

7th. That even if the timber face of the dock should decay and require renewal every twenty years or less, the interest on the saving in the first cost would be much more than sufficient to meet this contingency.

8th. That a wooden dock can be built at a cost of from one-third to one-half that of a stone structure of similar size.

The above arguments are advanced by the advocates of wooden docks, after comparing modern and new timber structures with comparatively old and imperfectly constructed docks of stone, and I do not think the comparison a fair one. There are no modern stone docks yet completed on this side of the Atlantic to which reference can be had in order, justly, to compare the merits of each style.

The old stone docks in Boston and New York are clearly objectionable on account of their dampness, and the cause of this dampness is largely attributable to the absence of any provision—in the original plans—for underdrainage. If proper provision be made, in this respect, from the inception of the works to their completion, and the best hydraulic cement be used for mortar, I can see no reason why a stone dock, or one of brick, or one of concrete throughout, could not be made dry and free from leakage and the effects of frost. With the leakage removed the accumulations of ice on the sides and floor of the dock would also be removed, except so far as rain and sleet might cause trouble, and in that case the difficulty would be quite as great in the wooden as in the stone structure, except that the ice would remain longer clinging to the stone than to the wood.

The advantages claimed as to the low and narrow altars can be equally applied to a stone dock, because the stones can be dressed to that shape as well as to any other, and therefore all cutting of shores can be avoided in the stone as well as in the timber structure.

As to the 6th, 7th and 8th items of advantage, they are partly matters of calculation, and require to be carefully considered.

If a stone dock were built in such a manner that the joints were all perfect and tight, and all water could be drained from the back of the masonry so that frost could not affect it, the cost of repairs in that case would be nothing, as it is frost alone which has caused the whole trouble in the maintenance of American stone docks.

"A Board of Inspectors," consisting of officers of the Navy, Civil Engineers and Naval Constructors, appointed by the United States Navy Department, about a year ago, to examine carefully and give their opinion upon "Simpson's timber docks," stated in their official report that "it would appear that the life of timber docks is as yet, unknown, though the substructure, which is kept constantly wet, can be said to be practically