Official Evidence on the Hudson Bay Route.

W. A. Bowden, B.A.Sc., M.Can.Soc.C.E., Chief Engineer, Railways and Canals Department, Ottawa, appeared before the Dominion's Royal Commission in Ottawa recently and in response to questions by some of the commissioners gave evidence, of which the following is a summary:—

The project is designed to connect the western provinces with Europe by the most direct route. The railway makes connection with a Canadian Northern branch at Pas, Man., and runs in a direct line northeasterly to Port Nelson, at the mouth of the Nelson River. It will be 425 miles long. Track has been laid to mileage 332, where a delay results from the necessity for the construction of a rather large bridge over the Nelson River. Grading is nearly completed between the end of track and Port Nelson.

The mouth of the Nelson River is a typical estuary. The site of the terminals is about 15 miles upstream from deep water of the bay proper, and about 7 miles below the limit of tide action in the river. The range of tides is from 11 ft. at neaps to 16 ft. as extreme of ordinary spring tides. There is a deep water natural channel extending up the middle of the estuary, in which a depth of 20 ft. exists near the site of the development and a greater depth is available for the remainder of the distance to the bay. It is intended to provide a depth of 30 ft. in the immediate neighborhood of the wharves, and allow the 20 ft. to remain as the limiting depth at low tide, in the approach channel. Vessels drawing more than 20 ft. would await a suitable stage of the tide for entering or leaving. The wharves are being built near the deep water channel and are connected with the shore by a steel bridge. The cost of the enterprise is not exceeding the estimates made before construction was commenced, which were, for the railway $16,000,000, and for the harbor works and terminus at Port Nelson, including a grai nelevator, $11,000,000.

Development of the route was undertaken primarily for the transportation of grain. Neglecting all other considerations than geographical position a saving would be possible of the cost of transporting grain from the head of the Great Lakes to Montreal, for which rates vary from about 5c to 12c a bushel in different seasons of the year. Port Nelson is as near to the centres of grain production as is Fort William, and is as near to Liverpool as is Montreal. It will not be possible to give the shipper the full benefit of this saving of the haul from Fort William to Montreal, owing to the effect upon costs of the short traffic season by the Hudson Bay route, and to the special difficulties inherent to the marine end of the enterprise. Nor can it be expected that the route will have any material effect upon grain rates in general, owing to the fact that its capacity is limited. Its advantage will lie in the circumstance that while the season of operation will be short it will approximate fairly well to the most desirable period of the year. Further, in so far as the route will add to existing facilities at all, it will become an "enlargement of the spout" for the ultimate disposal of the grain, and not merely an additional channel for the conveyance of grain to an already congested seaboard.

It was formerly thought that the season of navigation opened in June or early in July. Our experience has shown that June is out of the question and also the greater part of July. The date when navigation would close was not stated definitely in early discussions. We have sent out tramp steamers as late as Oct. 23 without accident. A government survey vessel which was especially constructed for navigation in ice came out once on Nov. 1, but she reported having encountered ice which would have damaged an ordinary tramp. The close of navigation under present conditions results from the arrival at the western entrance of Hudson Strait of the Fox Channel ice. This ice starts down from the north during the summer, and the loose strings which precede the main floe usually arrive between Mansel and Coats Island about the middle of October. These strings may cause a slight delay, but are then a serious menace to navigation, as vessels may either pass around them or pass in through in a few hours. Later, heavier strings arrive. In the interest of safety we have had to act on the assumption that these block the whole western entrance of the strait, which would effectually stop navigation. We have no positive evidence on this subject. Extended observation may reveal that for some considerable further period the conditions are not insurmountable with suitable aids to navigation, such, for instance, as a wireless station at the north end of Mansel Isalnd, through which vessels could be advised of the results of observation by aeroplane as to the position of ice and open water. Such a course would be quite practicable, as the critical area is of very limited extent. Hudson Bay ice has in some seasons a bearing on the question of the date of opening navigation, but is not a factor in the matter of closing naviga-

While the grain trade was the prime motive, the possibilities of developing other traffic are not negligible. There is great promise of mining development in the territory tributary to the railway. In the Grass River region there are some good agricultural lands, but in general the country is of a muskeg character and perhaps not easily drained; while in the neighborhood of the bay the climate is probably too cold for profitable cultivation. The soil throughout is very rich. Something may be done in the export of live stock, the short route having a distinct advantage for this trade. The Hudson Bay fisheries are reported to be valuable, and will no doubt furnish some traffic. There is sufficient timber for local use in the region, but probably insufficient for the development of an export trade. Westbound imports would be coal and general merchandise.

The shipping season would cover the months of August, September and October, with the possibility of extension at the latter end, but with little hope for improvement in the opening date. The grain which would be shipped out in August would be from the crop of the preceding year, of which there is always some available at that season. During two months shipments would be made of the new crop. No arrangements were made to ensure a steamship service before commencing construction, and in my opinion none should have been made. Such arrangements would have been based upon the assumption of the worst possible conditions that might then have been anticipated, and which will probably never occur.

It is improbable that for a few years tramp steamers would utilize the route without special inducements. Nor can we hope for a just and reasonable arrangement with vessel owners for the provision of a regular line of steamers at the inception of operation. The best interests of the country, and of the route, require that, for a few years at least, vessels owned or chartered by the government should be put on and operated by the government. With these vessels the feasibility of the route could be demonstrated, after which it might be left to stand on its own merits. At any rate information would be available to form a sound basis for negotiations for further service. The trade will take some time to work up, particularly with respect to that westbound. Provision for the handling of 5,000,000 or 6,000,000 bushels of grain would probably best meet requirements at the outset. The ultimate capacity of the route would be that of the single track railway, about 50,000,000 bushels.

Our experience with respect to insurance is characteristic of the difficulties which must be overcome. In 1913 the insurance rates on vessels and cargoes for Port Nelson were guessed at, and were very high. That year two vessels were lost at the mouth of the Nelson River under circumstances which had no bearing upon merits or demerits of the route. The result, however, was that rates proposed for the following year were prohibitive, and we have operated during the past three seasons without insurance. During this time we have not met with a single accident, although in one of the seasons 38 passages through Hudson Strait were made.

The European & North American Ry.— The name of which is still maintained by a separate corporation in the state of Maine, extended from Bangor, Me., via St. John, N.B., to Shediac, N.B. The portion of the line in Maine is leased to the Maine Central Rd., while part of the Canadian section was taken over by the Canadian Government and utilized in the building of the Intercolonial Ry., and the remainder ultimately passed into C.P.R. control. The section of the line from Moncton to Shediac, 17 miles, was opened for traffic, Aug. 20, 1857, and was ultimately extended to Pointe du Chene, which was made the station for the summer steamship traffic to Prince Edward Island. A large amount of money was spent at Shediac for machine shops, deep water terminal, etc. The principal commercial business and shipping traffic, which hitherto had been conducted at Shediac Cape, nearly three miles distant, were transferred to Shediac and Point du Chene, two miles east. Later the machine shops were burned and reconstructed at Moncton, which then became the headquartesr of the system under the government ownership.

H. A. Woods, who has retired from the position of Assistant Chief Engineer, Grand Trunk Pacific Ry., and who has been on Canadian Railway and Marine World's subscription list since coming to Canada some years ago, writes from paper to be forwarded to him at that address, and says: "I shall want to keep in touch with railway matters in Canada, and I know of no better way than through your journal."

The G.T.R. has moved its San Francisco, Cal., passenger office to Monadnock Arcade, 681 Market St., from 687 Market St.