

by a diver. Fig. 9 is a general view of the intake work, showing a length of pipe being floated into position. The gasket used in connecting this pipe was tar mixed with a small percentage of tallow. This mixture was painted

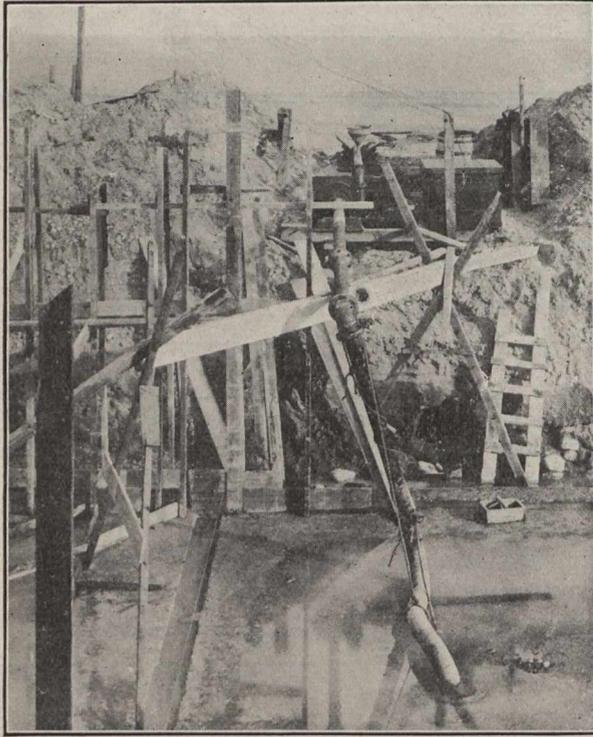


Fig. 2.—Pump Arranged with Suction Pipe in Sump, so as to Keep Down the Ground Water During Construction.

about  $\frac{1}{8}$ -in. thick on the face of each flange, so that when the bolts were tightened, the tar bulged out a little all around the joint. This made a perfectly watertight and very elastic joint.

On the outer end of the intake pipe, a bend was inserted and a steel hood placed thereon each night when work was stopped. This hood is 3 ft. in diameter, built up of 1-in. x  $1\frac{1}{2}$ -in. flats, and covered with burlap. When the intake is laid out to the proper point, this hood will be set in place permanently and the burlap removed.

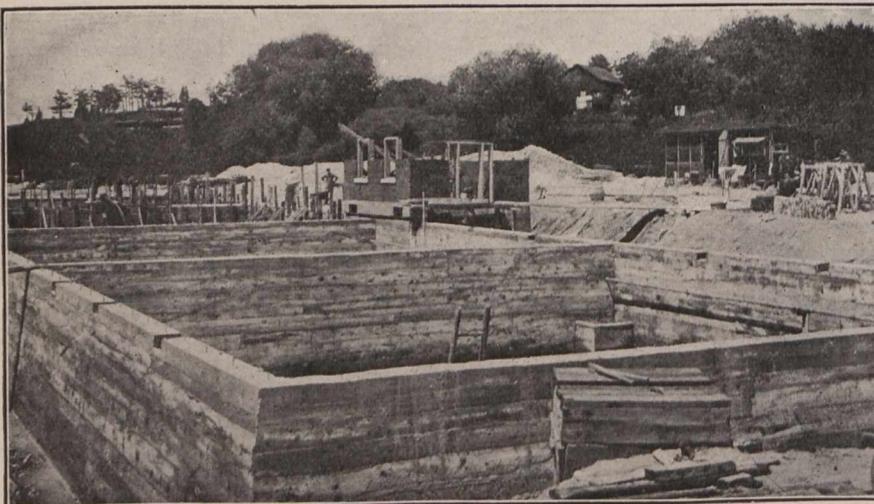


Fig. 3.—Walls of Filter After Removal of Forms.

**Filters.**—The filters will be completed in about two weeks. They are being constructed by Thomas Garnet & Sons, of Port Hope. Work was started about April 1st. There are four filters, each 47 ft. square, with nine 1 x 1-ft. columns, the columns being placed 11 ft. apart

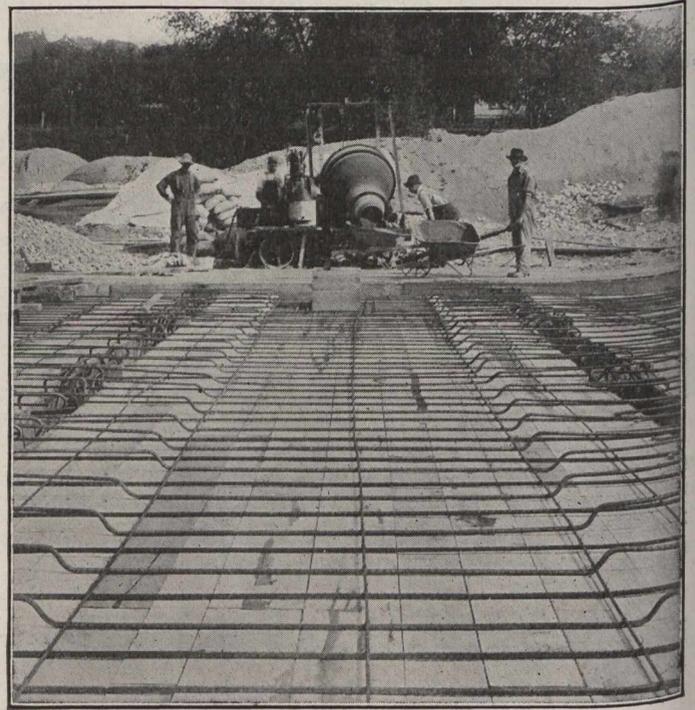


Fig. 4.—Reinforcing for Filter Roof in Place, Showing Bent Rods Between Two of the Beams.

in each direction. The floor is of monolithic construction, reinforced in both directions. It is dished away from the base of the columns to form four lines of gutters in each direction, the inverts of all these gutters being level. Figs. 5 and 7 show plan and cross-sections of the filters.

Fig. 1 shows a general view of the construction of the floor of the filters. The mixture used was 1:2:4. There are approximately only 1,200 cubic yards of concrete in the four filters and pure water reservoir. Twenty-two and a half tons of reinforced steel were used. The pure water reservoir is 35 ft. x 76 ft., reinforced concrete construction, the excavation of one of the infiltration wells proving adaptable to a reservoir of this size.

During construction of the filters, the ground water was not allowed to rise on the outside of the filters more than 3 ft. above the floor level. To keep the ground water down, a line of 12-inch tile was laid lengthwise under the floor, with a sump placed at its middle point. The suction pipe from a centrifugal pump was dropped into this sump. Considerable care was exercised in pumping promptly whenever necessary. As a result, the tendency of the filters to float was checked, thus preventing distorting stresses, and the engineer claims to have obtained a perfectly watertight structure. Fig. 2 shows the suction