

the company has the Alberta, Athabasca & Manitoba on the upper lakes, two great ferry steamers on the Detroit River, more than a score of freight & passenger steamers & many adjuncts to the service on the inland waters of southern British Columbia. Some interesting figures as to the growth of the road & its business since the initial through train was despatched in 1886 are given in the Montreal Star. At that time 3 tracks sufficed for the Co. at Montreal, but now there are 13 at the Place Viger & 7 at Windsor station. In that year the railway carried 1,809,319 passengers & 2,046,195 tons of freight, the number of passengers carried 1 mile being 150,466,149, & the number of tons of freight hauled 1 mile being 555,438,159. Last year the number of passengers carried reached 3,674,502, the number carried 1 mile being 430,493,139. The freight traffic increased to 5,588,038 tons handled, or 2,148,319,867 tons carried 1 mile. This expansion has been accompanied by a reduction of rates, the earnings per mile having decreased from 2.10 to 1.52 on each passenger, & from 1.10 to 0.75 cent on each ton of freight. The earnings increased from \$10,018,803 to \$26,138,977, & the operating expenses from \$6,378,317 to \$15,663,605.

In 1886 the Co. commenced the erection of its first hotel at Banff Springs, in the Rockies. That line of enterprise has kept pace with the general development, until now the hotel at Banff is but one in a complete chain extending along the Canadian highway. These hotels include the Chateau Frontenac at Quebec, the Kaminstiquia at Fort William, the Mount Stephen House at Field, the Glacier House, the Revelstoke, the Fraser Canyon House & the Hotel Vancouver. In the spirit of enterprise that never fags the Co. is now planning the erection of a palatial hotel at Winnipeg that will equal or surpass any of its present magnificent hosteleries. In addition to these enterprises the Co. has developed a telegraph service across the continent, with wide ramifications. It owns and operates its own express system, & has also an extensive grain elevator business. It builds its own cars & locomotives, has its own sleeping car service, & employs a force of men estimated at close on 30,000. All this has been the development of 13 years from a line between Quebec & Port Moody at the head of Burrard Inlet, built as a necessity to the new political organization of the Dominion. The first trans-continental train over the new road required 136 hours to make the trip, which time has been reduced by the Imperial Limited to 99 hours 45 minutes. This brings London within 10 days of Vancouver & within 21 days of Japan, drawing the Dominion still closer to the mother land, & increasing our importance as a link in world-circling traffic.—Globe.

New Brunswick Legislation.

At the last session of the Legislature the following Acts were passed among others:

To amend 54 Vic. Chap. 2, so far as it relates to the Gulf Shore Ry.

To confirm an agreement between St. John City & the C.P.R. Co., & to enable the city to make tax exemptions in favor of the Co.

To aid in the construction of a graving dock at St. John.

To revive the Act incorporating the Fredericton, Gibson, and Marysville Electric Ry. Co.

To incorporate the Imperial Dry Dock Co. of St. John.

To continue the Act incorporating the St. Louis, Richibucto & Buctouche Ry. Co.

To confirm a conveyance from St. John City to the C.P.R. Co. & for other purposes.

To incorporate the Shediac Coast Ry. Co.

Questions About Locomotives.

At the recent annual meeting of the American Ry. Master Mechanics' Association at old Point Comfort, in the discussion on the question, "Can the ordinary marine salinometer be used to advantage in districts where alkali water has to be used, in order to avoid excessive concentration & damage to firebox?" R. Atkinson, Mechanical Superintendent C.P.R., said: "The possibility of a salinometer was brought to my attention by having a piece of firebox plate sent in which was cracked & apparently burned, with no indication of scale having formed, & as we know that when the steam is distilled from the water in the boiler the salts remain behind, they must concentrate. Suppose a locomotive boiler holds 1,000 gals. of water. In the course of one division, running 120 miles, it is refilled about 6 times, & therefore the contents of 7,000 gals. are concentrated into 1,000 gals., & doubled on the returning trip; so that if the water contains 20 grains per gallon of impurities we have 13 times that amount at the end of the return trip. If this is soluble impurity, the water necessarily is much more dense than it was previously, & its boiling point raised, & possibly the firebox sheets may be injured by the increased heat necessary to evaporate water from that solution."

In the discussion on the best method of applying stay bolts to locomotive boilers, including making the bolts & preparing the stay-bolt holes, Mr. Atkinson said: "I put myself on record as not being in favor of drilling or punching stay bolts. It appears to me wrong in principle—that the point where the stay-bolts fail most is near the outside sheet. It is misleading to have anyone think they could rely on getting a certain result from them, when they would fill up with scale & leave us in the dark as to the condition of the box."

Historical Sketch of the G.T.R.

The following was written by J. J. Lanning, formerly Asst. General Manager of the G. T. R., shortly before his death in the summer of 1897, & was supplied by Gen. Manager Hays for publication in Canada, an Encyclopædia of the Country, edited by J. Castell Hopkins, & published by the Linscott Pub. Co., Toronto, from which it is now reproduced by permission, being copyrighted.

When it is remembered that the reports issued by the large railway corporations of this continent each year, detailing the receipts & expenditure of vast sums of money, & recording the particulars of all important events & transactions occurring in connection with their respective companies during the twelve months, usually contain from 25 to 50 pages of closely printed matter, the reader will understand the difficulty experienced in recounting in anything like an intelligible form, in a paper of this kind, the history of the G.T.R. Co. from its inception in 1852 up to the present time. If reference be made to lines in existence prior to the building of the G.T., but now incorporated in that Co.'s system, we must go back to 1832, when the Champlain & St. Lawrence Ry. Co. received its charter, bearing the royal assent of William IV.

The problem of transportation of passenger & freight traffic by means of wheeled vehicles propelled by steam over 2 lines of rail had been only recently successfully demonstrated by Stephenson, & the news of its success had the effect of inducing the prominent men of Montreal to establish a line of railway running from a point as near to that city as prac-

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