

weighing over 2,000 lbs., or timbers over 35 ft. in length, will be carried only under special arrangement; powder & high explosives, calcium carbide, acids, gasoline & naphtha, will be carried only under special engagement; on all freight of a perishable nature charges must be prepaid in full; on & after Aug. 20, 1900, shipments will only be accepted at owners' risk of delivery during 1900, & the carriers must be fully released from all liability arising out of or occasioned by non-delivery during 1900."

Of the parties to the foregoing agreement, the C.P.N. Co. will this season operate on the northern route, the steamers Amur, Tees & Danube; the White Pass & Yukon route, bring into the agreement the Pacific & Arctic Ry. & Navigation Co., the B.C. Yukon Ry. Co. & the British Yukon M. T. & T. Co., operating the White Pass & Yukon Ry. between Skagway & White Horse Rapids; the Canadian Development Co. is to operate this year the six steamers Columbian, Canadian, Victorian, Australian, Bailey & Anglian.

A Victoria despatch of Mar. 21 says:—A combine was to-day completed by the C.P.R. Co., the White Pass & Yukon Railway Co., & the John Irving Navigation Co., to control the Atlin transportation business during the present season. The through freight rate has been fixed at \$97 a ton on general merchandise, less than 5 ton lots, or \$87 for larger shipments, while the mining machinery rate is \$67, with a limit of measurement.

Port Colborne Harbor Improvements.

The works for improving the Port Colborne entrance of the Welland Canal, for which tenders were recently invited by the Dominion Department of Public Works, comprise the removal of the present side slopes & walls of the Port Colborne basin where directed, & the construction of docking formed by sinking crib work & building upon it a concrete wall with stone filling in rear of it. On the west side the docking will extend from the existing crib work near the supply weir to the Ferry crib, & on the east side from the existing crib work south of the new lock southwards, for a distance to be determined. Cleaning up also of the bottom of the basin & entrance for its entire length & width from the locks to the south end of the west pier, to a depth of 15 ft. near the locks to 16 ft. at the south end of the basin, when there is 14 ft. of water upon the south mitre sill of the new lock, & to a depth of 16 ft. of water at that stage of water from the south end of the basin to near the south end of the west pier, where the excavation will be taken to a greater depth. A strip of rock adjoining the west pier on its east side is to be removed so as to continue the line of the face of the west pier down to the level above stated for the bottom of the entrance at this point. From a line drawn across the entrance from the south end of the west pier to the fourth detached block outwards as far as directed, & in an easterly & westerly direction generally, the rock, or whatever the material may be, is to be removed to the extent necessary to afford a depth of 22 ft. of water when there is 14 ft. of water upon the south mitre sill of the new lock. The west pier is to be extended both southerly & westerly for about 600 ft. in each direction by sinking cribs & building upon them a concrete superstructure. W. G. Thompson, M. Inst. C.E., is the Superintending Engineer.

Richelleu & Ontario Navigation Co.

A. Nuller, of Winchenden, Mass., has been appointed Manager of the Manoir Richelleu, the hotel the Co. is building at Murray Bay. He was formerly in charge of the Algonquin Hotel, St. Andrews, N.B.

It is announced that the Co has given an order to build a sister steamer to the Toronto, for the Toronto-Prescott run, that she will be 14 ft. longer than the Toronto, will have 208 state rooms, will be ready by June 1, 1901, & will be called the Kingston.

The directors have appointed the following captains for the season of 1900:—The Quebec, L. O. Boucher; the Montreal, L. St. Louis; the Three Rivers, F. St. Louis; the Berthier, C. Gouin; the Laprairie, P. McLean; the Longueuil, T. Jodin; the Saguenay, C. Lapierre; the Canada, J. Dugal; the Carolina, G. Riverin; the Toronto, H. Esford; the Hamilton, A. J. Baker; the Corsican, J. McGrath; the Algerian, D. F. Mills; the Chambly, G. E. Paulet; the Hochelaga, H. Mandeville; the Sorel, A. Berthiaume; the Spartan, H. Grange; the Bohemian, A. Dunlop. The captains of the Terrebonne, Cultivateur, Caspian, Columbian, Riviere du Loup, & Island Queen will be appointed later.

Steamer Signals for Great Lakes.

At the annual meeting of the U.S. Board of Supervising Inspectors of Steam Vessels held in Washington recently, some changes were made in the code of signals between deck & engine room, on steamers of the great lakes. This code was last winter made the subject of extended correspondence between the Supervising Inspector-General & Pickands, Mather & Co., of Cleveland, who control a very large fleet of steam vessels on the lakes. The special point of interest in this correspondence was the so-called strong backing signal, which according to the code was 1 long whistle or 4 bells. But it was pointed out that this signal was ignored & that on nearly all vessels the 2-whistle signal was used when it was desired to back strong. As a result of this discussion the board has provided a new code of signals & here they are side by side with the old code:

NEW CODE.

1 whistle or 1 bell.....Go ahead.
1 whistle or 1 bell.....Stop.
2 whistles or 2 bells.....Back.
4 whistles or 4 bells.....Strong.
4 whistles or 4 bells.....All right.
Two whistles or two bells shall always mean back, irrespective of other signals previously given.

OLD CODE.

1 whistle or bell.....Go ahead.
1 whistle or bell.....Stop.
2 whistles or bells.....Back.
3 whistles or bells.....Check.
1 long whistle or 4 bells.....Strong.
1 long whistle or 4 bells.....All right.
Two whistles or two bells, when the engine is working ahead, will always be a signal to stop & back strong.

In regard to search lights it was resolved by the board that masters, mates & pilots of all vessels be required to exercise due caution in the use of same so as not to throw the rays of the light into the pilot house of passing steamers.

Manufacturers of boiler tubes will hereafter be required to furnish copies of reports of physical tests of every order for tubes to be used in marine boilers, to the boiler maker using the same, & a similar copy to the Supervising Inspector-General, to be filed in his office. No connection between the shell of the boiler & mud drum exceeding 6 ins. in diameter will hereafter be allowed.

Another new rule provides that each steam vessel applying for inspection on & after July 1, 1900, shall be fitted with a bilge pipe connecting by a suitably marked valve with the main bilge pump in the engine room, & each compartment of all steam vessels shall be fitted with a suitable sounding pipe. It is also provided that all double-ended ferry steamers & steamers similarly constructed shall have a

steam whistle both fore & aft of the smoke pipe; or if only one whistle is used, said whistle shall be placed on the side of the smoke pipe, so that the steam, when the whistle is blown, can be seen from either end of the steamer.

Department of Marine Report.

The annual report of the marine branch of the Department of Marine & Fisheries for the year ended June 30, 1899, has been issued. The total expenditure was \$1,020,259.08 against \$782,911.74 for the previous year. In the outside service of the branch 1,907 persons are employed. The expenditure for maintenance of lighthouse & coast service was \$472,751.93, construction \$64,705.63; total \$537,457.56.

The extended coast line of Canada, & numerous bays, inlets, rivers, lakes, harbors & other navigable waters require a large number of buoys, which are maintained at an average cost of \$55 a year. For the year ended June 30, 1899, the service cost \$78,176.93. It is said that the cost of this service is increased in years when new contracts are given for steel signal & other coast buoys. The Chief Engineer points out that the Department has been substituting steel coast buoys for wooden buoys, with favorable results. The districts now buoyed, in all parts of the Dominion, number over 300 & the buoys number over 3,000. A large number of whistling, bell & other iron buoys are maintained along the coasts of the several provinces by Dominion steamers, particularly Nova Scotia, New Brunswick & British Columbia. The cost of this maintenance by the steamers is not charged directly to the buoy service, but is included in the cost of maintenance of steamers which frequently perform the double duty of attending to lighthouses & the coast buoy service on the same trip. In addition to the buoys for marking dangers there are 11 gas buoys below Quebec & 1 spare buoy, also gas works & supply tanks, etc. Two gas buoys are maintained in Pelee Passage, Lake Erie, & 3 in Parry Sound, Ont. The contract for maintaining the buoys & beacons between Montreal & Quebec in the ship channel was cancelled in the spring of 1899. The steam barge Shamrock, which was built for the work by the late contractor, was purchased & officers were appointed who are immediately under instructions from the Department in carrying out the work of buoying the channel. The buoys were increased in number & various changes & improvements were made. Eighteen large steel conical top & ten 3-ft. iron can buoys were constructed & placed in position by the Shamrock. In addition, a number of heavy spar buoys were prepared & put in the ship channel at various points. Several new beacons were erected & old ones improved. Contracts were entered into for the following steel buoys during the year, viz.: 3 bell buoys, 2 whistling buoys, 2 conical buoys & seven can buoys for New Brunswick; 4 whistling buoys, 3 bell buoys, 5 conical buoys & 4 can buoys for Nova Scotia; 4 conical buoys for Quebec, & 6 conical buoys for British Columbia.

The following description is given of the new steamships built for the Department: The Minto is an iron steamer 225 ft. long, breadth, 32 ft. 6 ins., and depth 20 ft. 6 ins.; gross tonnage 1,089, net tonnage 371; indicated h.p. 2,900 and nominal h.p. 216. She is commanded by Capt. A. Finlayson & has a crew of 35 in all. She was built for the winter service between Prince Edward Island & the Mainland. The Stanley has been upon the route in winter since 1887, & a careful examination of her hull showed that it would not be prudent to depend entirely upon her to continue the winter service. Tenders were invited for a new steamer in Great Brit-