

Harrison, and who has recently been appointed Commissary General on the staff of Governor Morton, of New York. By the adoption of the constitutional amendment in the recent elections the New York Legislature is empowered to spend \$20,000,000 on canals in that state, and the interview with Mr. O'Brien, while intended to encourage the policy of canal enlargement, contains incidentally much valuable testimony concerning the wisdom and success of the Canadian Government's policy in enlarging the St. Lawrence canals to a 14-foot channel. After recounting Canada's achievements in canal construction, continental railway building, and bonuses to ocean lines—(exaggerating the amounts of money spent either unintentionally or to stir up New Yorkers) Mr. O'Brien goes on to say:

From Liverpool to New York is 3,040 miles. From Liverpool to Montreal is 2,796 miles. From New York to Duluth (via railway to Buffalo) is 1,437 miles, and via the Erie canal, 1,517 miles. From Montreal to Duluth, via the St. Lawrence, is 1,354 miles. From Liverpool to Duluth, via Montreal and the St. Lawrence, is 4,144 miles, which will shortly be unbroken deep water navigation. From Liverpool to Duluth, via New York, is 4,477 miles, or 4,557 miles, according as the route be via the New York Central railroad or the Erie canal to Buffalo. Montreal is 250 miles nearer Liverpool than New York is, and 83 or 163 miles nearer Duluth. From Liverpool to Duluth the route, via Montreal, is 333 or 413 miles shorter than the route via New York.

Let us translate these distances into dollars and cents and see what commercial advantages the Canadians will realize on the completion of the great eighty-three-and-a-half-million-dollar water route from the great lakes to the seaboard. Let us compare the relative costs of taking a ton of freight from Duluth to New York and from Duluth to Montreal.

On the lakes and the St. Lawrence we can, without serious error, assume freights to average 1 mill per ton per mile, and on the Erie canal 3 mills per ton per mile. Five hundred and twenty miles of barge transportation at 3 mills equals \$1.56, and 997 miles of steamship transportation at 1 mill equals \$1, making transportation to New York cost \$2.56, to which must be added 47 cents, port commission and transshipment costs at Buffalo, making the total freight from Duluth to New York equal to \$3.03 a ton.

Via the St. Lawrence to Montreal the items of cost will be: 1,355 miles at 1 mill, equal to \$1.35; 26 hours' detention in the locks, equal to 26 cents; tolls, 19 cents, making the total freight cost from Duluth to Montreal \$1.71 a ton. It will be seen that the natural and artificial advantages of Canada's location and her deep waterway to the sea will give Montreal an advantage over New York of \$1.32 a ton, or 35 1-3 mills a bushel on all freight received from the great lakes.

The Canadian statesmen realize fully that their commerce and commercial cities must, in the future, grow mainly on what substance they can draw out of the United States. Therefore, these great, costly, ambitious, and well-laid projects, the aims of which are, first, to provide a cheaper route outward for American exports and inward

for American imports than any United States route; second, the extension of Canadian trade and Canadian-British influence into all the States bordering the great lakes and commercially auxiliary to them; third, the building up of Montreal, and fourth, of British supremacy on this side of the Atlantic by making the great heart of the continent, and the richest and most prosperous States of our union commercially tributaries to and dependent on the Canadian gateway to the continent.

Thus they plan to divide our States in interest, the interior against the seaboard, and by thus weakening us to strengthen British interests; for all experience proves that where trade goes there interests and sympathies follow and centre.

Mr. O'Brien complains that the Americans have "done absolutely nothing," having "only" expended \$40,000,000 in general and local improvements on the great lakes, of which sum \$14,158,223 is to be the total cost of the 20-foot channels connecting lakes Erie, Huron, Superior and Michigan.

These improvements, he continues, are most important, both specifically and as parts of a grand general scheme to provide deep navigation from Duluth and Chicago to New York. They have proved most important to our internal commerce, and of the highest value to the people whose commodities are transported over them.

But, in default of provision made by our own Government, by which the vast commerce of these waters can cheaply reach the sea at an American port, that commerce will go to those foreign ports which it can reach cheaply; that is to say, the vast commerce originating in our interior states will go to Canadian seaports, and Canada, by her foresight, will reap the advantages of the expenditures made by our own Government.

Canadian commerce will be built up at the cost of American seaports, and our interior states will become separated in interest and in sympathies from our seaboard states. We look at our Erie canal, with its seven feet of water, and its 72 locks, and lose ourselves in admiring its greatness. It has played a great part in the history of the state and of the nation. But boats carrying 250 tons on seven feet of water, at a speed averaging three miles an hour, cannot compete with boats carrying 1,750 tons on 14 feet of water at a speed of 10 miles an hour.

The limit of capacity for transportation of our state canals is fixed by the amount of water which can be stored on the watershed from which it is supplied; and with the present system of locks the limit of tonnage which can be expeditiously and profitably handled is in the neighborhood of 4,500,000 tons per annum.

To deepen the canal and increase the draught and tonnage of the boats would not materially increase the capacity of the canal, for the available water, if used in the present type of lock, will lock only a given number of tons, no matter whether those tons be carried in big boats or in little boats.

It is the opinion of engineers who have made the subject a study that, to materially increase the tonnage and usefulness of the canal, the proper thing to do is to introduce some system of balance locks. Such locks have been in practical everyday use for eight or ten years at La Lou-