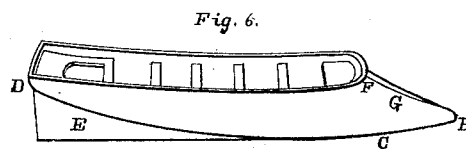
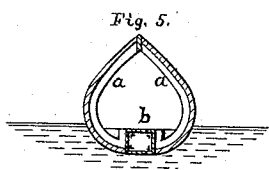
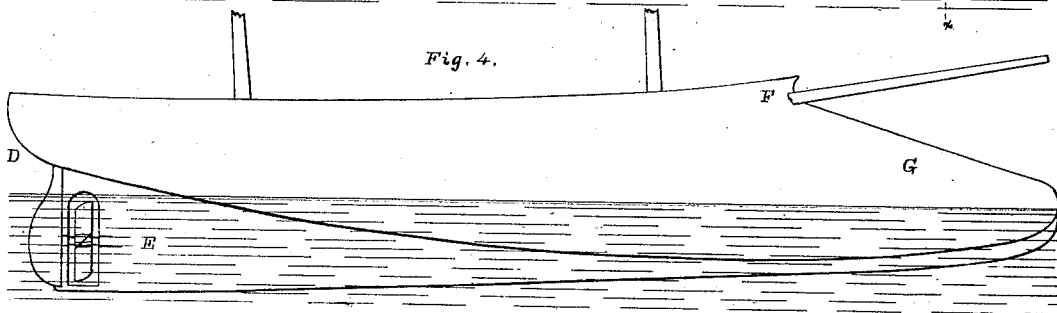
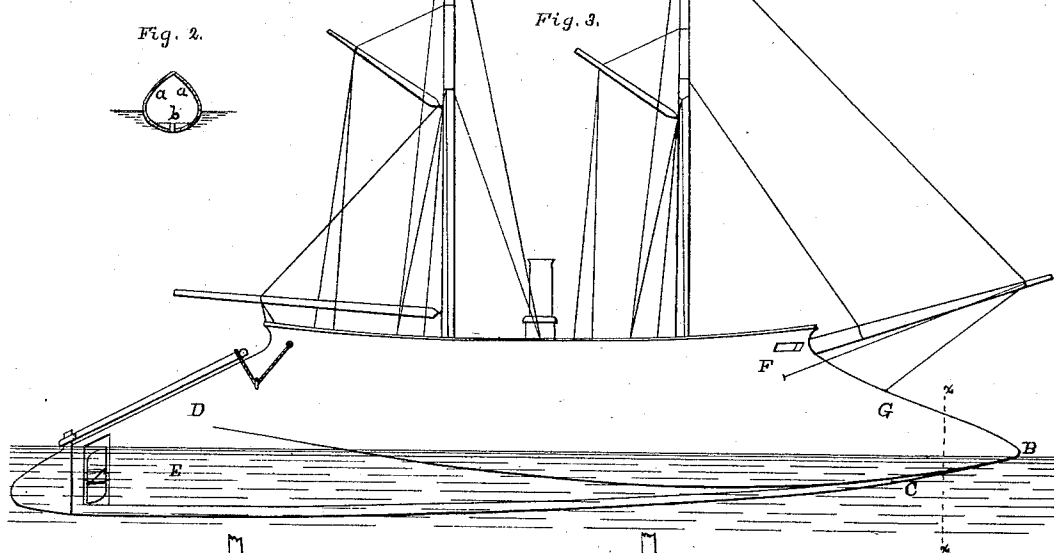
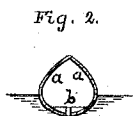
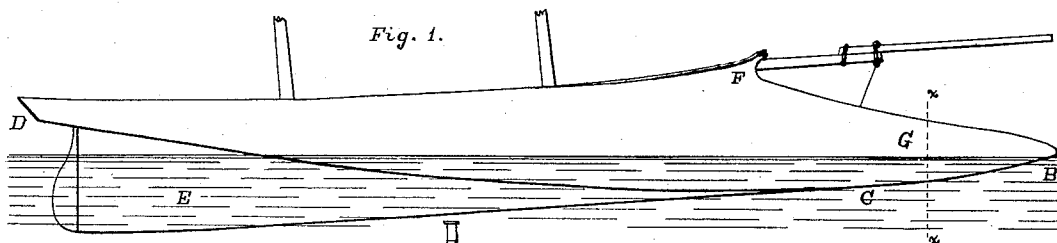


J. C. BROWNE.

Construction of Ships, &c.

No. 154,579.

Patented Sept. 1, 1874.



Witnesses:

Arthur C. Fraser.
Chas. W. Higgins.

Inventor:

John Collis Browne
Per Burke & Fraser
attys.

UNITED STATES PATENT OFFICE.

JOHN COLLIS BROWNE, OF HAMPTON WICK, ENGLAND.

IMPROVEMENT IN THE CONSTRUCTION OF SHIPS, &c.

Specification forming part of Letters Patent No. **154,579**, dated September 1, 1874; application filed June 1, 1874.

To all whom it may concern:

Be it known that I, JOHN COLLIS BROWNE, of Hampton Wick, Middlesex, England, have invented certain new and useful Improvements in the Construction and Form of Ships and like vessels, of which the following is a specification:

My invention has for its object the construction of the hulls of vessels in such manner that less resistance shall be offered to their passage through the water, better flotative properties and greater steadiness of motion secured; and it consists in a prolonged prow of approximately-conical form, but of a pear or inverted heart shape in cross-section, its under side being flat and its upper side inclining upward and backward, by means of which less resistance is offered to the vessel's progress. It consists, also, in so constructing the hull that the point of greatest buoyancy is immediately at or near the bow, and in rear of the prow, while the hull diminishes acutely in depth from this point toward the stern, so as to cause the prow to be raised entirely, or almost entirely, out of the water, while the stern is deeply submerged and the bottom and keel are presented very obliquely to the water, in consequence of which a great decrease in the resistance to the vessel's motion results.

The invention will be clearly understood by referring to the annexed drawings, in which—

Figure 1 represents a side elevation of the vessel; and Fig. 2 a transverse section, on line *x x* of Fig. 1, of the rounded projecting prow or cut-water. The remaining figures will be hereafter referred to.

The frame ribs at the bows are carried down the sides to the keelson, to which they are secured, so that the skin plating or sheathing is made flush, and in a line, or nearly so, with the keel, which, preferably, springs from about the fore part of the bilge to the stern. The extreme fore part of the vessel is pointed or provided with a rounded prow, *G*, which projects a considerable distance in front of the bow, and is, so to speak, lifted at the fore point to the load water-line, so that very little of it is submerged, and so that the vessel passes through the water without receiving much resistance therefrom or causing eddies or waves. From the point the prow gradually widens out in a

pear or inverted heart-shaped form, and from *B* to *C* the bottom is flattish for sitting well upon or in the water. The hulls are so shaped or run up toward the stern from the bow, at *C*, to the stern, at *D*, that the point of greatest buoyancy is situated immediately at or near the bow, and in rear of the prow, so that the stern will be deeply submerged while the prow will be elevated, as shown in Fig. 1, and thus the water-line, when the vessel is afloat, would be from the tip of the prow at the fore end to a short distance from the rail at the stern. By this means no part, or very little, of the prow is submerged to offer any impediment to the vessel's progress; and the keel and bottom of the vessel, being thus presented acutely oblique to the water, the wedging action, which takes place while the vessel is in motion, tends to raise it out of the water, so that it becomes less submerged, and thus decreases the resistance to a further extent. The after part of the vessel being provided with a deep keel, *E*, and the fore part being broad and flat, greater steadiness of motion is thereby secured.

Fig. 3 represents a vessel with a prolonged prow, as just explained, and with the after part similarly shaped, with the exception that the rudder-post, forming part of the deep keel, is carried beyond for the rudder to be attached. In this view the keel runs more to the front than in Fig. 1. Otherwise the fore part of the vessel is the same. In this construction of vessel, if she be a masted one, the fore mast is fitted nearer the bow than is usual to enable the action of the wind upon the sails to produce great speed. The bow of the vessel is slightly hollowed or formed concave at *F* to turn outward or downward any waves or water that may run up the prow. By this means head-waves are prevented breaking over the decks, and are more effectually resisted and dissipated.

Fig. 4 shows a similarly-shaped vessel with a keel starting from the front part of the fore foot, the shape of the prow in transverse section being the same as in Fig. 2, with the exception of the keel, to which the ribs are bolted or riveted direct, as in Fig. 5.

Fig. 6 represents a perspective view of a row-boat with a projecting prow, as before described.

In the case of vessels of war the fore point or prow would act as a ram with a piercing action, and, by means of the high poops or fore deck, one or more chaser-guns could be carried with greater advantage than can at present be obtained.

Vessels of this build sail and steam better than those of ordinary construction, and are more readily handled on account of the small amount of the submerged fore part, the center upon which she would turn being by this form thrown much farther back.

I claim as my invention—

1. A vessel's hull constructed with a pro-

longed cone-shaped prow, G, of inverted heart-shape in cross-section, substantially as herein shown and described.

2. A vessel's hull provided with an elevated cone-shaped prow, and so formed that the point of greatest buoyancy is at the rear of the prow, and the bottom of the vessel is inclined upward from this point toward the stern.

JOHN COLLIS BROWNE.

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