

\$22,170,150. The length of the route, which was by way of Lake Simcoe, was 100 miles, with 50 locks 265 feet in length, 55 feet in width, 12 feet lift, with 12 feet on the miter sills. Almost insuperable difficulties in the way of excavation were found at the summit, where for 10 miles there was a continuous cutting, the greatest depth of which was 197 feet and the average cutting 90 feet. A company was, however, incorporated in 1856 for carrying out the project. Its charter was amended in 1865 under the name of the Huron and Ontario Ship Canal Company.

In 1881, when the late Mr. James B. Eads was engaged in the project of a ship railway across the American Isthmus in Mexico, he was requested by Mr. Tully, the Hon. D. Blain of Toronto, and others associated with them, to give an opinion as to the feasibility of building a ship railway between Georgian Bay and Lake Ontario. His opinion was that it was not only entirely practicable, but that the route furnished one of the most favourable locations for such a construction, as the alignment was good and the grades low. This opinion was given in 1885 after three or four years of consideration at various times by Mr. Eads.

The length of the route is 66 miles. There were to be three railway tracks of the standard gauge, 4 feet 8½ inches, with rails 110 pounds per lineal yard. It was intended to transport vessels of 1000 tons register, or say 2000 tons displacement weight and 14 feet draught. The estimated cost was \$12,000,000.

The author was at that time associated with Mr. Eads and familiar with the data and the discussions of the subject. In order to present it now in connection with other projects for an enlarged water-way, he has considered it important to re-examine the subject, and to have a personal examination of the country made by one of his associates, in order to supplement data already in existence, and to reform the estimates on the basis of a ship railway of larger capacity than was contemplated by Mr. Eads; that is, for vessels of a displacement weight of 5000 tons, with a draught of 20 feet, and the railway to be capable of transporting, during the navigation season, 8,000,000 tons of traffic.

It is impracticable, except at great cost, to build the railway on a straight line between the two terminal points. There will necessarily be in the central part of the route two, and perhaps three, deflection tables for changing the direction. The grades, as ascertained from all available data, will be 33 feet per mile as a maximum, although on the larger part of the route the grades will be 11 feet and 14 feet per