

tion to be determined hereafter, whether the enlargement of the dimensions of the canal beyond fifty feet, shall be extended above the mouth of the Shanandoah, and through its ascent to Cumberland.

As far, at least, as the former point, a prudent regard to the competition which this commercial avenue has to encounter, not only for the trade of the west, but of its own tributaries, the vallies of the Potomac, and of its navigable branches, required that the Board should avail themselves of all the aid which science could supply, to fix this commerce in its natural channel.

The acquisition of at least sixty per cent. to the facility of transportation, upon the broader and deeper channel provided for the Chesapeake and Ohio Canal, is believed to be worth more than an advance of twenty per cent. upon the cost of its construction.\*

In the same spirit which has given these enlarged dimensions to the plan of the canal, the Board have diligently and laboriously sought, by negotiation and argument, as well as by appeals to legislative authority, to preserve the entire line of canal, above Georgetown, free from the dangerous, inconvenient, and costly obstruction of permanent bridges. They have invoked the interest as well as the patriotism of individuals, and the wisdom and policy of juries and legislatures. The appeal to the last, has been but in one case availing; but they have been able to suspend the erection of any bridges for the present; and still seek, by the purchase of small tracts of land, lying between the canal and the river shore, to diminish the number of persons interested in opposing

● By an early order of the President and Directors, it was determined to verify, by experiment, the relative advantages afforded to navigation in boats of given dimensions, by large and small canals. For this purpose troughs were made each 30 feet in length, designed, by their relative capacity, to illustrate the proportions of the New York and Ohio Canals to the Chesapeake and Ohio Canal.

Although the result of these experiments demonstrated the very great superiority of the larger over the smaller canal, so many defects were apparent in the manner of arriving at the results, that the Board determined to ascertain by the actual construction of a small part of the canal the exact difference of the resistance offered to the passage of a boat of given dimensions, and cargo, on these canals.