

shipping point of large dimensions, and a possible rival of Buffalo, N.Y. The works comprise new docks, excavation of channels, and two large breakwaters to the east and west of the port. These breakwaters, of which one, 5,000 ft. long, is totally finished, while the other, 2,400 ft. long, is half completed, are under the supervision of the Department of Public Works. The remainder of the works are being carried out by the Department of Railways and Canals.

This latter work may be divided into two sections, outer harbor and inner or canal basin. The former calls for the construction of two docks, 200 by 700 ft., and the deepening of an area to 22 ft. to allow approach by the largest lake carriers. The excavation is entirely of solid rock, over 300,000 cubic yards in all, averaging a cut of 3 to 4 ft. From lighthouse to canal basin entrance, a depth of 18 ft. is required, principally sand and soft material. The canal basin itself is dredged to afford 16 ft. of water. This plan, however, will no doubt be changed to afford a depth of 22 ft. over entire area of both inside and outside harbor. In addition the sides of the canal basin have been dug out and concrete docks built.

The design of the inside and outside harbor docks is similar, save for the width of crib. They are essentially submerged cribs work filled with stone and surmounted by concrete blocks carrying a mass concrete wall, the whole covered for width of crib by an 18 in. slab of concrete. The timber used in the cribwork was about 35,000,000 ft., mainly 12 by 12 in. The filling of each crib had to be completed at one operation, so that 2,000 cubic yards of material had to be provided to be dumped in, as soon as the crib had been placed in position. The concrete blocks are each 4 by 4½ by 7 ft. They are made with a joggle, so that the mass concrete filling forms a strong joint between each block, and prevents any lateral displacement of blocks relative to the wall which might be caused by impact of the heavy seas or vessels. Up to the end of 1904 40,000 barrels of cement had been used for concrete. The principal item of this work consisted of the drilling, blasting and dredging of 300,000 cubic yards of very hard flinty limestone over a great area. The cut varied from 6 ins. to 6 ft., but to get down to grade it was necessary to drill and blast at 2 to 3 ft. below grade in order to avoid pinnacles and ledges being left.

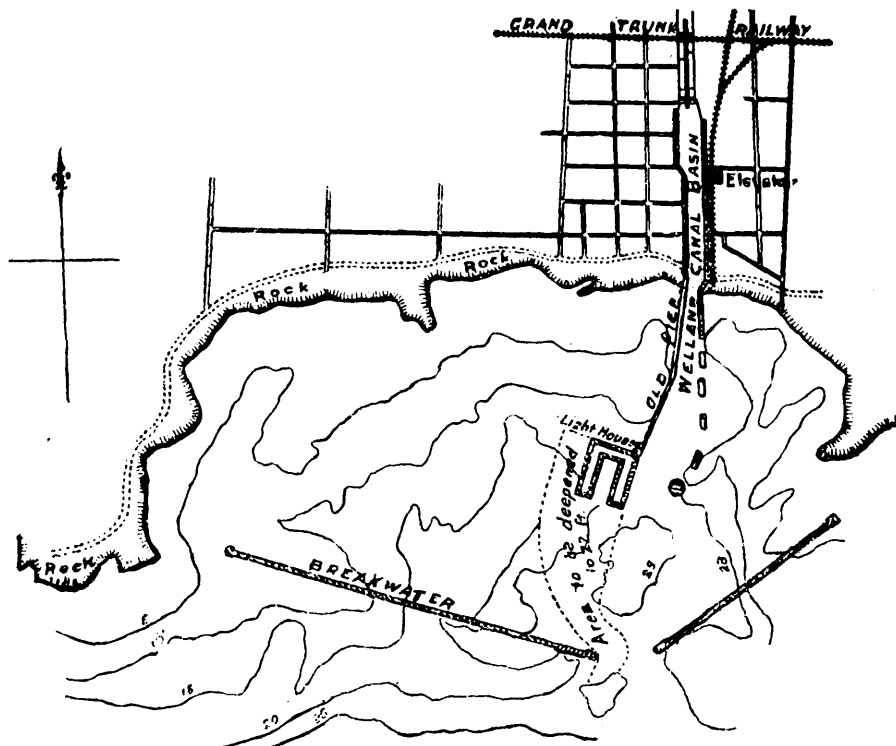
These various works are now almost completed, and arrangements are being made for the putting in of the foundations of a 2,000,000 bush. elevator.

The foregoing is extracted from a paper read recently before the general section of the Canadian Society of Civil Engineers by J. M. Hogan.

SHIPPING MATTERS.

Reciprocal Inspection of Steamships.

The following order has been issued by the Secretary of Commerce and Labor for the United States:—"The Department of Commerce and Labor of the U.S. has been officially notified that the Government of Canada will recognize as valid the steamboat inspection certificates issued by the authorities of the U.S. to American steamers, and, in the case of vessels of the U.S. having unexpired certificates of inspection issued by officers of the U.S. Government, will dispense with any further inspection as regards hull, boilers, machinery, and equipments, including life-saving appliances, except such as is necessary to satisfy the inspectors that the condition of the vessel, her boilers and life-saving equipments are as stated in the said



PORT COLBORNE HARBOR IMPROVEMENTS.

current U.S. certificate of inspection. It is therefore ordered that hereafter, and until otherwise directed, the merchant passenger steamers of Canada, sailing from ports in the U.S. and holding unexpired certificates of inspection, issued by the duly constituted officers of Canada, shall be subject to no other inspection than necessary to satisfy the local inspectors, that the condition of the vessel, her boilers and life-saving equipments are as stated in the said current Canadian certificate of inspection. The masters, owners or agents of Canadian merchant passenger steamers, other than steamers holding certificates of inspection issued by the authorities of the U.S., shall, immediately upon arrival at ports in the U.S., file in the office of the local inspectors of steamboats having jurisdiction in such ports a copy of their current Canadian certificates of inspection. Masters, owners or agents of the Canadian merchant passenger steamers holding an unexpired U.S. certificate of inspection, shall also furnish the local inspectors with a copy of their current Canadian certificates of inspection upon arrival at a U.S. port on their last voyage preceding the date of expiration of the current U.S. certificate held by such steamer, and it shall thereafter be examined and certificated in the manner provided herein." The regulations for inspection follow.

The Deputy Minister of Marine has issued a circular to Collectors of Customs stating that an Order-in-Council, dated April 26, has issued ordering that whereas the Minister of Marine has received assurances that the unexpired certificates of inspection held by Canadian steamboats plying to and from ports in the U.S. will be accepted by the U.S. authorities without any further inspection than is necessary to satisfy the U.S. inspectors that the condition of the steamboats, their boilers, machinery and life-saving equipment is as stated in the Canadian current certificate of inspection; and ordering that unexpired certificates issued by the U.S. authorities shall be accepted in Canada as evidence of lawful inspection of U.S. steamships plying to and from Canada and that no further inspection shall be required of such steamships beyond that which is necessary to satisfy the Canadian inspectors that the condition of the

steamers, their boilers, machinery and life-saving equipment is as stated in the U.S. current certificate of inspection. The Canadian inspectors will be supplied with temporary certificates to issue to such steamboats for presentation to the Collector of Customs at the port from which they clear, in proof of the Canadian inspectors being satisfied as to the condition of the steamships, and the Collectors of Customs are to treat such vessels as having satisfactorily passed Canadian steamboat inspection. This regulation came into effect on May 6, instant, and is to be observed by Collectors of Customs and Steamboat Inspectors until further instructions are issued on the subject.

Regulations Respecting Cornwall Canal.

The following Dominion Order-in-Council respecting the Cornwall, Ont., Canal was passed April 18:—"Every vessel shall be brought to a dead stop 100 ft. from the nearest gates of the lock. The winch cable must there be secured to some suitable post on the vessel by the vessel's crew, after which the vessel will be drawn into the lock by the winch. Before the vessel moves under the impulse of the winch, all the usual and necessary lines for controlling the vessel must be out, and must be handled by the crew in such a way as will prevent too great speed being developed, and must be held at such a point as to effectually stop the vessel as soon as she is fully within the lock. While the vessel is being locked her crew must change the position of the winch cable in such a way as will allow the winch to pull the vessel out of the lock. When locking is completed, the vessel's crew must release the winch cable from the vessel."

A deputation consisting of J. A. Cuttle, President, Montreal; A. A. Wright, Toronto; C. A. Jaques, Montreal, and F. King, Secretary, representing the Dominion Marine Association, interviewed the Minister of Railways and Canals, May 17, and protested against the enforcement of the rules. A petition setting forth in detail the objections of the Association to the various rules was subsequently sent to the Department.