

and of railway and other corporations, expressed anxiety lest the proposed works should have the effect of raising the level of Lake Superior and causing serious damage to wharves, buildings, and sewage systems in Duluth, Fort William, and other towns around the lake. After hearing the testimony of a number of expert engineers, including representatives of the United States and Canadian governments, the Commission approved of the proposed works upon certain conditions as to construction and maintenance, which, instead of being detrimental to the interests of navigation and of the several communities around Lake Superior, would, by maintaining the level of the lake between certain points, be very much to the public advantage. As part of their order of approval, the Commission made it a condition that the works, both during construction and thereafter, were to be under the direct control of an international board of engineers, one member of which was to be appointed by the Canadian and the other by the United States government. This board has since been appointed, Colonel M. M. Patrick, of the Corps of Engineers, representing the United States, and Mr. W. J. Stewart, Chief Hydrographer of the Department of Naval Service, representing Canada. In this way it was found possible to settle, in a very short time, and to the satisfaction of all the very important interests concerned, American and Canadian, public, navigation, and power, a question which might have dragged along for years under the old diplomatic procedure and been the cause of international irritation and material loss on both sides of the boundary.

Three matters have been referred to the Commission, under Article IX. of the Treaty, for investigation and report. One of these, relating to the construction of a dyke in the Detroit River, which, of course, is an international stream, has been disposed of. The enormous extent and value of the shipping using this waterway has already been suggested. It was found that certain dangerous currents swept across the Livingstone channel in the Detroit River, which were a menace to navigation. A dyke was proposed near the upper end of the channel to intercept these currents. At the hearings Canadian interests objected to the building of the dyke in the position first proposed on the grounds that it would have the effect of diverting Detroit sewage on to the Canadian shore, and would in other ways cause serious damage to communities in Canada. The Commission finally recommended to the two governments that the dyke should be built on the west side of the channel, where it would serve the same purpose, so far as the dangerous cross-currents were concerned, and at the same time would meet the objections raised against the dyke on the east side as originally proposed by the engineers.

The second question relates to the levels of the Lake of the Woods and tributary waters. The Commission was asked to report what levels, or range of levels, could be maintained in these international waters, which would be in the best interests of all concerned on both sides of the boundary—navigation, agriculture, fishing, lumbering, and power. To give an intelligent answer to the question it has been necessary to employ a staff of engineers for the last two years, as neither government had so far carried out anything more than fragmentary surveys in this district. These engineers are under the direction of two consulting engineers, one American (Mr. Adolph F. Meyer, of Minneapolis), and the other Canadian (Mr. Arthur V. White, of Toronto),

who expect to submit their final report to the Commission this year.

To most people the Lake of the Woods country is a comparatively unknown region, and the popular impression probably is that it is of little or no importance. As a matter of fact, however, the hearings held by the Commission brought out the facts that the navigation, power, and other interests which will be affected by the Commission's decision have invested something over \$100,000,000 in the Lake of the Woods district; that the resources of the region are enormous and only beginning to be developed; and that communities as far apart as Duluth and Winnipeg are more or less directly interested in the fixing of a level on the Lake of the Woods and its tributaries, which will give the maximum benefit to the people on both sides of the boundary.

The third question, and by far the most important, relates to the pollution of boundary waters. Such pollution is prohibited by the last paragraph of Article IV. With a view to the enforcement of this clause of the Treaty, the Governments of the United States and Canada sent to the Commission the following reference:—

1. To what extent and by what causes and in what localities have the boundary waters between the United States and Canada been polluted so as to be injurious to the public health and unfit for domestic or other uses?

2. In what way or manner, whether by the construction and operation of suitable drainage canals or plants at convenient points or otherwise, is it possible and advisable to remedy or prevent the pollution of these waters, and by what means or arrangement can the proper construction or operation of remedial or preventive works, or a system or method of rendering these waters sanitary and suitable for domestic and other uses, be best secured and maintained in order to secure the adequate protection and development of all interests involved on both sides of the boundary, and to fulfil the obligations undertaken in Article IV. of the waterways treaty of January 11th, 1909?

This reference is dated August 1st, 1912. On January 16th, 1914, the Commission sent the two Governments a progress report on the first branch of the investigation, as to the extent, causes and localities of pollution. This report embodies the result of exhaustive field investigations, by a corps of sanitary experts, under the general direction of Dr. Allan J. McLaughlin, of the Public Health Service of the United States, with the coöperation of Dr. J. W. S. McCullough, Chief Officer of Health of Ontario, and Mr. F. A. Dallyn, Provincial Sanitary Engineer of Ontario. Throughout the investigation the Commission has had the cordial coöperation of the United States Public Health Service, and of the Boards of Health of Ontario, Quebec, New York, and Michigan.

The investigation, which covered the examination of the waters of the Great Lakes and their connecting rivers, Rainy Lake, Rainy River, the Lake of the Woods, and the boundary portion of the St. John River in the east, wherever pollution might extend from one side to the other, discloses the gratifying fact that the great bulk of the Great Lakes water remains in its pristine purity, in spite of the fact that some seven million people have contracted the very bad habit of dumping all their sewage into these waters, and that the entire shipping of the Great Lakes, carrying in one season not less than 15,000,000 passengers, has followed the same evil practice. Serious pollution was disclosed at many points along boundary waters, and particularly in the Detroit and Niagara Rivers, where the cities of Detroit and Buffalo, with a number of smaller communities on both sides of the rivers, have been doing