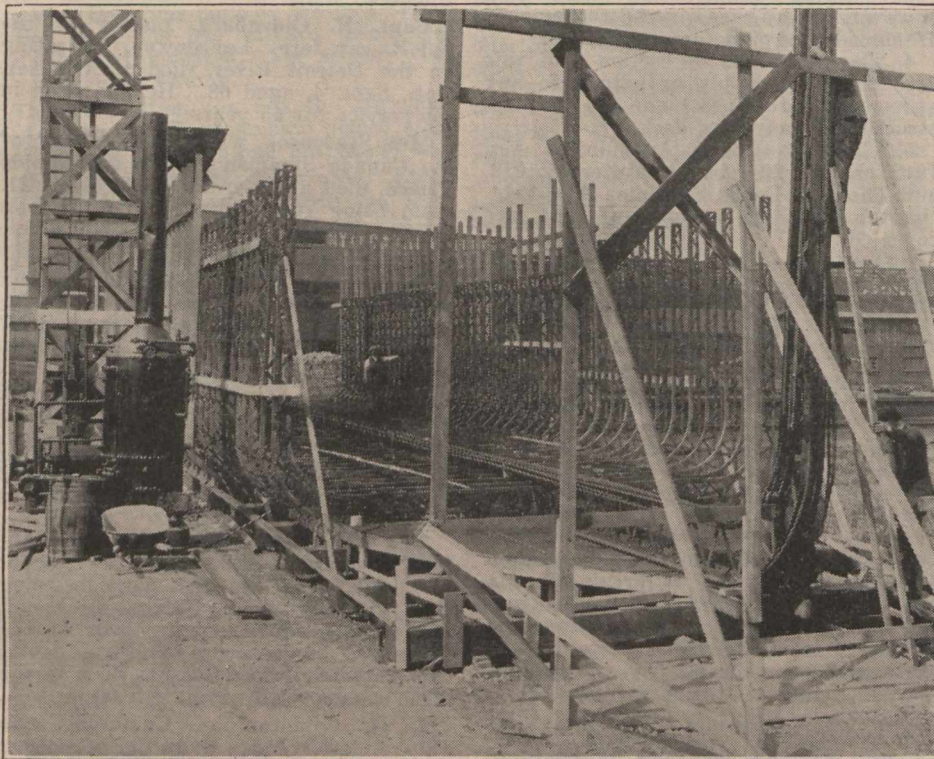


## Reinforced Concrete Vessel Building in Montreal.

The Atlas Concrete Shipbuilding Co. has been organized in Montreal, to build a self propelling, reinforced concrete vessel for demonstrating purposes. The shell of the hull will be: length, 125 ft.; width, 22 ft.; depth, 13 ft. The vessel will be of the single screw type, capable of making about 8 miles an hour, and will first be tried on the lakes, and will perhaps later be used for ocean service. In the accompanying illustration the concrete hoist is shown in place ready to pour concrete as soon as the formwork is completed. The structural steel ribs shown are 5 in. at the top, and 14 in. at the base and are set at 27 in. centre to centre. Before plans were prepared by C. M. Morssen, M.Can.Soc.C.E., and E. Brown, Professor of Applied Mechanics

machinery has been added, but no actual details of the resulting operation of the vessels are available, although it is said that a completed vessel, with reinforced concrete hull, and equipped with propelling machinery, has been, or is very shortly being, placed in operation. The chief building of this type of vessel is taking place in Norway, where the hull of a 200 ton vessel was reported to have been launched Aug. 23. That hull was built bottom upward, and launched in that manner, eventually righting itself in the water. The frame used for the concrete is immediately available for another hull of similar size. Concrete barges, or lighters, have been in use also for several years, on the Manchester Ship Canal, Manchester, Eng., the Welland



Framework, Etc., for Concrete Vessel Building in Montreal.

and Hydraulics at McGill University, tests were made on small ship beams to ascertain the resistance of concrete to the effects of hogging and sagging. The hull is expected to be ready for launching by Oct. 15.

The building of vessel hulls of concrete reinforced with steel, has, to a minor extent, been going on spasmodically since 1849, when a small vessel was built in France, and which is stated to be still in use. About 20 years ago a number of vessels were built of reinforced concrete in Italy, and in 1898 a schooner was built and operated for a few years in the North Atlantic trade. It is said that this vessel was injured after having been driven on the rocks near Cape Charles.

A few years later a concrete barge, 50 ft. long by 13 ft. wide and 3 ft. 4 ins. deep, was built in France, and operated for dredging purposes on the River Lozere, where it has been at work continuously ever since. Until quite recently this type of hull construction was confined solely to barges, lighters, etc., but latterly the construction of larger vessels has been undertaken, and propelling

Canal, Ontario, and on the Chesapeake Bay, U.S., and the Panama Canal.

It is claimed that there is considerable advantage to be gained, by the use of concrete for barge construction and vessels of similar type, and that for machinery propelled vessels for ocean transportation, it is perfectly safe, and of equal, or superior advantage, but some doubts are expressed as to the possible disintegration of the mixture by the action of salt water, and as to the effects of a lack of resiliency in ocean service. After a rather serious collision between the C.P.R. s.s. *Empress of Britain*, and the collier s.s. *Helvetia*, in the St. Lawrence, July 27, 1912, some rather extensive damage to the former vessel was repaired with concrete, and similar material was used for temporarily repairing the Canadian Northern Steamships s.s. *Royal George*, after she grounded at the Isle of Orleans, in the St. Lawrence, Nov. 5, 1912. Both vessels crossed the ocean under these repairs in perfect safety.

A British Columbia press report indicates that there is a possibility of con-

crete vessel construction being undertaken there in the near future, and it is announced that the Torcrete Shipbuilding Co. has been organized in Chicago, to build similar vessels for operation on the Great Lakes.

### Lake Sailors' Wages.

Detroit, Mich., press dispatch, Sept. 12.—Following the custom of previous years the United States Lake Carriers Association has adopted a scale of wages effective Oct. 1, for men employed on its members' boats, which represents a substantial increase for each class of workers over scale now in effect. Increases represent an addition of from \$5 to \$13 a month to members of crews ranging from a little more than 4% to more than 21% over summer schedule for different classes of labor. The classes of workers benefitted, their present monthly rates of wages, and monthly rate effective Oct. 1 are as follows:—

Classification.	Present wages.	After Oct. 1.
Boatswain . . . . .	\$ 85.00	\$ 95.00
Cooks, vessels over 4,000 tons . . . . .	120.00	125.00
Cooks, vessels under 4,000 tons . . . . .	105.00	110.00
Second cooks . . . . .	60.00	65.00
Porters . . . . .	47.50	57.50
Firemen, oilers, water tenders . . . . .	72.00	85.00
Wheelsmen, lookout men . . . . .	72.00	85.00
Ordinary seamen . . . . .	47.50	57.50
Coal passers . . . . .	45.00	50.00

While no fixed amount of increase in salaries of licensed officers is announced, the provisions of the wage card in effect last season with reference to bonus payments will again be operative. Under this plan all licensed officers who have served all season on a single vessel or in a single employ, and have laid their vessels up at the end of the season, will receive a full month's extra pay.

### U. S. Lake Vessels for Ocean Service.—

With reference to some information in our last issue as to the transfer of some 80 U.S. steamships from the Great Lakes to the Atlantic coast for winter service, it is now reported that the proposals may be abandoned owing to the alleged lack of docking facilities in the St. Lawrence. As most of the vessels which it was intended to transfer, would have to be cut in two to allow of their passage through the Welland Canal, arrangements would have to be made with Canadian yards on the St. Lawrence for refitting them, which, owing to the pressure under which these yards are working, is considered impossible. The U. S. Shipping Board is reported to be endeavoring to make arrangements with Canadian yards, and if this cannot be done, it is stated that only some 20 steam tugs will be taken to the coast.

### S.S. Leebro's Work on Pacific Coast.—

Sir Jas. Loughheed stated that the s.s. *Leebro* is owned by the Crescent Shipping Co., Ltd., Victoria, and is under charter to the Marine Department at \$150 a day so long as the Department shall require her services. She has been chartered by the Department from time to time since June 3, 1908, the rate being \$135 a day until Dec. 16, 1911, when the rate was reduced by \$10 a day. From that date until Aug. 1, 1917, she was in service at \$125 a day, since when, owing to the increased cost of coal, supplies and wages, the rate has been \$150 a day. The rates referred to are for the vessel found in supplies of all kinds and cover wages of all necessary officers and crew for navigating the boat, also for fuel and provisions, and the owning company has to keep the vessel in repair.