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ditions a description of the characteristics and phenomena of the river above and below Montreal, before alluding to the details of the bridge and the principles of its construction.

First. The bridge must be so arranged as not to obstruct the navigation. The navigation of the section of the St. Lawrence in which it is proposed to bridge is in one direction (downward) only-the ascending craft going by canal; also it is confined to daylight, as no craft will attempt to descend the rapids in the night. In so far, therefore, as any bridge may be considered an impediment to a navigation, it is evident, from the considerations above mentioned, that the site proposed would offer the minimum of obstruction. The current being such as to render a drawbridge inadmissible, there is no other means of providing for the navigation than by elevating that portion of the bridge which spans the navigable channel, above the limits required for the passage of craft. This height in the case of the Menai Bridge, in Britain, and the Harlaem Bridge, (for the Croton Aqueduct) in America, has been established at one hundred feet.

The bridge site being above the "sea navigation" of the St. Lawrence, I applied at Oswego for information as to the headway required for lake and river craft, and submit the following reply from a most competent quarter. From this it will be seen that with the topmasts struck, the main spars of the largest lake craft stand 86 feet above the water line, so that the provision I have made of 100 feet above low water and 91 feet above highest water at any navigable period, must be considered ample :

> "OFFICE NORTH WESTERN INSURANCE Co. Oswego, 14th June, 1852.

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THOS. C. KEEFER, Esq., Montreal.

SIR,

At the desire of Messrs. Bronson and Crocker, and complying with yours of 10th inst., I hand you the length of spars of our largest