

MUNICIPAL DEPARTMENT

COST OF PAVEMENTS.

A committee recently appointed at Hillsdale, Mich., to ascertain the relative cost, merits as to durability, desirability, etc., of the different materials used for street paving in the cities of Michigan, give the following report:

Kalamazoo uses brick, asphalt, block, and macadam. Advises use of brick on business streets, laid on six-inch concrete foundation; brick cost \$1.61 per square yard, asphalt \$2.17.

Coldwater uses brick. Considers it the best for business sections; laid on concrete base; work done by contract; cost in 1899, \$1.28 per square yard.

Munroe uses brick, laid on twelve-inch crushed stone.

Saginaw uses brick and asphalt. City Engineer considers asphalt very expensive to maintain in their climate; brick more durable and less expensive, and, therefore, preferable on business streets; brick is laid by contract on six-inch concrete base, costing \$1.30 to \$2.75 per square yard, according to location, soil, etc.

Jackson uses brick. Considers it the best; concrete foundation used; cost in 1899 per square yard \$1.34.

Pontiac uses asphalt block, considering it the best. Cost laid on concrete \$1.77 per square yard.

Benton Harbor uses cedar block and brick. Considers brick the best; their's is laid on sand, and costs 90 cents per square yard.

Ypsilanti uses Metropolitan shale brick, laid on concrete, which cost \$1.92½ to \$2.21 per square yard, holds equality of surface well.

Adrian uses brick, laid by day labor past two years, formerly by contract, foundation of six-inch crushed stone; cost \$1.71 per square yard.

Ann Arbor uses brick laid on six inches of concrete. Cost \$1.44 per square yard; holds its surface well after three years' wear.

Lansing uses brick. Considers it best laid on concrete, and regards it the best for streets with heavy traffic; cost \$1 to \$1.50, exclusive of curbing; work is even in surface after six years' wear.

Tonia considers brick best and most practicable.

Mount Clemens uses brick on concrete. Considers it the best, cost \$1.72 to \$1.85 per square yard, using old curbing.

West Bay City uses brick. Laid by

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contract on concrete base; cost \$1.74 per square yard.

Bay City considers bricks the best. Uses concrete foundation, cost \$2 per square yard.

Flint uses brick in business portions. Considers it the best; concrete base; cost by contract \$1.50 per square yard, exclusive of curbing.

Battle Creek uses brick and asphalt block. Considers brick the best and most practicable; average cost \$1.32 per square yard; concrete foundation; work done in 1896 is in excellent condition.

THE QUEBEC BRIDGE.

The submarine work in connection with the new Quebec bridge over the St. Lawrence promises to be more difficult than anything of the kind ever yet done on this continent. The main north pier is to be erected in twenty feet depth of water, and its foundations, which are to be dug inside the giant caisson built for the purpose, will go down sixty feet below the surface. This caisson, which is now about completed, is 150 feet long, 50 feet wide and 25 feet high, and over a million cubic feet of lumber has entered into its construction. It is built of Georgia pine, of a thickness of five inches. The bottom is four feet thick and the sides three feet. The interior is a mass of beams and joists, and the caisson has already cost \$30,000. The iron bolts used to hold it together vary from 30 inches to 7 feet in length, and if placed end to end would extend in a straight line 80 miles long. Two steam pile drivers are at present engaged in driving the supports for a temporary wharf, alongside of which the enormous caisson is to be sunk when it is launched about the 1st of June. The lower edges of the caisson are pointed and sheathed in

steel, so that when the huge structure sunk in proper position it will sink with own weight into the hard gravel bed of river upon which it will be lowered. The water will be pumped out of it by powerful pumps, and workmen, with specially prepared tools, will descend into opening and excavate to a depth of six feet from the surface of the water for concrete foundations for the pier. As the caisson gradually sinks, a coffer dam will be erected around it, and when a proper depth has been attained the whole interior will be filled up with concrete, up to the part of the foundation where the masonry is to be added.

The masonry will be the handsome rose-tinted Laurentian granite from the Riviere a Pierre quarries, in the Lake St. John country. The work of the men who will be employed in the caisson at its greatest depth will be exceedingly difficult and exhausting, and the men will probably be unable to work in it for only a few minutes at a time on account of the foul gases that will consequently descend and find no means of escape.

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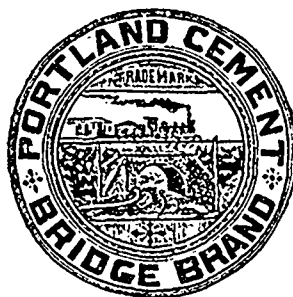
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