

most satisfactory experiments have demonstrated that a boat, adapted to the locks of both canals can be impelled on that of greater volume, at the same velocity, with a force one third less than that required on the smaller canal; or, in other words, that by the enlargement of the cross section of the Chesapeake and Ohio Canal, beyond that of the Erie Canal, an advantage has been gained for the former, much more than equivalent to the entire consumption of time, by a lockage of more than three thousand two hundred feet. And this would be true, were a minute per foot allowed for passing through a series of locks of that aggregate lift. But when it is reflected that half, at least, this advantage becomes of yet greater magnitude. It is demonstrable, by the force of experiment, that after completing the continued navigation, so long contemplated from the city of Washington to Pittsburgh, which will be afforded by a canal not differing materially in length from that which connects Albany with Lake Erie, though very greatly in lockage, a given tonnage may be transported on the former at twenty per cent. less cost, for carriage merely, than on the latter, so as more than to atone for the difference of cost, and therefore of tolls, between the two canals, arising from the expensive tunnel and lockage of the broader and deeper canal.

To realize all the benefit to be derived from this consideration—from the superior dimensions and inner pavement of the Chesapeake and Ohio Canal—is one of the objects of the present memorial, by which the undersigned seek to obtain an explicit recognition of the power of the Chesapeake and Ohio Canal Company to substitute boats for bridges, where the latter might be required on the canal, in consequence of the difficulty of conducting a pathway beneath it. By leaving the surface of the water unimpeded by any superstructure, not only steam power, but sails may be used to great advantage upon the Chesapeake and Ohio Canal, as they are used in like manner on the canal of the Forth and Clyde in Scotland.

Where steam is not used, as in relation to boats of heavy burthen drawn by horses, the occasional sail, spread to a favoring wind, will enable the boatmen to refresh their horses by carrying them on board, so that when put to the draft again, they will travel with renewed vigor and increased speed.

But the time may not be remote when steam may supersede, on such a canal, the use of any other moving