

**MUNICIPAL ENGINEERS, CONTRACTORS, AND MATERIALS.**

test a fair one. In the space between the bricks will be inserted thin slips of wood, over which cement will be spread.

The necessity of deep intakes on a water-works drawing its supply from a lake or pond in a high latitude is shown by a recent occurrence at Muskegon, Mich., says the *Engineering Record*. The main intake pipe of this city terminates 4,000 feet from the shore of Lake Michigan in 41 feet of water, yet it was recently clogged with ice and several hours elapsed before it could be freed again. At Evanston, Ill., where the intake crib is sunk 29 feet, the pipe is kept free by means of a revolving strainer, designed by J. G. Falcon, of the same city. This consists of a cylinder screen hung in the mouth of the well, through which all water must pass. Inside this cylinder are numerous buckets inverted above the mouth of a pipe through which air is forced by a compressor at the pumping station. The buoyancy of the air in the buckets raises them, thus revolving the cylinder and presenting a clean surface to the water, the accumulation of leaves or anchor ice on the screen being scraped off by a suitable projection from the frame. The Superintendent of the Evanston Water-Works, S. B. Peeney, writes us that this strainer has kept the supply of that city free during the entire winter except for about one hour when the air pipe was frozen. All the neighboring works were shut down for some time owing to anchor ice, and the new plant at the Washburn & Moen Manufacturing Company's works at Waukegan has been so seriously crippled on this account that the company has ordered the largest Falcon strainer yet made. It will be 16 feet long, 7 feet in diameter, and make 15 revolutions a minute. It will be located in a tank connected with the shore by 1,728 feet of 36-inch cast-iron water pipe. The air compressor used will have 8x12-inch steam and 10x12-inch air cylinders, and will force air through a 2-inch lead pipe.

**THOROLD CEMENT**

I have tested with Reihle's Testing Machine the tensile strength of six blocks made from the barrel of Thorold Hydraulic Cement sent me last summer. The blocks were made of neat cement, and were 1 1/2 inches square at the smallest part. Four of them were kept 23 days in air, and only broke under the following weights: No. 1, 420 lbs.; No. 2, 470 lbs.; No. 3, 436 lbs.; No. 4, 420 lbs.; averaging 437 lbs. each, or 194 lbs. per square inch. The remaining two were kept one day in air and forty-seven in water, and broke under the following weight: No. 5, 420 lbs.; No. 6, 450 lbs.; averaging 435 lbs. each, or 193 lbs. per square inch.

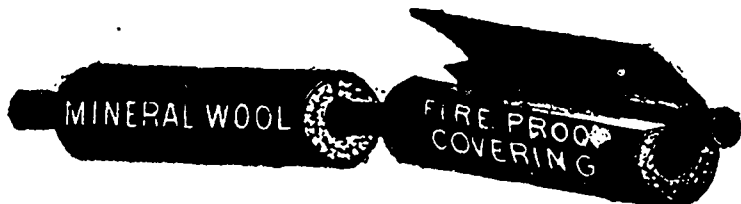
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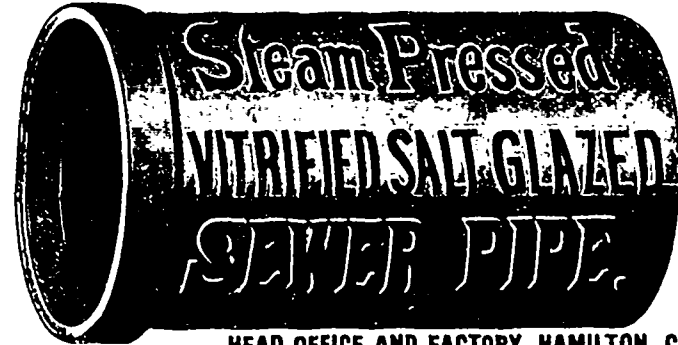
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