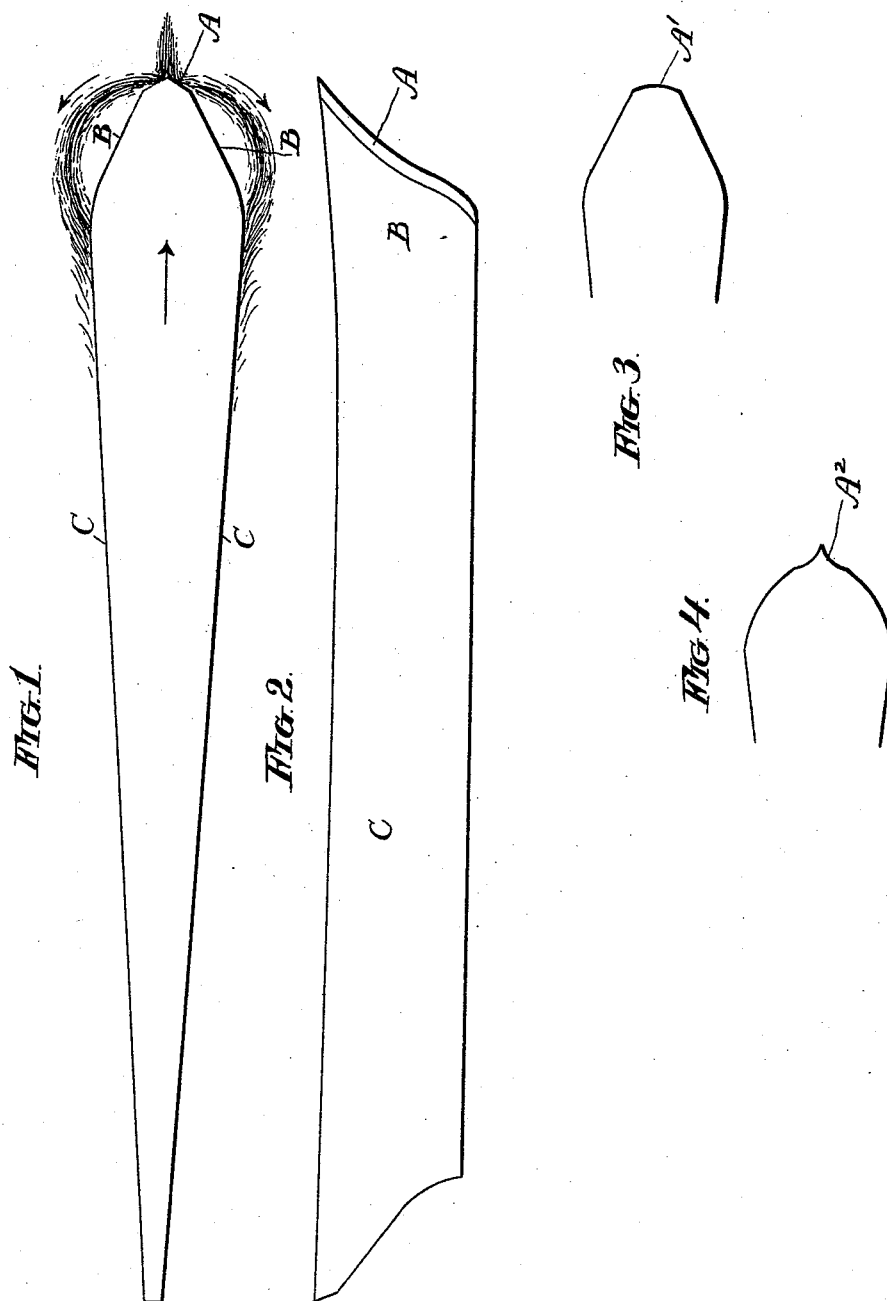


(No Model.)

L. M. LINCOLN.
CONSTRUCTION OF SHIPS, &c.

No. 525,349.

Patented Sept. 4, 1894.



Witnesses:
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UNITED STATES PATENT OFFICE.

LYSANDER M. LINCOLN, OF SACRAMENTO, CALIFORNIA.

CONSTRUCTION OF SHIPS, &c.

SPECIFICATION forming part of Letters Patent No. 525,349, dated September 4, 1894.

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To all whom it may concern:

Be it known that I, LYSANDER M. LINCOLN, a citizen of the United States, residing at Sacramento, in the county of Sacramento and State of California, have invented certain new and useful Improvements in Vessels, of which the following is a specification.

The object of the present invention is to provide a vessel of such construction that it will be capable of attaining a higher rate of speed than a vessel of any other known construction, the conditions in both instances being equal.

The invention consists in certain features of novelty that are particularly pointed out in the claims hereinafter, and in order that it may be fully understood I will describe it with reference to the accompanying drawings, which are made a part hereof, and in which—

Figures 1 and 2 are diagrams, in plan and side elevation, respectively, of a vessel embodying the invention. Figs. 3 and 4 are diagrams in plan of portions of two vessels embodying the invention in three different forms.

It has been the custom in ship building to construct the cut-water upon lines that are simply continuations of the lines of the bows, "cut-water" being the name applied to the extreme front end of the bows. Usually the cut-water is brought to a sharp point, and it is not separate or distinguishable from the bows, save in imagination. According to the present invention the cut-water is increased in lateral extent to a considerable part of the entire width or beam of the vessel—say a fourth or a third—and forms a decidedly more abrupt angle with the line of movement of the vessel than the bows do. In the drawings I have shown this laterally extended cut-water under three different modifications, and desire to have it understood that still others are within the scope of the present invention.

In Fig. 1 A represents the cut-water, the two sides of which are straight in horizontal cross-section and meet in an obtuse angle. B, B represent the bows, which, in this instance, are also straight in horizontal cross-section, and form, with the sides of the cut-water, obtuse angles.

In Fig. 3 the cut-water A' is shown as curved in horizontal cross-section, and presents a convex surface to the water.

In Fig. 4 the cut-water A² is shown as constructed upon two curves, which meet at the extreme front in an acute angle, and present concave surfaces to the water. In each of these instances the cut-water forms an obtuse angle with the bows, which latter may be either flat as in Fig. 1, or curved as in Fig. 4. The object and effect of this construction is to part the water and give it a decided impetus outward in both directions from the central line of the vessel, thus opening up a channel into which the vessel enters with reduced frictional contact between the water and the bows. When the vessel is moving rapidly the extent of this lateral displacement is such that the return wave or swell, as the displaced water regains its equilibrium, strikes the sides of the vessel abaft the bows. Preferably, the sides of the vessel converge from the bows to the stern, so as to give the vessel a tapering form, and as a consequence the returning waves or swells, striking the sides of the tapering vessel, will tend to accelerate its forward movement. If a sufficient velocity be attained, the water thrown out by the cut-water will clear the bows, and in returning to a state of equilibrium will react upon the tapering sides of the vessel, abaft the bows, as indicated by the arrows in Fig. 1, and even when the velocity is not sufficient to perfectly accomplish this result, the bows will be relieved of frictional contact with the water to a very considerable extent.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A vessel having a laterally extended cut-water brought to a point at the extreme front and sloping rearward and outward therefrom, upon both sides of a central line, and forming a more abrupt angle with the line of movement than do the bows, substantially as set forth.

2. A vessel having a laterally extended cut-water forming a more abrupt angle with the line of movement than do the bows, the vessel being tapered toward the stern from a point immediately abaft the bows, substantially as set forth.

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Witnesses:

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