aldermen protested, saying that other members of the council had worked hard and faithful and had never received any remuneration. The motion was voted down.

The first year of city ownership of the Stratford, Ont., waterworks shows that the works have been run at a net profit of \$2,458.91. All this, however, has been invested in much-needed extensions. Extensions to mains have been made at a cost of \$8,464.39, this being expended upon over 5,000 feet of new mains. This week the electors will vote on a by-law to hand over the waterworks to a Board of Commissioners, also to hand over the city parks to a Board of Park Commissioners.

The excellent preservation of wrought iron by hydraulic cement is strikingly illustrated by samples recently cut from a water pipe that had been forty-four years in constant service in New Brunswick. The distribution system for the city water supply of West St. John was laid in 1859 with riveted pipes from 4 to 12 inches in diameter, which were covered

inside and outside with coatings of pure Rosendale cement about 1 inch thick. The metal was a good quality of soft wrought iron rolled to No. 22 gauge, and many of the pipes are still in service under a pressure of 60 pounds per square inch. Samples recently cut out by Mr. William Murdock, superintendent of water-works, were found to be in surprisingly good condition, and one piece was split down the side and flattened so as to be easily packed, and was sent to Mr. J. A. Jamieson, C. E., Montreal, in whose office it may be

seen. Despite the severity of the treatment received, a large proportion of the surface of the iron is still covered with the cement mortar, which adheres firmly, and wherever the metal is exposed, it is bright, and entirely free from rust.

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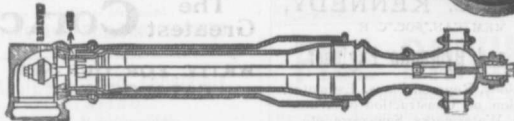
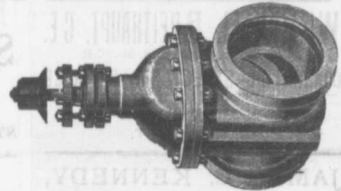
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