

Canal, where he was the division engineer until 1845, when he was appointed chief engineer of the Ottawa river works. After the successful completion of these works in 1848, the office was abolished, and in 1849 he employed his forced leisure, first, in writing the "Philosophy of Railroads," at the request of the president of the Montreal and Lachine railway company, and, secondly, in winning Lord Elgin's prize for the best essay on "The Influence of the Canals of Canada on her Agriculture." The "Philosophy of Railways" was widely distributed and translated into French, and earned for its author the right to be considered the father of railways in Canada, because its leading idea was, that, while the construction of railways could not be advocated in Canada as a commercial speculation on account of the sparsity of population, and competition of water communication, yet they were indispensable in order to prevent a wholesale emigration to the United States; and they would be so indirectly profitable that it was the duty of the Government and the municipalities to aid to such an extent as would secure their construction.

In 1850 Mr. Keefer re-entered the Government service for a short time in connection with the surveys for the navigation of the rapids of the St. Lawrence above Montreal, as well as of the connection by rail or canal of the St. Lawrence and the St. John rivers, by the route of Lake Temiscouata. The following winter he was sent to Boston to assist the United States Consul, Mr. Andrews, in his first report in relation to a Reciprocity Treaty with Canada. Two years later he was called to New York by Mr. Andrews, who was then engaged with his second report. On the map prepared by Mr. Keefer for this report, the air line, from St. Paul via Sault Ste. Marie to Quebec, is laid down as showing the value of Canadian routes to the north-western States of the Union. Mr. Andrews' report bears acknowledgment, as well as evidence of Mr. Keefer's labors. These reports paved the way to the successful negotiation of the Reciprocity Treaty in 1854.

In 1851 Mr. Keefer was appointed to make the preliminary surveys for the Grand Trunk railway, and for the railway-bridge over the St. Lawrence at Montreal. As the winner of the prize essay, he was named by Lord Elgin, one of the Canadian commissioners for the first International Exhibition, at London, 1851, which he visited. In the same year he gave evidence before Parliament in favor of the gauge of New York and New England as the proper one for Canada, and his views in this respect have been confirmed by the recent abandonment of the Canadian gauge.

In 1846 two eminent American engineers had reported upon the question of bridging the St. Lawrence at Montreal, where the winter display of the power of ice is greatest, and both had selected sites for draw-bridges in the wide water of the Laprairie basin, above the city, which would have required a very long superstructure, and have involved a considerable detour to reach the Portland railway. They considered that any attempt to bridge at the narrower part of the river near the city, would block the river so as to endanger both the bridge and the city.