

country extending west, the Chairman says it is now known to be most inviting. The districts between Clear Lake, in Quebec, and Moncton, are most valuable, and should be opened up by railway communication. Arrangements to secure uniform specifications in the eastern and western divisions of the railway have been approved. It has been asserted that there are almost insuperable physical difficulties in the way of constructing a direct line between Moncton and Levis, but the route, as the surveys show, runs all the way through valuable country, part of which is settled and the remainder most desirable for settlement. The opening up of this stretch will be of great advantage to the country. The probable length of this line, if the cross-country route in New Brunswick is adopted, will be shorter than the I.C.R., but how much shorter the commission cannot say until location surveys are completed. Using the same gradients as the I.C.R., a saving of at least 90 miles would be effected, and nearly as much by the river route. The same motive power that would haul 660 tons on the Intercolonial would by the new line haul 1,260 tons going east and 990 tons going west.

Taking the workings of the two railways, and supposing that 10 daily freight trains are run each way, in 313 working days on the I.C.R. there will be 4,131,660 pay tons of freight carried, costing \$3,160,711. On the Transcontinental the same business would be done for \$1,782,518; in other words, the commissioners claim that the saving by means of the Transcontinental, with its lower gradients and curves, would be \$1,237,192, which, capitalized at 4% per year, would be equivalent to over \$30,000,000. Giving the Transcontinental 10 fully loaded trains per day of its own, the saving capitalized would represent \$54,000,000, and if the gradients are increased to the I.C.R. standard of 1%, the distance will be reduced on the Transcontinental to 403 miles from Moncton to Levis. These calculations are all made on the line through the centre of New Brunswick. With the distance reduced to 403 miles there will be a saving of \$448,937 a year, as against the I.C.R., which, capitalized, would represent \$13,723,438.

It has been suggested that the I.C.R. should be utilized for the eastern section of the line, but the commissioners consider, from information obtainable, if it were attempted to lower the gradients of the I.C.R. to the standards secured for the Transcontinental, the distance from Levis to Moncton would be increased by considerably over 100 miles, and a large section of valuable country left unopened. There are two points on the stretch from Levis to Moncton where it may be found desirable to put in pusher grades of 1%. If this is decided on a further shortening of 25 miles can be secured.

"We cannot estimate accurately," says Mr. Wade, "the cost of the proposed line from Moncton to Chaudiere (Levis), but think it will not exceed \$33,000 a mile, and we hope to very considerably reduce this estimate. We have expended up to the end of March \$440,000, and we have liabilities of \$175,761. For the ensuing year we estimate that we will require sums of \$1,328,500 to carry on our work. We hope to be in a position to call for tenders early this autumn. In this case we deem it desirable that \$3,000,000 should be voted on account of possible payments to contractors."

Chief Engineer Lumsden reports that gradients of 4% eastbound and of 6% westbound with maximum curvatures of 4° are obtainable except in a few places, where 6° curves may be needed. In no case will the curvature be in excess of 6°. The river route is surveyed to measure 333 miles, whereas what is known as the back route is 316 miles, a distance of 17 miles in favor of

the latter. Bridges and curvatures on the back line are comparatively few and small in number. From Grand Falls to Quebec they are small in size and number.

District Engineer Doucet found that a first-class line could be had from the Quebec boundary near Edmundston to Quebec bridge, and from the latter westerly via Batiscan, La Tuque and St. Maurice Rivers to Waymantachane, a distance of 432 miles. In no case will the gradients on eastbound traffic exceed 4% and on westbound 6%, with very few cases of the latter. The maximum curvatures of 6° will only be called into requisition in a few places. The average cost of this stretch from Edmundston to Waymantachane will not exceed \$30,000 a mile.

The distance from Moncton to St. Chrysostome is 493½ miles by the I.C.R. The distance between the same points by the Transcontinental is 504 miles. Final location surveys will, however, shorten this latter distance by 18 miles, making the distance from Moncton to St. Chrysostome 486 miles. The estimated shortening from preliminary surveys, using 1% gradients both ways, is 100 miles, which would make the distance 403 miles. The I.C.R. with 1% gradients can haul 22 cars, equal to 660 tons net pay load, whereas the Transcontinental could carry 42 cars eastbound, giving 1,260 tons net pay load, and westbound 33 cars, giving 990 tons net pay load.

Assistant Chief Engineer Butler gives the cost per ton on the respective lines as follows: I.C.R., Moncton to St. Chrysostome, 73c.; Transcontinental Ry., Moncton to St. Chrysostome, 59 7-10c., using a 1% gradient, or 43c. using the minimum gradients obtainable.

Speaking of the region between Clear Lake, Quebec, and the Ontario boundary, Chief Engineer Lumsden says that the country is dotted with numerous lakes, the lands being timbered with spruce, cypress, birch, poplar, small tamarac and cedar. It will be some time before it can be decided whether the line north or south of Lake Abitibi will prove more advantageous. The reports so far indicate that the north line will be found more advantageous as to cost of construction, the nature of country traversed and its suitability for settlement. The country between Winnipeg and Lake Nipigon contains enough timber to supply the whole of this section, and, in addition, the branch to Lake Superior. It consists principally of rocky knolls intersected with numerous lakes. —Ottawa Correspondence Toronto Globe.

#### Grand Trunk Pacific Ry.

The Ontario Legislature at its recent session passed an act declaring that the corporation of Fort William had power to enter into an agreement with the G.T. Pacific Ry., respecting the location of the Lake Superior terminals of the company on Mission Island there, and to provide for the raising of \$300,000 by debentures, to provide for the payment of the bonus agreed upon. The act also declares that the 1,600 acres of the present Indian reserve on Mission Island, acquired for the terminals, and any other contiguous land acquired for the same purposes, shall form part of the town of Port William. The land mentioned will form the headquarters of the company on Lake Superior of the line to be constructed to connect with the Eastern Division from Moncton, N.B., to Winnipeg, to be constructed by the Transcontinental Railway Commissioners. According to a sketch map published by the Fort William Board of Trade, the terminals will extend from opposite the Canadian Northern Ry. coal docks on the Kaministiquia River to the lake front at the mouth of Mission River. The area in the bend of the Mission River will be re-

served for elevators, docks, and a turning basin for vessels. The round-house will be near the elevators, while on the lake front there will be the coal dock, and just inside the river the oil tanks. Along the Kaministiquia banks will be located the freight and passenger stations, repair shops, etc., and adjoining will be freight and passenger docks for steamers.

While the Board of Trade publishes this sketch, the company has not prepared what may be regarded as final plans. The construction of the branch northerly from Fort William, according to statements of a more or less official character, is to be started in July, and there will be a ceremony of some kind to inaugurate the work. Up to the time of writing no announcement had been made of the letting of any contract for the work.

Plans for the location of the Pacific Coast terminal on Kaiwin Island, B.C., have been approved of by the Minister of Railways and Canals. The terminals will be situated to the south-west of Port Simpson, and will be on part of the Indian reserve. A formal application will be made to the Railway Commission to expropriate the lands required for this point, at the same time that the application to expropriate Mission Island property at Fort William will be made.

#### Canadian Northern Ry. Construction.

The C.N.R. tracklaying gang reached Battleford, Sask., May 16, upon the main line from Winnipeg, which is being pushed through to Edmonton, Alta. The place will be made a divisional headquarters.

In connection with the erection of a new station at Port Arthur, Ont., it is announced that the plans, which are being prepared by Mr. Pratt, the company's architect in Winnipeg, will be ready early in June. The question of the Government yard, which has been in an unsettled state for some years, has been disposed of by the Ontario Government. In exchange for 200 ft. of water frontage for local purposes, the C.N.R. interests obtain 300 ft. on Cumberland St., for use for hotel purposes. The C.P.R. obtains a strip of North Water St., in exchange for running rights over two tracks of railway, and Port Arthur receives the land facing on Arthur and Cumberland streets for municipal buildings.

The Canadian General Electric Co.'s capital has been increased from \$3,000,000 to \$5,000,000, by supplementary letters patent under the Dominion Companies' Act.

The C.P.R. will commence running the Imperial Limited on June 4, making the trip from Montreal to Vancouver, B.C., in 4½ days. This will give a double daily service each way.

The Canadian Westinghouse Co. has prepared plans for doubling the size of its foundry building at the new works at Hamilton, and it is expected will proceed with the work during the summer.

The C.P.R. has organized a school of telegraphy and shorthand at Winnipeg for junior members of its staff, who desire to improve their positions. A similar school has been successfully established at Montreal.

The Canadian General Electric Co. has issued section 3 of its supply catalogue. This section deals with construction material of all kinds. It has also issued bulletin 836, descriptive of its Thompson Type 1 induction meter.

The B.C. General Contract Co., of which G. H. Webster, formerly Division Engineer C.P.R. at Vancouver, is President and Engineer, has secured a contract in connection with the irrigation canal works being carried out in Alberta by the C.P.R.