

throwing ties into the trams or chutes with "picaroons," 1 man on the tool car dropping off bolts & tie plates & 2 spike peddlers distributing spikes for each tie. The back gang consisted of 2 men lining, spacing & squaring any misplaced ties, taking off the bridges, & putting the tie-plates under the rails; 1 man picking up bridges & sending them to the front in a long narrow box over the tie trams; 4 or 6 gangs of spikers (each consisting of 2 spikers & a nipper), & finally 2 back bolters. This force would lay a pair of rails a minute, or sometimes a little better. It averaged 1,000 ft. of track an hour; & always had to lay the 4 cars of steel, besides putting up & taking down the tramways or chutes before stopping for dinner. They would do the same in the afternoon. The night crew did the switching at noon, making up the material train for the afternoon, & at night brought up the loads required for the next day. Ordinarily camp cars & stock of material were within 10 miles of the front. Ample motive power was necessary, so the train must be able to start quickly at each move. Two medium consolidated locomotives proved rather slow for handling the 14 loads on a grade of 22%. No cars without air brakes should be loaded for the front.

The "machine," by which is meant the train equipped with the appliances already mentioned, would work on curves of 14°, but not on a temporary curve of 22° on which it was tried. Mr. Dennis considers that the new "tie distributor" will work when it is made stronger, & then by having 2 gangs of heelers the machine will lay twice the amount of track, & the train need never come to a full stop. It is possible with iron cars or rail cars to put on enough men to lay more tracks by hand than with the machine, but this is more expensive, & it is very difficult to regulate the expansion, as one strapper will steal from the next one, & the rails are dropped so carelessly for long stretches that the bolts can hardly be got in. The gauging & spiking are also done hurriedly to let the train come up, & under this system, generally speaking, the track is dropped down rather than laid.

"American Grain Elevators" is a handsomely illustrated booklet giving the story of the grain elevator from its start, methods of construction, &c. It also contains illustrated descriptions of elevators built by John S. Metcalf Co., of 1075 West Fifteenth St., Chicago, Ill., including the G. T. R. elevator at Portland, Me., & the Canada Atlantic elevator, at Coteau Landing & Depot Harbor.

C.P.R. Projected Lines.

Following are the lines which the Co. has been authorized to build by legislation passed at the Dominion Parliament's last session:

From the Deloraine extension of the Souris branch, at or near Deloraine, to township 1 or 2, thence westerly for 100 miles. A portion of this, the Deloraine-Waskada branch, 18 miles, has been built this year.

From at or near Napinka on the Souris branch to a junction with the northwest extension of the Souris branch.

From the Manitoba South-Western Colonization Ry., between Manitou & Pilot Mound, to or near the international boundary. Part of this line, the Snowflake branch, 17½ miles long, has been built this year.

From the Souris branch between Lauder & Menteith, to between Glenboro & Treesbank on the Glenboro extension of the Souris branch.

From at or near Osborne on the Pembina Mountain branch, to the Manitoba South-Western Colonization Ry. between Cartwright & Boissevain.

From at or near Otterburne on the Emerson branch, to or near Stuartburn in township 2, range 6 east.

From at or near West Selkirk, northerly about 60 miles through ranges 3 or 4 east, to the west shore of Lake Winnipeg, thence direct northwesterly to the Little Saskatchewan River, distant not more than 6 miles from Lake Winnipeg.

From at or near New Westminster to Vancouver.

The Montreal, Ottawa, & Georgian Bay Canal Co.'s Act, assented to by the Governor-General recently, provides that the powers conferred on the Co. shall cease unless some of its canals are commenced by May 1, 1902, & \$50,000 expended thereon, or if the canals are not completed by May 1, 1908.

Quebec Central.—Gross earnings for May, \$44,332.09, against \$41,661.85 in May, 1899. Working expenses, \$29,772.76, against \$26,263.75. Net earnings, \$14,559.33, against \$15,398.10. Gross earnings for June, \$52,399.80, against \$51,040.23 in June, 1899. Working expenses, \$33,039.50, against \$31,074. Net earnings, \$19,360.30, against \$19,966.23. Gross earnings, Jan. 1 to June 30, \$235,686.77, against \$218,558.29 for corresponding period of 1899. Working expenses, \$164,273.13, against \$149,210.20. Net earnings, \$71,413.64, against \$69,348.09.

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Constructions, Betterments, Etc.

Alaska.—Railway building in the far north is one of the features of the rush to that country which began with the discovery of gold in the Klondike in the fall of 1896, followed by the discoveries at Nome, Koyukuk & other places in Alaska. The most northerly railways in the world will be the Nome & Port Safety road, & the line to the Wild Goose mining district from Nome, both of which are expected to be completed & in operation during the present summer. Next to these lines is the proposed line from Nome, or rather from the end of the Nome & Port Safety line, at Port Safety, to Katmai, around by the mainland & across the mouth of the Yukon river & through the Kushkequim country, reaching the coast at a point opposite Kodiak Island, which is open to navigation generally at all times of the year. This will put the Nome country in direct communication with the outside world.—Railway World.

The Alaska Exploration Co. is said to contemplate the construction of a railway to its coal mines, which are located on Coal Creek.

Alberta Ry. & Coal Co.—Some of the U.S. railway papers have stated that an extension is proposed from Lethbridge, Alta., north via Cardston to Swift Current, to connect with mines. This is ridiculously erroneous. Cardston is not north of Lethbridge, but southwest of it, while Swift Current is in the opposite direction on the main line of the C.P.R. The papers in question have probably got mixed up with the projected St. Mary's River Ry., reference to which will be found under that head further on.

Algoma Central.—The Dominion act incorporating this Co., passed in 1879, empowered it to build a railway from or near Sault Ste. Marie to the main line of the C.P.R., at or near Dalton, thence southwesterly to Michipicoton Harbor. An amendment was passed last session changing the route from Sault Ste. Marie to a point between Magpie & Michipicoton rivers, thence to the main line of the C.P.R., & southerly to Michipicoton Harbor.

The branch from Michipicoton Harbor, to connect with the main line between the Sault & the C.P.R. Co.'s transcontinental line, has been completed 12 miles to the Helen iron mine, has been inspected, & is now carrying passengers & freight. Some 250 men are at

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