

ticable in the direction of New York, & the result was the construction of the railway under the name, Champlain & St. Lawrence, from Laprairie to St. Johns, Que. The line was opened for traffic in 1836, being laid with wooden rails & worked by horse-power during the first year of its existence. But one winter's experience satisfied the promoters that these two features of the undertaking would have to be improved upon by the substitution of something more substantial, & in the following year the wooden flanges, as the rails were termed in the act of incorporation, were replaced by iron, & the horse supplanted by the more enduring steam-motor.

The line was shortly afterwards extended from St. John's to Rouse's Point, N.Y., & in connection with this it may not be out of place to mention that in an early edition of the Biographical Directory of Railway Officials—a semi-official publication—appears a sketch of the late Jay Gould's career in which it is stated that his first experience in railway work was as a surveyor in the location of this line. The political disturbances during 1837 & 1838, together with business depression, put a damper, however, on further Canadian railway construction, & there is no record of any railway charter being granted or applied for until 1845. In that year the Atlantic & the St. Lawrence Ry. Co. obtained incorporation for the purpose of building a line from Portland, Me., running west through that state, New Hampshire & Vermont, to a connection at the international boundary with the St. Lawrence & Atlantic Ry., also organized the same year.

The Great Western Ry. Co. was also incorporated in that year under the name of the Hamilton & Sandwich Ry., for the purpose of securing connection between Hamilton & Detroit. In the following year, 1846, the Montreal & Lachine Ry. Co. was organized & incorporated, & the next year saw its line between the two points mentioned an accomplished fact. It also established a ferry service between Lachine & Caughnawaga in Quebec, & at the latter place connected with a short railway chartered as the Lake St. Louis & Province Line Ry., running from Caughnawaga, opposite Lachine, south-easterly to the International Boundary Line. Another important line known as the Toronto, Simcoe & Lake Huron secured incorporation as a company in 1849 & commenced the construction of a railway from Toronto northward to Collingwood. Its name was subsequently changed to Ontario, Simcoe and Huron, & again to that of the Northern Ry., being like all the other companies just mentioned, finally merged in the G.T. System.

On Aug. 10, 1850, the Quebec & Richmond Ry. Co. was incorporated with power to construct a line from Richmond to Point Levis via Chaudiere Junction, & twelve months after the Toronto & Guelph Ry. Co. was granted authority to build between these points. On Oct. 11 following the St. Lawrence & Atlantic Co.'s line was opened from Longueuil to Richmond, & the Champlain & St. Lawrence Co. carried its road from LaPrairie to St. Lambert in the early months of 1852. Charters were also obtained in 1852 for the construction of a railway from Chaudiere Junction to Trois Pistoles by the G.T.R. Co. of Canada East; one from Montreal to Toronto, & this was really the parent stem, by the G.T.R.; & a third from Toronto to Hamilton by the Toronto & Hamilton Ry. Co. In the meantime the principal lines under construction, viz., The Great Western, The Northern & the St. Lawrence & Atlantic were struggling under financial difficulties owing to the want of capital. Canada was then very young & but thinly populated. Owing to improvement in the inland navigation the cost of transportation had been materially lessened, but the closing of navigation during the winter months made it necessary on the part of the Government of the day to find a remedy, & it was deemed an

important measure of public policy to secure access to the sea-board at all periods of the year.

It was believed that there would be sufficient Canadian traffic to maintain a line of railway connecting the principal cities & towns of the old Province of Canada, now Ontario & Quebec. Their policy being quite in accord with public opinion, the Government determined on aiding the railway companies, & an Act (12 Victoria, cap. 29, 1849) was passed affording Government assistance in the shape of loans to railways of not less than 75 miles in length. The conditions of this Act were found to be in some respects unworkable, & too onerous, & further legislation of a more liberal character was passed in 1851 (14 Victoria, cap. 73). This Act was entitled "An Act to make provision for the construction of a main trunk line of railway throughout the whole length of this Province." In the first section of the Act it is declared that "Whereas it is of the highest importance to the progress & welfare of this Province that a main trunk line of railway should be made throughout the length thereof, & from the eastern frontier thereof, through the provinces of New Brunswick & Nova Scotia to the city & fort of Halifax: It is, therefore, expedient that every effort should be made to secure the construction of such railway," etc. Briefly, the Act provided for three eventualities. 1st, The construction of an intercolonial road from Halifax to Quebec, in conjunction with the provinces of New Brunswick and Nova Scotia, on a loan under Imperial guarantee, or from funds advanced by the British Government. 2nd, That if the Imperial guarantee was obtained, the road should be continued as part of the main trunk line to Hamilton or some other point on the Great Western; but failing the Imperial guarantee the road was to be constructed jointly by the Province of Canada (now Ontario & Quebec) & the Municipal Corporations, which should subscribe for half the cost—the whole to be completed & managed as a provincial public work. 3rd, If neither of these projects proved practicable, the work might be undertaken by chartered companies, which would be entitled to the provincial aid in a guarantee extended from the interest to the principal on loans amounting to one-half of the cost of the railway.

(To be continued in next issue.)

## SHIPPING MATTERS.

### The Teslin Lake Route.

The report of the Chief Engineer of the Public Works Department, L. Coste, was recently submitted to Parliament. The first report was dated July 10, 1898, & in it he says he has learned that the Stikine is navigable for powerful boats from its mouth to Glenora, about 140 miles. The river is tolerably free from snags, but at sharp bends there are heavy currents. Lake Teslin is navigable for vessels of light draught, not more than 3½ ft. Teslin River can be navigated by small river steamers. Lewes River is navigable to its confluence with the Yukon, but great difficulty is experienced in running the Five Finger rapids. The Yukon, while shallow, is navigable for small river boats. On Apl. 25, he reports, after having examined the mouth of the Stikine, "I believe the Stikine route will be the cheapest & best inlet into the Yukon territory for all provisions & mining supplies required in that country during the summer season." He suggests building a wharf at Wrangel, although it is in U. S. territory.

On December 7, he reports very fully on the Skagway route, saying: "The Skagway route is bound to remain for years yet the favorite route into the Yukon country, & inasmuch as it is almost entirely in Canadian territory, I feel justified in recommending

these improvements to the earnest attention of the Minister." Following are the improvements recommended:

|                                                                                                                      |          |
|----------------------------------------------------------------------------------------------------------------------|----------|
| At Cariboo crossing, dam required to increase depth of water by 1 ft. at least, estimated cost.....                  | \$6,000  |
| Removal of rocks in Six Mile River between Lake Tagish & Lake Marsh, say.....                                        | 2,000    |
| Removal of rocks in the Thirty Mile River from Lake Laberge to the confluence of the Lewes & Teslin Rivers, say..... | 10,000   |
| Removal of rocks at the Five Finger Rapids, say.....                                                                 | 5,000    |
| Removal of rocks at Rink Rapids.....                                                                                 | 1,000    |
| Total.....                                                                                                           | \$24,000 |
| Add for contingencies & superintendence.....                                                                         | 6,000    |
|                                                                                                                      | \$30,000 |

On December 9, he reports on the inlets on the Pacific coast, & the Stikine River. Of this he says: "After a most careful examination of the Stikine River I concluded that it was not necessary to make a thorough survey of that river, owing to the ever-changing course of the navigable channel & the fact that I realized that a survey would cost at least \$25,000. On the whole, while the Stikine River is navigable for three months in the year by powerful steamers of light draught, it is evident that if the proposed railway between Glenora & Teslin Lake had been built, the Stikine River would only have served temporarily as the first link in this route, & that it would have been necessary to extend the railway in a southerly direction to a point on the Pacific in Canadian territory."

### List of Lights & Fog Signals.

The Department of Marine has issued a list of lights & fog signals on the coasts, rivers & lakes of the Dominion, corrected to Apr. 1, 1899. The lights in the Bay of Fundy & on the southern & eastern coasts of Nova Scotia, those required for the winter passage of either steamers or ice boats to Prince Edward Island, & all the lights in British Columbia, are exhibited all the year round. All other lights under the control of the department are maintained in operation whenever the navigation in the vicinity is open. Lights used solely as harbor lights are not exhibited when the harbor is closed, although the general navigation may remain open. Fishing lights are maintained only during the fishing season. In any case where there is reasonable doubt whether the light is required it is kept in operation. All the lightships in the River St. Lawrence below Quebec leave Quebec each spring for their stations as early as ice will permit. The Red Island & White Island lightships leave their stations for winter quarters on Nov. 15 annually. All the gas buoys in the River St. Lawrence are set out as soon as possible after May 11 each spring, & taken up as soon as convenient after Nov. 10 each autumn, when they are replaced by wooden can buoys. All buoys in the River St. Lawrence below Quebec are removed after Nov. 14, excepting those replacing the gas buoys at each end of the Beaujeu Bank & at the Channel Patch, one at the west end of Middle Bank, & one at St. Roch, East Point, in the Traverse, which are left when possible until the last ocean vessel has passed out.

The following points are emphasized: The intrinsic power of a light should always be considered when expecting to make it in thick weather. A weak light is easily obscured by haze, & no dependence can be placed on its being seen. Coloured lights are also inferior in power to bright or white lights, & are more quickly lost under unfavorable circumstances.