

ft. on the upstream side is at first to be a low level wharf 13 ft. high above low water, & is to have upon it a removable shed 35 x 750 ft., & 2 railway tracks, but the plan shows no roadway. The downstream side will be a high level wharf 24 ft. high above low water, & will have upon it a permanent freight shed 80 x 600 ft., two railway tracks, & a roadway 50 ft. wide. The outer end of the pier will also be low level & will have a short ice-resisting cross wall to protect the end of the permanent shed. After other contemplated piers are built below the pier to be now built, a permanent longitudinal ice wall will be substituted for the temporary one, & it will be placed along the upstream edge of the pier, instead of 80 ft. distant. All freight shipped or landed will have to be taken over the permanent wall, but it is proposed that this side of the pier be assigned to coal traffic, as coal can be easily taken over the wall by modern appliances.

The basins between the sides of the new pier & the existing piers east & west of it will be about 400 ft. wide. The head of the basin between the new pier & the existing pier above, or west of it, will be formed by a low level shore wharf, having upon it a system of earth embankments for carrying the railway tracks & roadway leading to the pier, & for protecting them from ice shoves. The other basin, or that between the new pier & the existing pier east of it, will also have a shore wharf, but of high level & affording a site for a grain elevator of 1,000,000 bush. capacity. The elevator is to be made to resist any ice shove which may reach the inner end of the basin, by having its walls built of stone or concrete to above ice & flood level & fitted with water-tight gates.

The piers & shore wharves are intended to be built with cribwork walls up to low water level, & with substantial concrete walls from that to the top of the wharf; all the space within the outside walls of both pier & shore wharf is to be fitted up with earth & stone dredgings. The basins between the piers & the approaches from the ship channel are to be dredged out to 30 ft. depth at low water. The extent of wharf front which will be afforded by the new pier & shore wharves will be about 3,070 lineal ft.

Ontario & the Great Lakes.

The str. Queen City was put up for sale by auction in Toronto, Jan. 11, but as only \$2,000 were offered she was withdrawn.

The Calvin Co., Ltd., Garden Island, is building a schooner-rigged tow barge 200 ft. long, 40 ft. beam & 16 ft. deep.

Capt. A. W. Gillman, Superintendent of the Goderich Transportation Co., & one of the most widely-known men on the lakes, died very suddenly of apoplexy at Milwaukee Jan. 31.

The Minister of Marine states that a fog bell or other signal will be established at the light house at the eastern entrance of Toronto harbor, at the opening of navigation next spring.

The Rainy River Navigation Co., with headquarters at Rat Portage, has elected the following officers for the current year:—President & Manager, G. A. Graham; Vice-President, W. Ross; Sec.-Treas., C. C. Frisbee.

The Montreal Transportation Co. has presented Capt. J. Murray, of Kingston, with a \$250 gold watch & chain, for saving a tow of grain barges after the tug he commanded caught fire. He beached the tug at Alexandria Bay.

The U.S. Treasury Dept. has, under date of Jan. 27, issued amended rules & regulations governing the movement & anchorage of vessels & rafts in St. Mary's River, from Point Iroquois on Lake Superior to Point Detour on Lake Huron.

The Dry Dock & Steel Shipbuilding Co., of Collingwood, is said to have appointed as Manager a person who has had many years' experience in large shipyards in the U.S., & has for some years been employed in Capt. McDougall's shipyard at West Superior, Wis. His name is not given.

The Minister of Marine has promised a deputation from Rat Portage that light houses will be erected in the Lake of the Woods on Burton Island & Big Island, & it is probable a third one will be placed at the narrows between Birch & Oak Islands, & a bell buoy on the sunken rock at the south end of the lake.

Owen Sound will, it is stated, be the headquarters of a steamship line, which will compete with the Northern Navigation Co. for the Sault Ste. Marie & north shore business & Mackinaw excursion traffic. The str. City of Windsor, which has been on the route during the last two seasons, will be reinforced by two or three large steamers suitable for Mackinaw excursion business.

According to the Fort William Board of Trade report, 942 vessels entered that harbor during 1899, with a registered tonnage of 1,003,422 tons; 100,000 tons of merchandise, 235,000 tons of coal & 30,500 tons of iron were received, all showing increases over 1898. The shipments from Fort William harbor included 63,000 tons of flour & 14,715,330 bush. of wheat, 4,014,751 of which were carried in U.S. vessels.

Maitland, Rixon & Co., of Owen Sound, owners of the tug Thos. Maitland, have decided to build a barge to be used as a consort for her. The barge will be 130 ft. long, with 30 ft. beam. She will have a spoon bow, & her carrying capacity will be 10,000 ties. She will have a steel winch for loading and unloading. There will be no crew's quarters, as the Maitland's accommodation is ample. The barge will be built at Maitland, Rixon & Co.'s pier.

It is reported in Cleveland that an arrangement has been completed between the Lake Erie Transportation Co., which operates boats between Cleveland, Rondeau & Port Stanley, & the C.P.R., under which one & possibly two new steamers may be put on the line next summer, to make both day & night trips to Rondeau & Port Stanley. Connection with the C.P.R. would be made at London by way of the Lake Erie & Detroit River Ry. for the east & west.

At the annual meeting of the Northern Navigation Co. in Collingwood, Jan. 30, the old officers were re-elected as follows:—President, J. Scott; Vice-President, J. J. Long; Secretary, T. Long; Treasurer, J. E. Stephens; Managing Committee, J. J. Long, C. E. Stephens, C. Cameron, M. Burton. The directors have appointed W. Askin, heretofore General Agent of the Northwest Transportation Co. at Toronto, as Manager, to succeed A. Miscampbell. G. D. Ellis, of Barrie, has been appointed Travelling Agent.

The Ontario Department of Fisheries is said to be contemplating increasing the license payable by each fishing tug in use in provincial waters from \$25 to \$50. There are about 80 tugs that would be affected by the increase, & most of these are in operation in Georgian Bay, Lake Huron & Lake Superior. Originally the Dominion Department of Fisheries exacted a fee of \$50 in respect of fishing tugs, but the amount was reduced to \$25. Now that the Province has jurisdiction in such matters it is said it contemplates reverting to the higher figure.

In another item reference is made to the large lake freighters being built for the American S.S. Co. The record for the greatest ore cargo is now held by the Minnesota Steamship Co.'s barge Manila, which during last season took a cargo of 8,376 net tons from Two Harbors, Mich., to South Chicago,

Ill. The same Co.'s str. Malletoa carried between the same ports a cargo of 8,215 net tons, & the Rockefeller tow barge John Smeaton has a record of 8,339 net tons. It is expected that the new steamers will surpass these records during 1900.

The Canada Atlantic Transit Co.'s fleet for the coming season will be made up of the following vessels: Arthur Orr, 4,800 tons; G. N. Orr, 4,200 tons; W. H. Gratwick, 4,200 tons; Kearsarge, 4,500 tons; new boat now building, not yet named, 3,300 tons. Total gross tonnage of new fleet, 21,000 tons, as against 17,000 tons for 1899, or an excess of 4,000 tons a trip, or about 100,000 tons east-bound for the season. The steamer now being built in Toronto will be 257 ft. over all; beam moulded 43 ft.; depth moulded 25½ ft. Estimated capacity, 3,000 gross tons; engines, triple, 17.28, 46x32; 1 Scotch boiler, estimated horse power, 750.

Lieut.-Col. Lydecker, of the Corps of Engineers, U.S.A., has made a report relative to the vessel blockade during the past season in the St. Mary's River & the St. Clair Flats Canal. Navigation was twice blocked in the St. Mary's River, the total period during which general navigation was suspended being 8½ days. The first blockade was that of the Sailors' Encampment channel, Sept. 5 to 10, & in the second the upper entrance to Hay Lake channel was obstructed from Nov. 28 to Dec. 1. In the Sailors' Encampment blockade 332 vessels were delayed, & in the Hay Lake channel blockade 167 were delayed. The money loss to vessel interests by reason of these delays is estimated at \$227,373 for the Sailors' Encampment & \$142,745 for the Hay Lake channel. The St. Clair Flats Canal was blocked by a tow barge for about 1½ days, Dec. 4 to 6, the resultant money loss being about \$10,000. Col. Lydecker points out that the total money loss to vessel interests is not limited to the items of delay, but includes other incidental expenses, such as the cost of removing or repairing the wrecked or stranded vessels, & damages sustained to other vessels in endeavoring to pass outside the blockaded vessels. He therefore says the total loss to vessel interests owing to these three blockades may be conservatively estimated at \$675,000.

It is likely that strong attempts will be made at the present Congress of the U.S. to have several additions made to the force of revenue steamers for duty on the Great Lakes. Under the terms of the treaty with Great Britain but a single warship can be maintained on the lakes by the U.S., but the Marine Record believes that the construction of revenue vessels will not be held to be a contravention of the treaty. Plans for the new revenue cutter authorized last year for service on the lakes have been accepted; she will be of the finest type of craft on fresh water, if not afloat, & will cost \$165,000. The length over all is to be 178 ft.; moulded beam, 30 ft.; depth, 15 ft. amidships. The keel is of the flat type, made of plates 14 lbs. to the sq. ft., double thickness and riveted together. Above the main deck the steel will average 10 lbs. to the sq. ft., & the double plates & extra heavy steel construction of frame will make the cutter a formidable little craft if necessary for any active service. The main engine will be vertical, triple expansion, direct acting, with cylinders 17, 27 & 43 in. in diam., and a 24 in. stroke. There will be 2 single-ended boilers capable of carrying a working pressure of 160 lbs. All of the mechanism is to be of the latest design, & so arranged as to give the maximum power with the minimum space utilization. The pilot & chart houses, located directly abaft the foremast, are to be made of steel, & the steering gear will be worked by steam power from both the pilot house & the bridge, with hand gear & other connections in case of accident.