

wall show some interesting reinforcing work. The wall has a rock foundation. The reinforced concrete crib docking, mentioned above, will extend from its outer extremity into the harbor.

At work in the harbor is a sounding scow about 40 feet square, and provided with 4 large spuds or anchors.

This scow was built for the general purposes of the survey staff in connection with the harbor work, but principally for ascertaining the elevation of the surface of the rock beneath the overlying material. As it was liable to be caught out in rough weather before the piers were extended as far as they are into the lake, and as sometimes a perfectly steady platform is required, the scow is arranged with a heavy engine on each spud, by means of which the scow is enabled to hoist itself completely out of the water and above the reach of wave action, which will thus have only the four spuds to strike against. When it is required to move the machine the scow is lowered into the water and the spuds lifted up clear of the bottom by the same machinery.

A reinforced concrete scow, built in 1910, is also engaged on the work.

Up to the end of September the work done on Section 1 of the Canal included about 300,000 cubic yards of dredging from the harbor and about 1,000,000 cubic

includes the construction of Locks 2 and 3, with necessary entrance walls, regulating and supply weirs. Substructures for three bridges will be required in addition to road diversions, etc. Bridge No. 3 will be an 80-ft. bascule bridge to be used for highway purposes and will be situated over the head of Lock 2. The contract re-

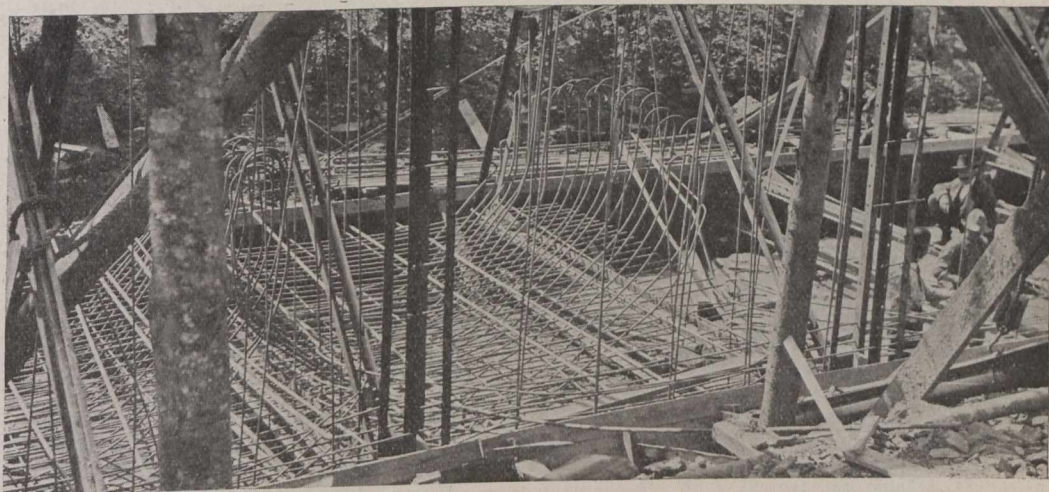


Fig. 6.—Reinforcing Steel at the Base of One of the Counterforts—West Side Entrance Wall, Port Weller.

quires the construction of a reinforced concrete approach of six spans, each 40 ft. in length and $21\frac{1}{2}$ ft. wide.

Bridge No. 4, to be also of bascule lift type, will have a 200-ft. span with earth approaches. It will be over the Queenston Road and about midway between Locks 2 and 3. The location of bridge No. 5 is on the St. David's-Merritton Road, near the boundary line of Sections 2 and 3 of the canal. It will also be a bascule lift bridge with a span of 200 ft.

In Section 2 there will be a crossing of the present and new canals. The water in both is to be at the same level thereby affording vessels an alternative passage to or from Lake Ontario by way of Port Dalhousie. This will probably be taken advantage of largely by smaller craft.

During the season the embankments for a pondage of 200 acres required for Lock No. 2 have been in progress, east of the canal bank. About half a mile of it is completed. Six elevating graders have been employed on the work. A dam is also being built to the east of Lock 3, to form an equalizing basin. Lock 1 will

also have a pond. These basins are necessary in order to prevent fluctuations in the levels when a lock is filled or emptied, as the filling of a lock would lower the water in a 70-acre pond one foot. It is therefore advisable to have these ponds as much over 70 acres as possible.

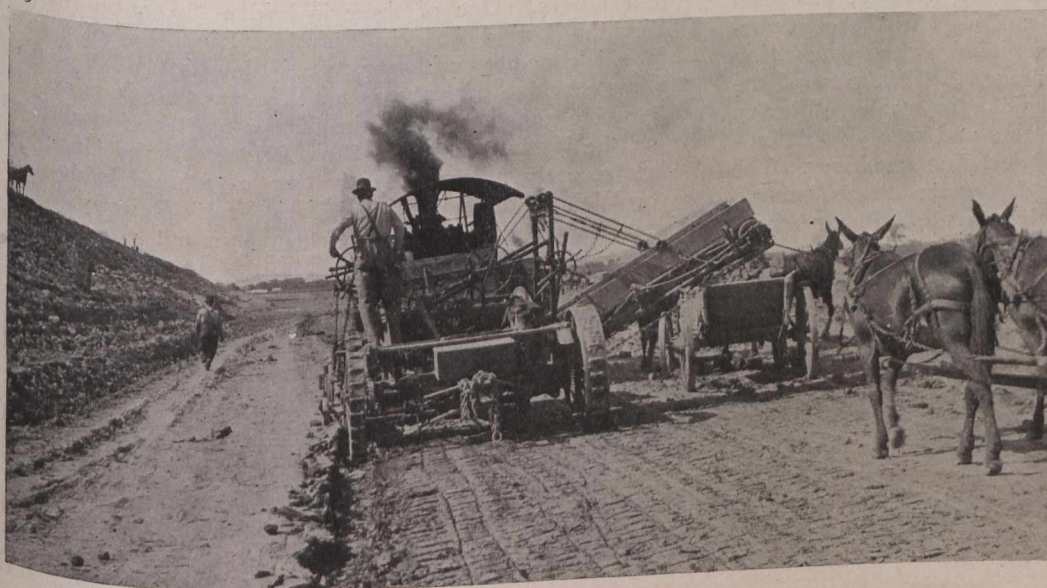


Fig. 7.—Grader and Mule Outfit Working on a Watertight Embankment, Section 2.

yards of dry excavation from the lock division. This material has all been used in the embankment construction.

Section 2.—This was let by contract on December 31st, 1913, to Baldry, Yerburch & Hutchinson, an English firm with an office in St. Catharines. It extends from Sta. 150 to Sta. 380, approximately $4\frac{1}{3}$ miles, and