

# Marine Department

## Ontario No. 2, Another Car Ferry for the Ontario Car Ferry Company.

An all steel car ferry, Ontario No. 2, a sister ship to Ontario No. 1, which is being operated between Cobourg, Ont., and Charlotte, N.Y., by the Ontario Car Ferry Co., under construction by the Polson Iron Works, Toronto, will probably be launched this month. The Ontario Car Ferry Co. is a combination of the G.T.R. and Buffalo, Rochester and Pittsburg Ry. interests, formed some years ago to handle the coal traffic originating on the latter company's lines, destined to points in Eastern Ontario on G.T.R. lines, the object being to eliminate the long haul around the west end of Lake Ontario. The business handled by the company has increased to such a degree that the addition of another vessel became necessary. The new one is almost identical with the one at present in service, which was described in Canadian Railway and Marine World, May, 1907.

It is of the shelter deck type, with four tracks for cars on the main deck, and will be propelled by twin screws. The main deck is of steel throughout, without wood covering; the shelter deck is of steel laid flush, with a deck house running throughout its greatest length, and containing accommodation for passengers, officers and crew. It has a wooden pilot house and bridge on top of the deck house forward, and a pilot house at the after end of the deck house. It is divided into six transverse watertight bulkheads, extending from the keel to the main deck, with a longitudinal bulkhead along the centre line in three watertight ballast tanks 13 ft. deep. Two of the these ballast tanks are immediately forward of the boiler room, and the third immediately aft of the engine room. The steel lower deck, laid throughout the forward and aft holds and both peaks, forms the top of the deep water ballast tanks. There are two shaft alleys, leading back from the engine room, one on each side, extending into the stuffing box bulkhead. The boiler room contains four single ended Scotch marine boilers placed amidships, with one firehold athwartships and one wing coal bunker on each side of the boiler room. The hull is bossed out on each side to enclose the propeller shafts. There are two steel pole spars without masts or sails.

The vessel has a capacity for 28 standard coal cars of 68 tons gross weight each, and 200 tons of coal in the bunkers. The draught will be about 16½ ft. when fully loaded, and the vessel will have a normal working speed of 13 miles an hour, with reserve power to make 15 miles an hour under emergency conditions. Following are the principal general dimensions:

Length overall .....	318 ft.
Length between perpendiculars .....	307½ ft.
Beam moulded .....	54 ft.
Beam on main deck .....	56 ft.
Depth at centre, main deck to promenade deck .....	17 ft.
Depth at side, main deck to promenade deck .....	17 ft.
Draught of water full loaded .....	16½ ft.
Camber of main and promenade decks .....	9 ins.
Depth to promenade deck .....	20½ ft.
Rise of floor .....	2 ft.

The vessel is built on the transfer system, with solid plate floors and bulb angle frames, with the steel plate extra heavy for working in ice, and not reduced forward. It is built to pass the inspection of the Great Lakes Register, and to receive its highest rating. The plates and shapes are

of mild open hearth steel; the stem, stern frame and rudder of hammered scrap iron; and the spectacle frame of cast steel in two parts.

The frames from the after peak bulkhead to the stern post are 8 by 3½ in., 19.17 lb. bulb angles, spaced at 24 in. centres; from the collision bulkhead to the after peak bulkhead, 10 by 3½ in. 26.6 lb. bulb angles, 24 in. centres; and forward of the collision bulkhead, they are of the same section as in the after peak, but spaced 18 in. centres on the water line. All the frames extend to the main deck in one length. Above the main deck, the frames are 8 by 3½ in. 19.3

first or inner keelson, at 6¾ ft. from the centre keelson is of double 7 by 3 in. 16.1 lb. bulb angles, placed on top of the floor, fitted with a 17.5 lb. filler intercostally between the floors, and connected to the floors and shell by 3½ by 3½ in. 9.8 lb. angle clips. The second keelson, 13½ ft. from the centre keelson, along the inside of the side stanchions, on top of the floor is a single 10 by 3½ in. 26.6 lb. bulb angle, with 17.5 lb. plates fitted intercostally. The third, or outer keelson, is of double 7 by 3 in. 16.1 lb. bulb angles, attached to the main frames by 4 by 3 in. 8.5 lb. angle clips. Extra keelsons are fitted forward, one in each strake



Stern View of Car Deck, Exactly the Same on Both Car Ferries.

lb. bulb angles, spaced at 36 in. centres. The bulkhead frames are 5 by 5 in. 16.2 lb. angles, double rivetted on both flanges, with 6 by 3½ in. 15 lb. angles for stiffeners. The frames below the main deck, in the way of the bossing, are of 4 by 3½ in. 11.9 lb. angles and 15 lb. plate, with 3 by 3 in. 7.2 lb. angle reverse bars. The reverse frames are 3 by 3 in. 7.2 lb. angles, and on all the floors in the engine space, double reverse bars are used.

The floors are 33 ins. deep, of 17.5 lb. plate, except in the engine and boiler space, where they are of 20 lb. plate. The 17.5 lb. plates for the floor at the end of the vessel are increased in depth wherever necessary to suit the shape of the vessel. The floors are connected to the centre keelson by double 3½ by 3½ in. 8½ lb. angles.

The centre keelson is 45 ins. deep, of 25 lb. plate throughout, with double 5 by 4 in. 14.5 lb. angles top and bottom. On top of the floors, rivetted to the sides of the centre keelson by one flange, there is on each side a 12 by 3.05 in. 25 lb. channel. The side keelsons are of several kinds. The

of the shell plating, and there are also additional keelsons under the engine space.

The keel plates are 48 ins. wide, of 32.5 lb. plate amidships, reducing to 30 lb. plate fore and aft. The hull plating below the main deck is in 8 courses, the first 5 from the keel plate of 25.5 lb. plate, reducing aft to 21.5 lb., and the remaining 3, of 30.6 lb. plate, reducing aft to 25.5 lb. Above the main deck, there are 3 courses, the lower of 12.75 lb. plate, increasing to 15 lb. forward, and the upper two respectively 12.75 and 15 lb. plate throughout. The bilge keel is a 13 in. 27.95 lb. bulb plate, fitted to the plating by double 5 by 3½ in. 12 lb. angles, and carried amidships for 110 ft. Connection between the plating above and below the main deck is by a 20 lb. plate throughout from the lower strake of the upper plating, on each side of which, near the top, on each side is a 4 by 4 in. 14.3 lb. angle, the inner one of which connects to the main deck stringer. This side plate connects to the end of the main floor beams by 4 by 4 in. 11.3 lb. angle clips. On the outside, at the bottom of the side connecting plate,