

Cedar cascades and Coteau rapids. The locks were of cut stone and had a breadth of 6 feet and a depth of $2\frac{1}{2}$ feet on the sills and were designed for the passage of boats carrying thirty barrels of flour. These canals were begun in 1779, and finished in 1781. They were enlarged in 1804 and in 1817, and were abandoned in 1845. A canal to overcome the Sault St. Marie rapids was begun in 1797 and was used by the North-west Company to take up loaded canoes. It had locks.

The Dominion is well supplied with national means of intercommunication. But in many cases, owing to the formation, there are rapids rendering navigation difficult for any size vessels and impossible for good sized ones. The early inhabitants suffered severely from the cost of transport, which was so great that a barrel of salt transported from Montreal to Port Talbot on Lake Erie was worth 18 bushels of wheat, and a yard of cotton and a bushel of wheat were of equal value. The British Government found great inconvenience and expense attending the transport of supplies. Sir J. Murray stated in the House of Commons, September, 1828, that when the Imperial Government some years before sent out two vessels in frames, one of them a brig, cost in carriage from Montreal to Kingston a sum of money nearly equal to \$150,000.

The first impulse to the construction on a large scale of Canadian canals came from the Imperial military authorities. From the early reports it is plain that they thought more of military than of commercial requirements. Thus among the reasons given for having the Rideau Canal only 5 feet deep was the one that the canal was to be used chiefly for military purposes and that a canal larger than would be necessary to transport with convenience all descriptions of naval and military stores would afford no additional security by being of larger dimensions.

The original locks of the Lachine Canal were the same as those of the Rideau, viz., 108 x 20, with a depth of 5 feet.

As the commercial needs have become more pressing the scope of the original plans have been enlarged, both as to the number and the depth of the canals, until at the present time the system of inland navigation in Canada is the largest and most complete in the world.

The River St. Lawrence, with the system of canals established on its course above Montreal, and the Lakes Ontario, Erie, St. Clair, Huron and Superior, with connecting canals, afford a course of water communication extending from the Straits of Belle Isle to Port Arthur at the head of Lake Superior, a distance of 2,260 statute miles.

When this system of canals was designed it was in contemplation to afford a depth, at all stages of the St. Lawrence waters, of nine feet, a depth, seemingly from the data then possessed, secured by means of the works proposed. The River St. Lawrence is, however, from various causes, subject to fluctuations, the extent of which it was impossible, at the time these canals were originally constructed, to arrive at with precision, and the continued observations and experience of subsequent years have shown that while the intermediate river reaches at all times afford ample depth for vessels, in the canals themselves, at certain periods of low water, a depth of nine feet on the sill cannot be maintained.

In the year 1871 it was decided to enlarge the canals on the St. Lawrence route in order to afford a navigable depth of 12 feet throughout. Subsequently it was decided that the depth should ultimately be increased to