

Railways, under the act granting aid for the construction of certain railways and bridges, for the erection of a bridge across the Saskatchewan river, to connect the line now terminating in Strathecona, with the city of Edmonton, Alta. The construction of this bridge has been going on for some time.

Laggan to Lake Louise, B.C.—The Board of Railway Commissioners has authorized the opening for traffic of the branch line from Laggan to Lake Louise.

Galloway to Waldo Branch.—The Board of Railway Commissioners has authorized the opening for traffic of the final section of this branch, from Caithness to Waldo, B.C. This branch starts from Galloway, on the Crowsnest pass line, and runs into the coal fields at Waldo, near Elko, B.C.

Calgary to Vancouver Second Track.—Press reports have been busy for some time with regard to the surveys being made for the building of a second track from Calgary to Vancouver. The latest is that the work will include the driving of a tunnel from Bear creek, east of the Selkirk summit, to a point east of Glacier station, a distance of eight miles, at a cost of \$1,500,000 a mile, and that the tunnel will have a gradient of 1% except for a short distance in the centre where the gradient will be 2%. The same report also states that plans are being prepared for a duplicate of the spiral tunnel at the big hill between Laggan and Field. These are mere rumors, as before anything is decided upon, every possible plan will be investigated.

We are officially advised that a second track is to be built from Ruby creek to Hammond, B.C., 57 miles. The contract for this work is reported to have been let to Grant Smith & Co., Seattle, Wash.

We are officially advised that the first section of the second track work east of Vancouver covers from mileage 106.8 at Hammond pit to mileage 128.7 at the eastern end of Vancouver yards, through which there is already a second track. There are no particular engineering features on this piece of work. Along Burrard inlet, between mileage 110.0 and 128.7, the line originally followed the shore. In making the second track the line has been straightened as much as possible, and the engineers have succeeded in cutting out approximately 225 degrees of curvature in 10 miles. Excavations have been hard pan and cemented gravel, slopes of which have been left practically as rock cuts. A few old slides have been struck, but by draining the land back of the railway it has been possible to stop any movements. With the exception of the bridge across the Pitt river, the bridge work on the section has been of minor importance. Grading is practically complete, steel laying is being proceeded with, and the line is being rock ballasted. It is expected that the work will be completed within three months.

Press reports state that the substructure of the Pitt river bridge is being put in, and that a contract for the superstructure has been let to the Dominion Bridge Co.

H. Vindal, Division Engineer, Vancouver, has charge of the second track construction between Ruby creek and Vancouver.

The Toronto Globe stated recently that the Canadian Northern Ry. had found the operation of the gas electric car on the Quebec & Lake St. John Ry. so satisfactory that it had ordered a number of similar cars. We are officially advised that no further orders have been placed, and it is not likely that any will be before next year, if then. It is possible that one of these cars may be put on the Central Ontario Ry. between Trenton and Picton, Ont., next summer.

Motor Car Being Tested on Schomberg and Aurora Railway.

A Galt, Ont., dispatch to Toronto papers, Sept. 19, stated that a gasoline motor car, built in the United States and imported by the Preston Car and Coach Co., has been operated between Galt, Preston and Berlin on the Galt, Preston and Hespeler Electric Ry., and added that the car had been sold to the Canadian Northern Ry. We are officially advised that the C.N.R. has not bought the car, but that arrangements were made with the Toronto and York Radial Ry. to try it on that company's line between Schomberg and Aurora, which is operated by steam.

The entrances and exits of this car are of the side centre entrance type. The car is double-ended and operated from a cab located in the corner of each end. The propulsion and regulation of the car is extremely unique and simple. The first car of this type manufactured has an engine of the four cylinder, four cycle type, cylinder dimensions $5\frac{1}{2} \times 6\frac{1}{2}$, develops, approximately, 36 h.p., under 600 r.p.m., and is direct connected to a 20 k.w. compound wound differential pole generator. This combined unit is mounted on a rigid frame work of rectangular form, which is brought up from underneath the truck and mounted on a saddle or spring suspension in such a manner that the movement of the truck imparts but little strain or jar to the power plant. This method of suspension appears to be practicable, and, from an operating point of view, is satisfactory as to change or repair of equipment. The motors of this car are of the compound wound type, having a heavy series winding and are of approximately 25 h.p. each and are geared to the axle in the usual manner. These motors are so connected to the generator that it makes a very flexible unit and entirely eliminates the resistance, controller and cable methods. The connection between the generator and motors is such that as soon as the gas engine is accelerated the shunt fields of the motors are pre-energized before the armature circuits of the motors are closed. This gives a cushioning effect upon the motors without resistance, which is unattainable under the ordinary methods, and also gives a combination of units which, to a great degree, protects itself from the misuse of the operator. The later cars built, including the one being tried on the Schomberg and Aurora Ry., have 6 cylinders, 54 h.p. engine, 30 k.w. generator and two 25 h.p. motors, the selling price in the U.S. being about \$11,500.

How to Analyse Railroad Reports.—A book with this title, written by J. Moody, the editor of Moody's Analysis of Railroad Investments, has been issued by the Analysis Publishing Co., 35 Nassau street, New York, at the net price of \$2.50. It is written primarily from the standpoint of the investor in railway stocks, and gives in plain language the significance and meaning of every statement in the reports of railway companies, thereby enabling the investor to draw his own conclusions as to the value of the stock. The breadth of scope of the book is indicated by the fact, that after a general introduction there are chapters dealing with the physical, the income, and the capitalization factors, followed by an outline of uniform accounting requirements for operations of steam railways. The different points raised are illustrated by facts and figures gleaned from the reports of various companies, and Mr. Moody's wide experience in preparing his annual statistical analysis.

Dominion Government Railway to Hudson Bay.

Large quantities of material have been delivered at The Pas, Man., for the steel bridge which Mackenzie, Mann & Co. are building across the Saskatchewan river there for the Dominion Government railway to Hudson Bay. Tenders are being asked for the building of a freight shed at The Pas.

We are officially advised that the contract for the building of the 68 miles of line from Thicket portage to Split Lake junction, Man., has been let by the Department of Railways to J. D. McArthur, Winnipeg, who also has the contract for the building of the line from The Pas to Thicket portage, 185.5 miles.

Tenders were received to Sept. 12 for the completion of the line to Hudson Bay, either to Port Nelson, 165 miles, or to Fort Churchill, 245 miles from Split Lake junction. It is said that this contract will also be let to J. D. McArthur.

Hon. F. Cochrane, Minister of Railways, arrived in Sydney, N.S., Sept. 3, by steamship from Hudson Bay, which he reached July 28, having travelled by canoe from The Pas. At Port Nelson and Fort Churchill, he inspected the harbor facilities. We were officially advised, Sept. 18, that the press report that Port Nelson has been selected as the terminal was premature. "It may be," we are informed, "that Nelson will be selected," but no announcement had been made to Sept. 18.

Fifteen buoys and other equipment for aiding navigation at Port Nelson were shipped from Montreal by the s.s. Beothic, Sept. 7.

The Dominion Government has published a sessional return giving copies of all reports, surveys, etc., in connection with the railway to Hudson Bay, the suggested ports at Nelson or Churchill, and the navigation of Hudson straits. These give details of the navigation of the straits and bay, as prevailing during the season of 1911 and recorded by F. Anderson, during the voyages of the straits, and the schooners Clarissa C. Thorney and Burleigh; a report on the harbors at Port Nelson and Fort Churchill, prepared by A. G. Bachand and C. Savery, and H. S. Parizeau and R. Fraser respectively; and three reports by J. Armstrong, Chief Engineer of the railway. Neither of the reports gives any definite opinion as to the length of the navigation season, but they deal generally with the conditions as observed in the straits and bay, and in and around the two harbors. These reports confirm in many respects the observations of previous years as to the varying quantities of ice to be met with, and the difficulties of coming at any certain conclusions as to the period during which navigation may safely be carried on. That these conditions are more favorable some years than others is evidenced by the fact that preliminary reports from the investigating parties taking observations during the present season, indicate unusually bad ice conditions in the straits and bay. It may be gathered from all the reports at present received that the outlook for building up an ocean-carrying trade in and out of the bay, as the result of the building of the railway, is not very encouraging.

The three reports made by Mr. Armstrong set out an alternative plan by which the railway will be rendered a profitable proposition, the country through which it passes developed, and existing ports in Canada benefited. The first is a preliminary report; the second makes a comparison between the cost of building the