

were satisfied that the figures in Mr. Payne's report, upon which the statements in the prospectus are based, might be accepted as reliable. Harper Bros., Engineers, a member of which firm visited Canada in 1903 in company with R. S. Portheim, wrote stating that the Midland Construction Co. and Bruce, Peebles & Co. (Ltd.) had offered to construct and equip the line complete for £3,986 a mile.

The directors and officers of the South-Western Traction Co. are: President, F. G. Rumball, London, Ont.; Vice-President, Lieut.-Col. McEwan, Byron, Ont.; Secretary-Treasurer, A. E. Welch, London, Ont.; Solicitor, T. H. Luscombe, London, Ont.; other directors: A. McKay, Ingersoll, Ont.; G. C. Elliott, Appin, Ont.; L. E. Robson, London, Ont.; H. M. Rumball, London, Eng. We were advised May 10 that the surveys had been practically completed on the line south from Lambeth to St. Thomas, and grading had been commenced. The electrical and power equipment, including the power-house, station and rolling stock equipment, will be supplied by Bruce, Peebles & Co., Ltd., Edinburgh, Scotland. The contract for equipment does not stipulate where the equipment is to be manufactured, but it is safe to say, we are advised, that the electrical equipment will be manufactured in Edinburgh and brought out, while the car bodies and trucks and all certain other lines will be manufactured in Canada.

The Electrical Review of London, Eng., speaking of the lines says: "We are informed that the Ganz system has been adopted, because the guaranteed figures in comparing continuous current, single-phase and three-phase estimates showed a saving of 30 per cent. both in first cost and in running cost in the Ganz three-phase system. The power will be transmitted at 10,000 volts, 25 periods, and will be transformed down to 1,000 volts for the motor cars, of which there are 10, each motor car being designed to go at a speed of 30 miles an hour on the level, and 15 miles an hour up grades of 1 to 25. Each car hauls freight or passenger trailer in addition. The line is built partly across private right-of-way and partly across public roads, as is the case with urban railways in Canada and the United States, and considerable interest will await the results in practice, as the line is under contract to be completed in six months from date." (Oct., 1903, pg. 345.)

**Strait of Canoe Bridge.**—Application is being made at the current session of the Dominion Parliament for an act authorizing an extension of time for the commencement and completion of the bridge and railways authorized by the act of incorporation of 1901. (Mar., pg. 81.)

**Stratford Radial Ry. (Electric).**—The city council has passed a by-law confirming the agreement with Sloan, of Chicago, Ill., for the construction of a street railway within the city limits. (Jan., pg. 9.)

**Suburban Rapid Transit Co. (Electric).**—In 1902 grading was completed on about 3½ miles from Winnipeg to Sturgeon Creek, Man. Track was laid as far as Deer Lodge, about three miles, and the line was placed in operation in Aug., 1903. (Feb. 1903, pg. 47.)

**Suburban Tramway and Power Co.**—P. Galibert, J. L. Decarie, of Montreal; A. Weil, R. MacDuffie, of New York; C. Allard, Chambly, Que., are applying at the current session of the Quebec Legislature for an act incorporating a company with this title to construct an electric railway system in and through the counties of Terrebonne, Soulanges, Vaudreuil, Beauharnois, Chateaugay, Laprairie, Chambly, Hochelaga and Jacques Cartier. Power is also asked to acquire other companies having charters to construct electric railways in the same territory, or to amalgamate with such companies.

**Temiskaming and Northern Ontario Ry.**—The Commissioners, under the powers given

by an act passed at the last session of the Ontario Legislature, have called for tenders for the construction of an extension of the line northerly from New Liskeard to the Abitibi river, about 90 or 100 miles. Preliminary surveys were made for this extension during 1903, and W. B. Russel, Chief Engineer, in his report for 1903 states that the party started out Aug. 1 under T. S. Hay, and returned early in Sept., having followed the Wabis and Blanche River valleys over the height of land and down the White Clay and Black rivers, as a probable route for the line, and as an alternative route, from the Wabis valley into the valley of Long Lake and over the height of land towards Night Hawk Lake. As a result of the information obtained a preliminary location was made by Mr. Hay by the Blanche River valley to the valley of the White Clay River. The work done on this survey showed that a line could be located through this country with a maximum gradient of ½ of 1%, or 26 ft. a mile rising both ways, and a maximum curve of 4°. A location working to this standard was gone on with during the winter, and 40 miles completed. Location work is being gone on with, and an additional 30 miles is expected to be completed by June 30. The Chief Engineer's report shows that the line for the first 40 miles would be comparatively easy to grade, being mostly light embankment of clay with an occasional ravine from 20 to 100 ft. deep to be crossed. Three of the ravines met with will have to be crossed by steel trestles about 500 ft. long. A flat summit is reached at the 67th mile at an elevation of 1,010 ft. above the sea level. The Blanche River is navigable for small steamers for 25 miles from Lake Temiskaming.

The report of the Chief Engineer upon the work done on the line between North Bay and New Liskeard during 1903, is contained in the report of the Commissioners presented at the last session of the Ontario Legislature. At the end of 1902 location surveys had been finally completed from North Bay to Redwater Lake, 58 miles; a first location made to Lake Temagami, 14 miles further, and a preliminary survey for the remaining 50 miles to New Liskeard. The location from the 50th mile to Lake Temagami showed a profile extremely heavy in quantities with a large percentage of solid rock, heavy in gradients and a sharp continuous curvature. A new survey was made with the result that another location was adopted showing lighter gradients, easier curves, better alignment and reducing the distance by one mile. Considerable exploration was necessary before a suitable point could be decided upon for crossing Montreal River, by reason of the fact that the river lies in a valley considerably lower in elevation than the country immediately to the south. The outlet of Bay Lake was finally fixed upon as the most suitable point. There is a comparatively easy descent to it, and further, with the erection of a small dam at the outlet of the lake, the river can be made navigable for small steamers for 40 miles. Lake Temiskaming lies about 400 ft. lower than the country which the line had reached to the south, and the location adopted brings the line at the 101st mile to a point, from which it is possible to secure an easy slope to the lake level. The maximum gradient, which it was found necessary to use on the first 32 miles of 1.25%, rising north, and 1%, rising south, was reduced on the balance of 80 miles to a 1%, rising north, and a 0.75%, rising south, with compensation for all curvatures of 0.05% per degree, with advantage taken at some points of introducing steeper momentum grades, the maximum curve being a 6° and easement on all curves over a 3°, the steeper gradients being bunched on the first 32 miles, where extra power might be used on this portion of the road. This reduction in the gradients brought about an increase in the quantities and greater first

cost to the road than was first expected. Sidings, 2,000 ft. in length, have been graded every 10 miles, and extra land has been taken up at each siding for station buildings, yard, etc. A telegraph line was completed to mileage 57, provision being made for the stringing of a second wire when necessary. Track had been laid for 57 miles, grading an additional 19 miles had been done, and 37 miles had been fully ballasted. Nine miles from North Bay have been fenced with wire, and a further nine miles more will be put up this year to where the line enters the unlocated lands. At the northern end of the line about eight miles will require to be fenced. Town sites had been laid out and reserved by the Crown Lands Department at mileage 38, mileage 72, mileage 94, and at the crossing of the Montreal River.

During the winter about 30 miles of grading was done, thus practically completing the grading into New Liskeard. A contract has been let to the Dominion Bridge Co. for the erection of the steel bridge over the Montreal River. The bridge will consist of three spans of 125 ft. each. A contract has also been let for the construction of six water tanks of 40,000 gals. capacity each, three to be completed by Sept., and the remainder by Dec. 31.

The following engineering staffs are engaged on construction: Chief Engineer, W. B. Russel; Assistant Chief Engineer, E. E. Perreault; draughtsman, F. E. Blanchet; assistant draughtsman, F. W. Pearson; steel checker, A. Allison; tie inspector, S. W. Allison; office, North Bay. Section 6, C. L. Russell; section 7, C. W. Doherty; section 8, F. C. Jackson; Divisional Engineer, land lines, etc., R. Laird; track centres, ballast pits, etc., R. H. Harcourt; Montreal river section, A. McGougan. Haileybury section, Divisional Engineer, R. A. Galbraith; Assistant Engineer, R. Simpson. Telegraph construction, Superintendents, J. Judge and T. J. Carroll. Exploration—Engineer-in-charge, T. S. Hay; transitman, W. J. Clifford; leveller, J. M. Bourke. (Mar., pg. 82.)

**Thunder Bay, Neplgon and St. Joe Ry.**—An act was passed at the last session of the Ontario Legislature extending the time for the completion for five years from the current year.

**Tillsonburg, Lake Erie and Pacific Ry.**—Application is being made at the current session of the Dominion Parliament for an act extending the time within which the projected extension from Ingersoll to Collingwood is to be completed.

**Tobique and Campbellton Ry.**—An act was passed at the recent session of the New Brunswick Legislature incorporating a company with this title to construct a railway from the Tobique Valley Ry. between Reid's Island and Plaster Rock, to a junction with the Restigouche and Western Ry., now under construction from Campbellton. J. E. Foster, Andover, is solicitor for the promoters.

**Tobique Valley Ry.**—Application is being made at the current session of the Dominion Parliament for an act extending the time for the completion of the authorized line of railway. The line at present extends from Perth Jct., on the C.P.R. line from Fredericton to Edmundston, N.B., to Plaster Rock, and power was originally obtained to construct a line from Perth Jct. to a point on the Restigouche and Western Ry., near Nictaux Lake. (See Tobique and Campbellton Ry.)

**Toronto and Hamilton Ry. (Electric).**—Application is being made at the current session of the Dominion Parliament for an act authorizing the construction of an extension of the company's projected electric railway from Toronto to Hamilton, as far as the International Boundary near Niagara Falls; with power to construct branches, and, with the consent of the proper authorities in the U.S., to run through to Buffalo, N.Y. The com-