

## APPENDIX No. 13.

## ENLARGEMENT OF CANALS.

EXTRACTS FROM THE REPORTS OF THE COMMISSIONERS OF PUBLIC WORKS  
TO THE LEGISLATURE.REPORT FOR THE  
YEAR 1859.

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It is undoubted that a very large share not only of the Western foreign trade in grain, but of the Canadian, finds its way to the seaboard and eastern states through American channels.

It is equally certain that the best and cheapest channel of general commerce as regards transportation is natural navigation, such as by sea, lake, or river, in contradistinction to the artificial navigation by canals.

On the transport of bulky articles, the larger the vessel and the longer the voyage, the more cheaply in proportion to the distance will the freight be carried. Now, it is equally undeniable, that Canada possesses through her natural navigation, which (with the exception of 69 miles of canal) embrace the entire distance from Chicago to the ocean, the means of supplying these advantages in a degree which the United States, on account of their geographical position, cannot attain.

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And yet the arrivals of grain at the two ports of Oswego and Buffalo alone have, during the last five years, averaged 1,313,277 barrels of flour, and 27,527,085 bushels of grain; while the average shipments from Canadian ports have been but 205,821 barrels of flour, and 972,625 bushels.

*Welland Canal.*

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Three-fourths of the propellers of the upper lakes, being the class of vessels now chiefly used in the grain trade, are too large to pass into Lake Ontario.

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The largest vessel that can pass through the Welland Canal is 423 tons.

The large propellers vary from 600 to 1,000 tons.

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If the size of the Welland Canal be not sufficient to pass the vessels now plying on the great lakes which it connects, and which vessels would but for its inadequate size make use of it, it is manifest that the very object for which it is constructed is defeated.

Locks—  
105'  $\times$  26½'  $\times$  10'.

*St. Lawrence Canals.*

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An estimate is furnished by the engineer for the *deepening only* of the St. Lawrence Canals for a draught of 10½ feet of water.

Locks—  
200'  $\times$  45'  $\times$  9'.

In giving consideration, however, to the question of increasing the capacity of these canals, it appears to be of equal importance to their success that the locks besides being deepened, should be enlarged or lengthened, so as to pass the propellers of heavy burdens: 20 out of 36 of these vessels being from 185 to 240 feet in length, are too long to pass the locks; so that by merely deepening them, without adding to their length, only a partial improvement would be effected.