

standard by the Great Northern Ry. Co., U. S. A., to which the ownership of the line will be transferred in the near future. (July, pg. 198.)

Great Northern Ry. of Canada.—A meeting was called to be held in Quebec, July 17, to authorize construction of extensions to this railway from Grand Mere or Garneau Jct. to the Quebec and Lake St. John Ry., in the County of Port Neuf or the County of Quebec, and from Hawkesbury to South Indian, Ont.

Great Northern Ry., U.S.—The Washington and Great Northern Ry. Co., a subsidiary of the G.N.R., has been incorporated to build a line from Marcus, Wash., at the junction of the Columbia and Kettle rivers, on the line of the Spokane Falls and Northern Ry., to Republic, Wash. Although the distance between these two points is less than 45 miles, 83 miles of line will be built, so difficult is the country through which the line passes. A connection will be made at Republic with the Grand Forks and Kettle River Ry. Co. (See pg. 227.)

The Railway Committee of the Privy Council has issued a formal order permitting the Red Mountain Ry., a subsidiary of the G.N.R., to join its tracks to the tracks of the Columbia and Western Ry. Co., upon the mining property known as the Pack Train, formerly the Legal Tender, as well as upon the Center Star and other mining properties in Rossland, B.C., subject to certain conditions as to tolls and arrangements with respect to traffic.

It is reported from St. Paul, Minn., that the organization of the Montana and Great Northern Ry. Co. has been completed, the incorporators being J. J. Hill, T. T. Sawyer, of St. Paul, Minn., G. T. Gross and L. P. Veasey, of Montana. The Co. proposes to construct a line from Jennings, Mont., on the G.N.R. to the Canadian boundary, and thence to the Crow's Nest country. (See Crow's Nest Southern Ry., pg. 227.)

The G.N.R. branch which crosses the International boundary at Blaine, Wash., and terminates at Brownsville, B.C., on the south side of the Fraser River, opposite the penitentiary, will, it is said, be extended to the ferry at South Westminster.

Halifax and Yarmouth Ry.—The Dominion Securities Co., with offices in New York, has, through W. S. Webb, President of the Cape Breton Ry. Extension Co., submitted an offer to the Nova Scotia Government to construct this line for a Provincial subsidy of \$10,000 a mile, and a Dominion subsidy of \$3,200 a mile. The Co. proposed to purchase the interests of Messrs. Brill and Fletcher, who are owners of the portion of the line from Yarmouth to Barrington already completed, the price mentioned being \$1,000,000.

D. D. Mann, of Mackenzie, Mann & Co., Toronto, and H. Donkin have recently had an interview with Premier Murray of Nova Scotia in regard to this line, and we have reason to believe that they have made a contract with the Government, under which they will take over the Yarmouth-Barrington line and continue it to Halifax.

R. G. Hervey, of Boston, one of the promoters of the Nova Scotia Southern Ry., was in Yarmouth recently, and said he would have an important part in the building of the H. & Y. R. (June, pg. 173.)

Intercolonial Ry.—Considerable work will be done along the road during this season. Several additional bridges are to be strengthened so as to make them strong enough to stand the weight of the new engines and the heavier trains they will draw. New ties will be put in and considerable ballasting done all along the line.

Following the recent inspection of the yards and terminal facilities at Halifax by C. Schreiber, Deputy Minister of Railways, D. Pottinger, General Manager, E. G. Russell, Manager, and E. T. Horne, Manager's Assistant, it is announced that a comprehensive

plan for improvements has been decided upon. The improvements, for which plans are being prepared, involve an expenditure of over \$200,000, and include an almost entire new track system from North St. to a point several hundred yards beyond Richmond. The freight tracks will be removed entirely from the tracks over which the passenger trains run, and will be so arranged that it will be possible for five shunting engines to work at the same time between Richmond and the deep water pier, and that the handling of freight at one wharf will be done independently of the other. The line will be double tracked for a considerable distance from the present round-house, a beginning of the double tracking contemplated between Halifax and Truro. It is proposed to erect a new round-house opposite Mulgrave Park.

At the Truro yard two additional side tracks are being laid, and the platform at the east end of the passenger station is being extended. The old express office building will be moved nearer the Esplanade in order to allow one of the new tracks to be laid.

The site for the new station at Sydney has been selected at the foot of Ferry St. near the bridge. It is not expected that work on the building will begin until the autumn. The present freight shed will be moved in order to make room for the new yard.

Manager Russell, replying to a question recently, said that it was not at present proposed to double track the line in the vicinity of Sydney, but by a system of sidings, which will be built, the efficiency of the road in handling the very much increased volume of traffic, owing to the development of the Cape Breton coal and iron industries, will be very much added to.

It is proposed to make considerable extensions and improvements in the yards at St. John. E. T. Horne, Manager's Assistant, has just made an inspection and will embody his recommendations in a general report. A few changes will be made at the Government pier; a new 16-stall engine-house, capable of having the accommodation increased to 24, will be erected, and the yard will be re-arranged so as to permit of greater facility in handling trains.

The new freight shed at St. John has been completed and is in use. The old shed will be repaired and the freight staff will be located at the western end.

Tenders have been received for an extension of the freight sheds at Campbellton, for the erection of a freight shed and the remodeling of the station at St. Pierre, and for the building of a freight shed at St. Francois.

The new wharf at Father Point has been completed, and trains can now be brought alongside ocean steamers.

The Interprovincial Bridge, extending from Nepean Point, Ottawa, across the Ottawa River to Hull; was illustrated in our June issue. The main bridge is 1,437 ft. long, having a cantilever span of 556 ft., two arm spans of 247 ft., one truss of 247 ft., and one truss of 140 ft. The cantilever span is the longest in the Dominion, and only a few others exist which are longer. These spans rest on piers built on bed rock, and composed of concrete placed within bottomless caissons to within 2 ft. of low water level, and from that point up of first class masonry. Pier no. 2 (the second from Nepean Point) is 100 ft. high, 70 ft. of concrete and 30 ft. of masonry, making one of the highest concrete piers built in this manner in America, and as far as known the only one in the world that has been successfully tested by a diamond drill from the top to the bottom, producing satisfactory core. A heavy deposit of sawdust had to be removed to place the foundation at each of the piers, in some cases reaching a depth of over 20 ft. By test borings sawdust and slabs were found to be under the main span to a depth of 60 ft. with 20 ft. of water over this. The north ap-

proach in the Province of Quebec is upwards of half a mile long, being composed of heavy steel and timber trestle, the former resting on concrete superstructures, and crossing over seven streets in Hull by heavy steel bridges resting on concrete abutments. The south approach from the end of the bridge to the central station, Ottawa, is over half a mile in length, and is for the most part cut out of solid rock, and has an outside retaining wall for the entire length built of heavy masonry, in some places being 50 ft. high. In this length are included two structures built of heavy steel for three tracks of railways, one bridge carrying the railway over the waggon road which leads from the bridge to the city, and the other being a steel trestle 300 ft. long, and in places upwards of 60 ft. high, carrying the railway over a government road. The main bridge is 65 ft. wide, having one steam track in the centre and foot passenger, electric tracks and roadway for vehicles, etc., at each side, the waggon road portion having the approaches to each side laid out in such a manner that vehicles and pedestrians do not have to cross the steam railway tracks. Work was commenced on the bridge in Feb. 1898, the first locomotive crossed over in Dec., 1900, and the first passenger train on April 22, 1901. H. J. Beemer was contractor for the entire work. A very satisfactory test of the bridge was made on April 19, by loading it with four locomotives and 10 cars loaded with steel rails and stone, giving a total weight of between 450 and 500 tons, the deflection on the cantilever span being about 2 inches both in dead and running load. G. C. Dunn, Chief Engineer of the Pontiac Pacific Jct. Ry., and of the Ontario, Northern and Western Ry., was also Chief Engineer for the bridge, it being built by those companies jointly. Steel poles and brackets are being erected on the approaches and structures, and wire is being strung for electric cars. (June, pg. 171.)

Inverness and Richmond Ry.—Prior to the opening of the 56½ miles between Hastings and Broad Cove, the line was inspected by Provincial Engineer M. Murphy, and passed for service. The first regular train left Broad Cove at 5.45 a.m. June 15, for Port Hastings. D. D. Mann went over the road on a special during the day. A round-house and a machine shop are being erected at Broad Cove, where it is expected the general offices of the line will be located, as the coal mines, for the opening up of which the line was constructed, are situated there. At Hastings the Co. has expropriated 15 acres of land for a railway yard and a pier. Plans for the pier have been prepared, and construction will be commenced at an early date. The extension of the line between Hastings and Point Tupper is being pushed forward, and it is expected that it will be completed in Sept. Angus Sinclair is manager of construction. (June, pg. 174.)

The Irondale, Bancroft and Ottawa Ry. is in operation from Grand Trunk Jct. to Bancroft, 50 miles. The Co. has a subsidy from the Ontario Government of \$3,200 a mile for an extension of 15 miles from the present terminus to near Fort Stewart. No Dominion subsidy has been granted for this portion, but it is said an endeavor may be made to obtain one next session. The Toronto, Lindsay and Pembroke Ry. has a Dominion grant covering the country between the terminus of the I. B. and O. and Golden Lake, the junction of the Canada Atlantic and the Pembroke and Southern Ry. (See pg. 233.) It is said that the I. B. and O. R., the T. L. and P. R. may be merged with a view to the operation of a through line from Grand Trunk Jct. to Golden Lake.

James Bay Ry.—The contractors for the 5 miles of line to connect the Canada Atlantic Ry. with Parry Sound are Johnston and Beveridge, of Ottawa. It is said the work will be completed this year. Mr. Wicksteed is engineer in charge.