pressed air, and controlling same from a distance by valves operated by electro-magnet. Each valve house is connected by telephone with its engine room and with the others when the dock is working as a single unit. Each section is also provided with a direct acting steam pump arranged to draw from the sea, capable of providing a full stream of water for fire service or washing down vessels. These are also connected to the main drain so that they may be used as a drainage service for completely emptying the compartments. Two similar steam pumps are also fitted on the opposite wall of the dock.

Steam heating is provided to prevent freezing of water in the compartments, and each water tight compartment is equipped with an indicating system to show, in the valve house, the level of water in the compartment, and a similar arrangement is supplied to show the draught of water over the keel blocks. Four steam capstans are provided on each of the two walls, the spindles being carried down vertically to the level of the pontoon deck, where, in a small chamber in the wall, cable lifters are fitted, so that the mooring cables may be hauled in or paid out when the dock is being moved. Donkey boilers are fitted on the opposite wall to that on which the main boilers are fitted, to provide steam for the capstans and fire pumps on that wall. On the top deck of this wall a three ton electric travelling gantry crane is placed, arranged to traverse the whole length of the wall, and at both ends of the combined dock two flying gangways or swinging bridges are placed, giving access to each wall. The dock is lighted throughout by electricity, the outside lighting being by bracket standards with a cluster of lamps, the box terminals are fitted on the walls, from which lamp clusters can be taken by flexible leads for lighting any particular point. The current is to be supplied by cables from the shore.

The dock is supplied with the usual bollards and timber heads, and roller fenders are also fitted to protect the walls from an entering vessel. Eight mechanical side shores, four on each wall, are provided, which can be screwed in or out by a standard fitted on the top deck. The keel blocks are strongly made and closely spaced to take the weight of the heaviest vessels, and ladders are fitted leading from the upper deck of the dock to the pontoon deck, and to the various compartments.

Following are the general dimensions of the dock:—

Length over platforms	600 ft.
Length over pontoons	550¼ ft.
Width over all	135 ft.
Depth of pontoon at centre	17 ft.
Length of side walls	470½ ft.
Height of side walls above pontoon deck	42 ft.
Width of side wall at base	17¼ ft.
Width of side wall at top	12½ ft.
Clear width between roller fenders	100 ft.
Draught of vessel	27½ ft.
Lifting capacity	25,000 tons.

The accompanying illustrations show the interior of the dock, and the completed dock as viewed from the water.

This dock is the fourth largest in the world, the largest with a lifting capacity of 40,000 tons, and the second largest, of 35,000 tons, being owned in Germany, while Great Britain owns the next largest, the twin docks of 32,000 tons lifting capacity each.

Gaspe Bay Developments.

An important development is taking place in Gaspe bay, Que. With a view to provide for ocean steamship traffic, work is proceeding on the construction of a breakwater at Sandy beach, on the south coast, the contract for which was given to Horace Dussault, of Quebec, in April, 1910, for $273,985. The structure consists of two parallel cribs, 15 ft. wide at top, 18 ins. above low water mark, with a 12 ft. trestle on top of the cribs. The breakwater will be 1,000 ft. long and 95 ft. wide at top, starting at the 15 ft. line and running to the 50 ft. line of water at low water. J. T. Bertrand, District Engineer, Public Works Department, is in charge, and progress estimates have been received for $157,360, of which $144,310 has been paid. As far as can be ascertained, no arrangements have been made for any line of vessels to use the Gaspe route. A spur track has been built from the Atlantic, Quebec & Western Ry. to the Sandy bay breakwater.

Arrangements are being made by which some of the steamships operated by Henri Menier, proprietor of Anticosti island, will run between that place and Gaspe, carrying fish for shipment from Gaspe by rail. M. Menier will probably have a wharf of his own, either at or near Gaspe Basin.

Instructions for Vessels When Approaching Canadian Ports.

The Government having taken into consideration the fact that local, or other circumstances may arise in which it may be necessary, on account of periodical exercises, manœuvres, or otherwise, to forbid all entrance to certain ports of the Dominion, notice is given that on approaching Canadian shores, or any of the following ports, viz.:—Halifax, N.S.; Quebec, Que.; Esquimalt, B.C.; a sharp look out should be kept for the signals being displayed, and the distinguishing and other signals made by them. If entrance to a port is prohibited, three red vertical lights by night, or three red vertical balls by day, will be exhibited in some conspicuous position, in, or near to its approach, which signals will also be shown by the vessels appointed for examination purposes. If these signals are displayed, vessels must either proceed to the position marked "examination anchorage" on the Admiralty charts, and anchor there, or keep the sea. At the ports beforementioned, searchlights are occasionally exhibited for exercise, and instructions have been given to avoid directing movable searchlights during practice on vessels under way, but mariners are warned that great care should be taken to keep a sharp look out for the signals indicated, when searchlights are observed to be working.

Under certain circumstances it may become necessary to take special measures to examine vessels desiring to enter the ports or localities referred to, and in such case, vessels carrying the distinguishing flags, or lights, already mentioned, will be charged with the duty of examining vessels which desire to enter the ports, and of allotting positions in which they shall anchor. As the institution of the examination service at any port will never be publicly advertised, special care should be taken in approaching the ports, by day or night, to keep a sharp look out for any vessel carrying the distinguishing flags or lights, already mentioned, and to be ready to bring to at once when hailed by her, or warned by the firing of a gun or sound rocket. By day, the distinguishing flags of the examination steamer will be a special flag, white and red horizontal surrounded by a blue border, and the blue ensign; also three red vertical balls if the port is closed; three white vertical balls if the port is open. The lights mentioned will be carried in addition to the ordinary navigation lights, and will show an unbroken light round the horizon.

Masters are warned that before attempting to enter any of these ports where the examination service is in force, they must in their own interests, strictly obey all instructions as to entry given to them by the examination steamer, and in the absence of any instructions from the examination steamer, they must proceed to the position marked "examination anchorage" on the Admiralty charts and anchor there, or keep the sea. In case of fog, masters of vessels are enjoined to use the utmost care, and the examination anchorage itself should be approached with caution. The pilots attached to the ports will be acquainted with the regulations to be followed.

Any vessel approaching a defended port in the Dominion, when searchlights are being worked, and finding that they interfere with safe navigation, may make use of the following signals, either singly, or combined,—by flashing lamp, four short flashes followed by one long flash, or by whistle, siren or fog horn, four short blasts followed by one long blast. Whenever possible both lamp and sound signals should be used. On these signals being made the searchlights will be worked so as to cause the least inconvenience, either being put out, raised, or their direction altered. The signals should not be used without real necessity, as unless the vessel is actually in the rays of the searchlight, it is impossible to know which searchlight is affected.

The Canadian Interlake Line's Vessel Fordonian.

The vessel Fordonian, which has been built at Glasgow, Scotland, for the Canadian Interlake Line Ltd., for operation by the Merchants Mutual Line in the lake trade, is on its way to Toronto, having left Glasgow, during September. She is of the ordinary type of lake and canal vessel, but is equipped with a Carels-Diesel engine of the four cylinder, two cycle type, of 800 b.h.p., developing 200 b.h.p. per cylinder. In vessels of this type, the machinery space is considerably reduced, being only about one third of that of steam driven vessels, and economy of fuel is also an important consideration.

The Fordonian is the first vessel of this particular type to be built at Glasgow, and it is stated that she will have a radius of navigation, on the same bunker capacity as a steam driven vessel, of at least four times that of the latter, in addition to the time saved by being able to make an immediate start, and having no standby charges.

The whole of the machinery was built at Glasgow, with the exception of the cylinders, and the engine is built up of the highest powered units yet seen in a British marine heavy oil engine.

Her dimensions are:—length, 250 ft.; breadth, 42 ft. 8 ins.; depth, moulded, 16 ft. 10 ins. to main deck and 26½ ft. to awning deck.

The U. S. Lake Survey reports the levels of the Great Lakes in feet above tidewater, for August, as follows: Superior, 609.49; Michigan and Huron, 508.58; Erie, 572.45; Ontario, 246.66. Compared with the average August levels for the past ten years, Superior was 9.25 ft. below; Michigan and Huron, 9.45 ft. below; Erie, 0.24 ft. below; Ontario, 9.94 ft. above. It was anticipated that during September, Superior would rise 0.1 ft.; Michigan and Huron, 0.2 ft.; Erie, 0.3 ft., and Ontario, 0.4 ft.

The East Side Fish Co.'s steam tug, which is being built at Collingwood, was launched there, Sept. 17. She is 77 ft. long, and equipped with fore and aft compound engines with cylinders 9 and 18 ins., diar., by 14 ins. stroke. She will be operated out of Port Stanley in the fishing trade on Lake Erie.