

In his report Mr. Keefer demonstrated that the ice jams were due to the unnecessary breadth of the water-way, and not only chose the narrower site at Point St. Charles, but proposed to shorten the superstructure by half a mile of solid embankment at each end, thus confining the current to the deeper channel, and preventing the grounding of the ice. He also abolished the draw, by raising the bridge over the navigable channel—approaching this with an ascending grade from either shore. The Victoria Bridge has been constructed upon the principles laid down in Mr. Keefer's report, and, as twenty years' experience has proved, without risk to the city or to the bridge.

In his prize essay on the canals of Canada, the author showed that the interests of agriculture, commerce and manufactures were inseparable; that our commercial interests, as carriers by the St. Lawrence, would make agricultural protection as unwise as it was unnecessary, while our long winters and the necessity of providing diversified employment for those who would not follow agriculture, required the encouragement of such manufactures as could thrive amongst us.

Mr. Keefer was appointed engineer to the Montreal Harbor Commissioners in 1853, when the commissioners were engaged in deepening the channel between Montreal and Quebec. He recommended an extension from 16 feet, as proposed, to 20 feet depth, as not only required, but as relatively more economical; the cost of plant and preparation being in many places the chief item of expense.

Mr. Keefer has constructed water works for the cities of Montreal, Hamilton and Ottawa, and has been consulted with respect to those at Quebec, Toronto, Halifax, St. Catharines, London, and Dartmouth (N. S.) He has also filled the position of chief engineer to railways in Upper and Lower Canada, and has been engaged in harbor and bridge engineering in several provinces, and largely as arbitrator, solely, or in conjunction with others, settling important disputes on public works.

In 1861, he advocated the construction of an interior line of railway from Lake Huron to Quebec, chiefly for defensive purposes, and has, since the Fenian raids, urged the construction of the Toronto and Ottawa railway for the same reason. He has frequently pointed out our helplessness (as manifested at the time of the Trent affair and Fenian raids) so long as we are dependent on a single line of railway and that upon the frontier. In 1862, he was again appointed a commissioner to the International Exhibition at London, and visited England in connection with that duty.

Immediately after Canada extinguished the claims of the Hudson Bay Company to the great territory in the north-west, Mr. Keefer, in 1869, commenced a series of letters in the public press, to prove that this step fairly committed us to a Canadian Pacific railway,—although Confederation had not then extended to the Pacific ocean.

In a series of nearly a dozen letters, he pointed out that the expenditure upon the Daw-