

Public Works of Dominion.

CANALS.

RIVER ST. LAWRENCE AND LAKES.

The St. Lawrence navigation extends from the Straits of Belle-Isle to the head of Lake Superior, 2,84 miles. This lake is 61 feet above the highest tidal flow of the St. Lawrence. The first interruption in the navigation occurs at Montreal, 383 miles from Belle-Isle, in the St. Louis Rapids. The *Lachine Canal* around these rapids is 8½ miles long. Very extensive new works are rapidly approaching completion on this canal. These form new entrances at Montreal and Lachine duplicating the locks, give a channel between the harbour of Montreal and Point St. Charles, for vessels drawing 18 feet of water, and all the way to Lachine for vessels drawing 12 feet. The navigation was only once interrupted during the season of 1877, and then only for 4 hours. 15½ miles from the head of the Lachine Canal, on the south side of the river, the *Beauharnois Canal* avoids the three rapids of the "Cascades," "Cedars" and "Coteau." The navigable season on this canal in 1877 was 209 days, and no interruption of any kind occurred, though a great many repairs were made. Above the Beauharnois Canal, Lake St. Francis, a widening of the St. Lawrence, is navigable for 32½ miles. Here the *Cornwall Canal*, 11½ miles long is constructed around the Long Sault Rapids. This Canal is being enlarged and improved. There was no interruption to navigation. Five miles from the head of the Cornwall Canal commence 3 short canals known as the *Williamsburg Canals*. Two of these *Farran's Point*, ¼ of a mile long, and the *Rapid Flat*, 4 miles long, are only used by vessels ascending the river, the rapids offering no difficulties to vessels in the descent of the river. The distance between the two is 10½ miles; 4½ miles further up is the third of the Williamsburg Canals, 7½ miles long. Beyond this the navigation is uninterrupted to Port Dalhousie at the head of Lake Ontario, 229 miles. Here the Welland Canal, over 27 miles long, passes between Lakes Erie and Ontario. When the new works on this Canal are completed, a navigation will be established 26-27 miles long, 25 feet deep, with a breadth of 100 feet at bottom, with 24 locks 270 feet long, 45 wide and 14 feet deep on the sills. The mean difference of level between the two lakes has been determined at 326½ feet. The basin at the harbour of Port Dalhousie will extend over 1½ acres, with a depth of 16 or 17 feet. At Sault St. Marie, between Lakes Huron and Superior, 6.3 miles from the Lake Erie entrance of the Welland Canal, the United States Government have constructed a canal, a mile in length, 18 feet

lockage and 16 feet on the sills, to avoid the St. Mary Rapid. The distance from this point to the head of Lake Superior is 397 miles, giving, in the total St. Lawrence navigation 2,312½ miles open navigation, and 713½ miles canal; 2,234 statute miles. At the western end of Lake Ontario, a small canal, half a mile long is cut through the sand bar separating *Burlington Bay* from the Lake, and gives access to the Port of Hamilton.

MONTREAL, OTTAWA AND KINGSTON.

This route extends from Montreal to Kingston by the Lachine Canal, the Lower Ottawa River and Canals, and the Rideau River and Canals. Its total distance is 246½ miles. From Lachine to St. Ann's, at the outlet of Lake of Two Mountains, a widening of the Ottawa River, is 5 miles. Here a single lock, ¼ of a mile long, surmounts the St. Anne's Rapids. Beyond this there is a navigable stretch for 27 miles to Carillon. The *Carillon Canal* is 2½ miles long, followed by another navigable stretch of 4 miles to *Chute à Blondeau*. Here there is a short canal of ¼ of a mile, used only in ascending the river. Improvements are in course of being made, to replace, by an enlarged navigation, these two Canals, by damming the River Ottawa near Carillon, and constructing a short canal with two locks on the north bank. About a mile and a half from Chute à Blondeau commences the *Grenville Canal* around the Long Sault Rapids. This is 5½ miles long. It is being much enlarged, and when completed will have a depth of 10 feet, and bottom width 40 feet, with locks 200 by 45 feet, and 9 feet water on the sills. From the head of this canal to the City of Ottawa is 51 miles; 107 miles above the City the *Culbute Canal* has been constructed to overcome the Culbute and Lislet Rapids. It consists of two locks 20 by 45 feet, with six feet of water on the sills, and dams 20 feet long, and opens a navigable reach of 80 miles on the Upper Ottawa. The *Rideau Navigation* is 126½ miles long connecting the eastern end of Lake Ontario with the River Ottawa. The Ottawa part of the route passes by the Rideau River; the Kingston by the River Cataract. There are 47 locks, 134 by 32 feet, with 5 feet of water; 2 dams, in all 15,472 feet long, and 16½ miles of Canal, the longest being 4½ miles, and the shortest only the 20th part of a mile. Vessels 110 feet long by 31½ broad and 250 tonnage may be used on this navigation.

THE RICHELIEU AND LAKE CHAMPLAIN.

Navigation commences at Sorel, 46 miles below Montreal, at the mouth of the Richelieu, and continues 81 miles to Lake Champlain at the boundary line, connect-