

ways. We must endeavour to shorten the distance between the Georgian bay and the seaboard, and improve the routes so as to make traffic cheaper.

Now, Sir, I have here some statistics as to the development of waterways in European and other countries, and it would appear that while these other countries have been making use of their natural means of communication by water, Canada has apparently been at a standstill in this direction. Let me quote from Mulhall, the eminent British statistician; he gives the mileage of existing canals and rivers in use in Europe at over 77,000 miles, of which 13,293 miles are canals. The total mileage of the world's canals reaches 26,000 miles, costing in excess of two billion dollars. The British isles have some 4,000 miles of canals, Germany has 10,000 miles of internal waterways, including 3,000 miles of actual digging, and Germany has spent \$60,000,000 on canals alone, and has under way a programme of waterway improvement which runs into an expenditure of hundreds of millions of dollars. Mr. Mason, one of the German consuls-general to the United States, says:

Germany foresaw that in a fully developed transportation system the proper role of the railways would be to carry passengers and the higher classes of merchandise manufactured from the raw staples which the waterways had brought to their doors.

France has some 3,000 miles of canals. Since 1814 France has spent \$750,000,000 for harbours and waterways, \$700,000,000 on railways, and \$600,000,000 for wagon roads. M. Defreycinet, when a member of the French Cabinet, having control of transportation matters, said:

It is conceded that the waterways and railways are destined, not to supplant, but to supplement each other. Between the two there is a natural division of traffic. To the waterways gravitate the heavy commodities of small value, which can only be transported where freights are low. In procuring for manufactures cheap transportation for coal and raw materials, they create freights whose subsequent transportation gives profit to the railways.

It will be seen, therefore, that both Germany and France are one in believing that the improvement of their waterways does not hamper railway extension. China has a system of canals comprising some 5,000 miles; Belgium has 1,240 miles of internal waterways on which she has spent from \$80,000,000 to \$100,000,000; Austria-Hungary has within recent years spent on rivers and canals \$200,000,000, and she has 1,700 miles of canals and over 5,000 miles of natural waterways. The Corinth canal in Greece which is four miles long, cost \$500,000, and it saves ships a distance of from 100 to 175 miles. Russia purposes building a 27

foot waterway 1,000 miles long, from the Black sea to the Baltic, and costing approximately \$100,000,000. Now, in reference to the United States, while the United States has actually 4,000 miles of canals, about 2,000 miles of these have been abandoned, and to show the reason for the abandonment of these canals, I shall quote from the last message to Congress of ex-President Roosevelt in December, 1908, in which he said:

Action should be begun forthwith during the present session of the congress, for the improvement of our inland waterways, action which will result in giving us not only navigable but navigated rivers. We have spent hundreds of millions of dollars upon these waterways, yet the traffic on nearly all of them is steadily declining. This condition is the direct result of the absence of any comprehensive and far-seeing plan of waterway improvement. Obviously we cannot continue thus to expend the revenues of the government without return. It is poor business to spend money for inland navigation unless we get it.

Inquiry into the condition of the Mississippi and its principal tributaries reveals very many instances of the utter waste caused by the methods which have hitherto obtained for the so-called 'improvement' of navigation. A striking instance is supplied by the 'improvement' of the Ohio, which, begun in 1824, was continued under a single plan for half a century. In 1875 a new plan was adopted, and followed for a quarter of a century. In 1902 still a different plan was adopted, and has since been pursued at a rate which only promises a navigable river in from twenty to one hundred years longer.

Such shortsighted, vacillating and futile methods are accompanied by decreasing water-borne commerce and increasing traffic congestion on land, by increasing floods, and by the waste of public money. The remedy lies in abandoning the methods which have so signally failed and adopting new ones in keeping with the needs and demands of our people.

In the report on the measure introduced at the first session of this present Congress, the Secretary for War said:

The chief defect in the method hitherto pursued lies in the absence of executive authority for originating comprehensive plans covering the country or natural divisions thereof. In this opinion I heartily concur. The present methods not only fail to give us inland navigation, but they are injurious to the army as well. What is virtually a permanent detail of the corps of engineers to civilian duty, necessarily impairs the efficiency of our military establishment. The military engineers have undoubtedly done efficient work in actual construction, but they are necessarily unsuited by their training and traditions to take the broad view, and to gather and transmit to the congress the commercial and industrial information and forecasts upon which waterway improvement must always so largely rest. Furthermore, they have failed to grasp the great underlying fact that every stream is a unit from its source to its mouth, and that all