N. F. Weston.

Construction of Vessels.

No. 67,241. Patented Jul. 30, 1867.

Fig. 1.

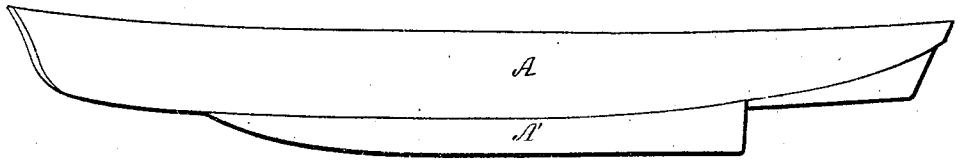


Fig. 2.

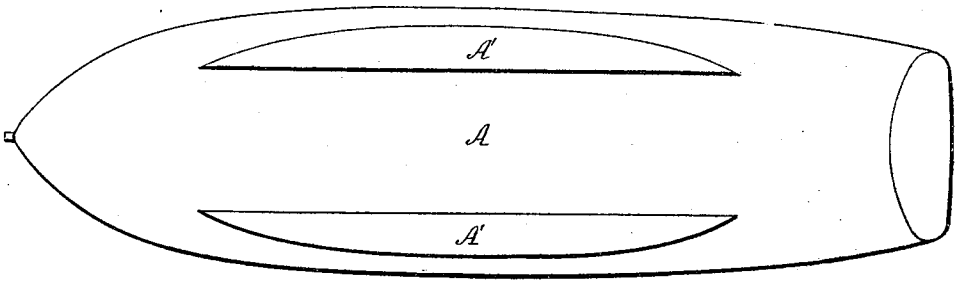


Fig. 3.

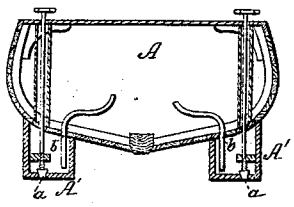
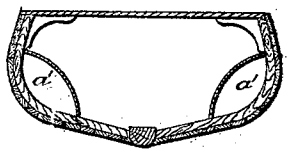


Fig. 4.



Witnesses
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Letters Patent No. 67,241, *dated July* 30, 1867.

IMPROVEMENT IN THE CONSTRUCTION OF VESSELS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, NATHAN F. WESTON, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and useful Improvement in Navigable Vessels; and do hereby declare the following to be a full, clear, and exact description thereof, due reference being had to the accompanying drawings, which illustrate my invention, and in which—

Figure 1 is a side elevation.

Figure 2, a bottom view; and

Figure 3, a vertical and transverse section of the hull of a navigable vessel containing my invention.

The object of my present invention is to regulate and control at pleasure the buoyancy of a navigable vessel, as well as to make it steady in the water, and aid in preventing to a great extent its liability of being capsized or thrown on its "beam ends."

The invention consists in applying to the bottom of the hull, upon opposite sides, and near the outer edge thereof, two long and narrow boxes or casings, having their ends pointed or angular, to offer as little resistance to the water as possible, and answering the purpose of either buoying up the vessel or serving as ballast, essentially as hereinafter explained.

In the drawings above mentioned A denotes the hull of a flat-bottom vessel constructed in any well-known manner, and without a keel or centre-board. A′ A′ are two long and narrow boxes, secured to the bottom of the hull longitudinally upon opposite sides, and having their ends pointed or sloping, such boxes being secured to the hull in such manner as to be air-tight. Each box, A′ A′, is to have an inlet valve, *a*, at its bottom part, to allow of entrance of water therein, when desired, and is further to be provided with a vent, *b*, for drawing off such water as it becomes necessary. To this vent *b* a hose or pipe is to be applied in order to perform the operation of emptying the box. When the vessel is heavily loaded the contents of the boxes or tanks A′ A′ are to be pumped out, the valve being closed. Under this state of things the boxes answer as buoys, to render the vessel buoyant and keep her decks dry. When the vessel is in ballast or lightly loaded the valves are to be opened, and allow the water to enter and fill the boxes A′ A′, in which case they answer as ballast to steady the vessel and keep her sufficiently firm upon the water. They also serve the purpose of a keel to guide the course of the vessel, and when filled with water, as in the latter instance, prevent, to a very great extent, the danger of the vessel's careening or being capsized. For the purpose of a life-boat I have contemplated applying to the interior of the hull, in addition to the tanks upon the outside, two more air-tight compartments *a′ a′*, as shown in fig. 4 of the drawings, which is a section of a hull showing the air-tight compartments or receivers. The compartments are to be provided with a suitable valve for filling them with air or discharging it therefrom. Should the boat be filled with water while the compartments are full of air, and while the outer tanks are full of water, they will act as buoys to prevent the boat from sinking.

The advantages of my invention are several:

First. As the keel is dispensed with, the cost of construction is lessened considerably.

Second. Nearly the entire hull is always above water, thus allowing room for various conveniences not possible in the present construction of vessels, and which is a matter of great importance in pleasure sailing-vessels.

Third. The decks are always dry, as owing to the buoyant nature of the boxes A′ A′ the vessel rides lightly over or upon the top of the waves.

The invention may be applied to "keel vessels" with good results, but in order to realize the full benefit of it the vessel should be built with her bottom flat or nearly so.

I claim the application to the outer surface of the hull of a navigable vessel of closed boxes or tanks, so constructed and arranged as to answer the purpose of either buoys or ballast, as well as being productive of other advantages, substantially as hereinbefore shown and described.

I also claim, in combination with the outer tanks A′ A′, the inner compartments *a′ a′*, essentially in manner and for the purpose as specified.

N. F. WESTON.

Witnesses:

CHAS. H. GRIFFIN,

C. W. BALDWIN.