(No Model.)

M. MARZAN.

CONSTRUCTION OF SHIPS.

No. 274,624. Patented Mar. 27, 1883.

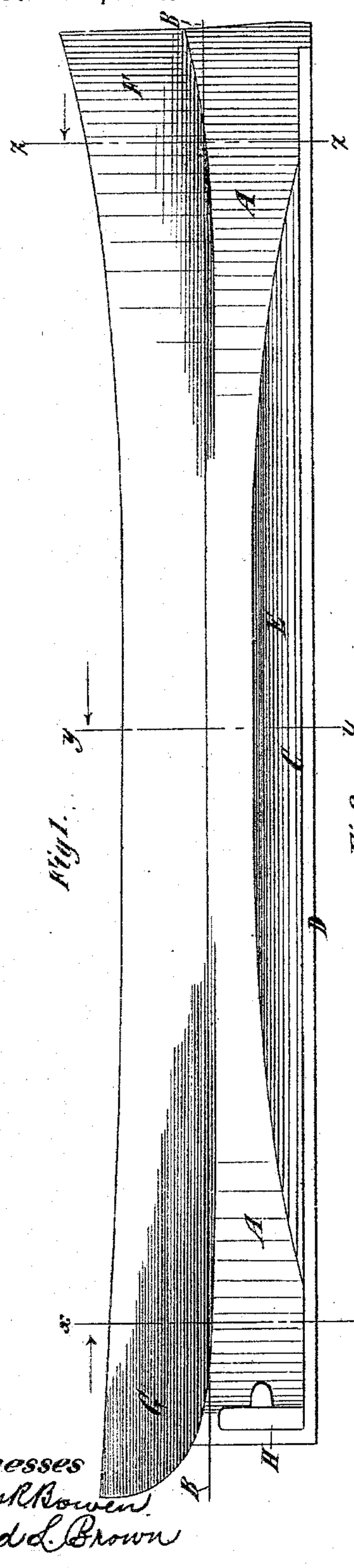

Fig 1.

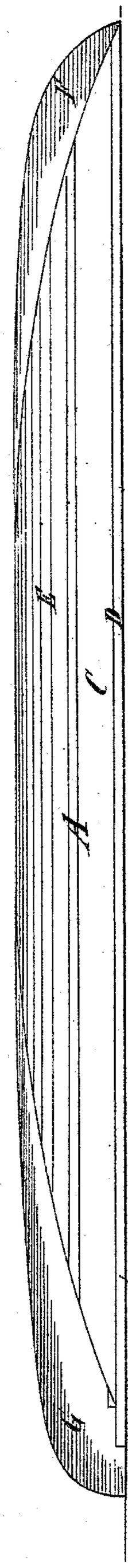

Fig 2.

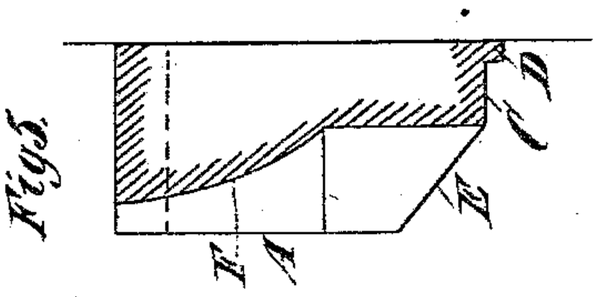

Fig.

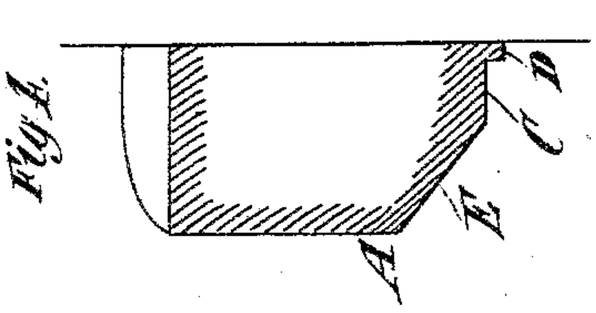

Fig 4.

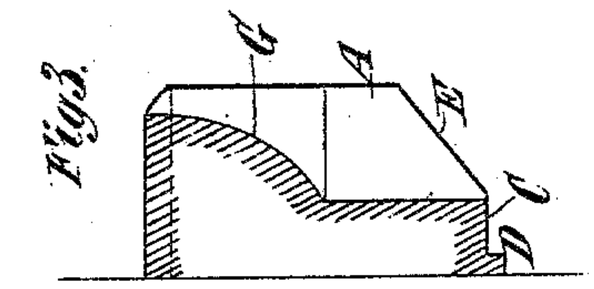

Fig 3.

Witnesses
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UNITED STATES PATENT OFFICE.

MANUEL MARZAN, OF HAVANA, CUBA.

CONSTRUCTION OF SHIPS.

SPECIFICATION forming part of Letters Patent No. 274,624, dated March 27, 1883.

Application filed October 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, MANUEL MARZAN, of Havana, Cuba, have invented a certain new and useful Improvement in the Construction of Vessels, of which the following is a specification.

The object of my invention is to increase the speed of steamships.

The invention consists in a vessel having its hull so formed that the lower portion, which is intended to be below the water-line, is of a double-wedge shape, or, in other words, tapering from the middle toward both ends, having the middle portion above the water-line coincident with the middle portion immediately below the water-line, and having the bow bulged out, or made more protuberant above than below the water-line.

The invention also consists in a vessel having its hull so formed that the lower portion, which is intended to be below the water-line, is of a double-wedge shape, or, in other words, tapering from the middle toward both ends, having the middle portion above the water-line coincident with the middle portion immediately below the water-line, and having the stern bulged out, or made more protuberant above than below the water-line.

It also consists in a vessel having the lower portion of its hull of a double-wedge shape, or tapering from the middle toward both ends, having a flat bottom, and also having plane or flat surfaces which extend at an angle from the sides toward the keel.

It also consists in a vessel having its hull below the water-line made of a double-wedge shape, or tapering from the middle toward both ends, with plane or flat surfaces extending at an angle from the sides toward the keel, and having the bow bulged out, or made more protuberant above than below the water-line.

It also consists in a vessel having its hull below the water-line made of a double-wedge shape, or tapering from the middle toward both ends, with plane or flat surfaces extending at an angle from the sides toward the keel, and having the stern made bulging, or more protuberant above than below the water-line.

In the accompanying drawings, Figure 1 is a side view of the hull of a vessel embodying my invention. Fig. 2 is an inverted plan of one longitudinal half of the same. Fig. 3 is a sectional diagram taken at the plane of the dotted line *x x*, Fig. 1. Fig. 4 is a sectional diagram taken at the plane of the dotted line *y y*, Fig. 1. Fig. 5 is a sectional diagram taken on the plane of the dotted line *z z*, Fig. 1. Figs. 3, 4, and 5 each represent one-half of the vessel only.

Similar letters of reference designate corresponding parts in all the figures.

The portion A of the hull of the vessel is designed to be below the water-line. The line B represents the water-line. The portion A below the water-line is made in the form of a double wedge, or two wedges with the backs or broader ends adjacent. In other words, it tapers from the middle portion toward both ends. The tapering surfaces are preferably longitudinally curved, but flat in a vertical direction.

The bottom C of the hull is shown as flat, and the keel D is straight on the lower edge.

On each side of the keel is a flat portion or surface, E, which extends at an angle from the side toward the keel. These angular portions are longitudinally straight from end to end.

I may employ two keels in lieu of a single keel, as shown, and then I shall arrange these keels at the junction of the angular portions and the bottom.

The portion F of the bow, which is above the water-line, is bulged out, or, in other words, made much more protuberant than the portion below the water-line.

The portion G of the stern, which is above the water-line, is also bulged, or made more protuberant than the portion below it.

A screw-propeller may be arranged at H, and driven in any suitable manner. The vessel may also have two masts furnished with fore and aft sails and a jib.

A vessel made according to this invention will be found more seaworthy and capable of attaining a higher rate of speed than those of the usual construction.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A vessel having its hull so formed that the lower portion, which is intended to be below the water-line, is of a double-wedge shape, or, in other words, tapering from the middle toward both ends, having the middle portion above the water-line coincident with the middle portion immediately below the water-line, and

having the bow bulged out, or made more protuberant above than below the water-line, substantially as specified.

2. A vessel having its hull so formed that the lower portion, which is intended to be below the water-line, is of a double-wedge shape, or, in other words, tapering from the middle toward both ends, having the middle portion above the water-line coincident with the middle portion immediately below the water-line, and having the stern bulged out, or made more protuberant above than below the water-line, substantially as specified.

3. A vessel having the lower portion of its hull of a double-wedge shape, or tapering from the middle toward both ends, having a flat bottom, and also having plane surfaces extending at an angle from the sides toward the keel, substantially as specified.

4. A vessel having its hull below the water-line made of a double-wedge shape, or tapering from the middle toward both ends, with plane surfaces extending at an angle from the sides toward the keel, and having the bow bulged out, or made more protuberant above than below the water-line, substantially as specified.

5. A vessel having its hull below the water-line made of a double-wedge shape, or tapering from the middle toward both ends, with plane surfaces extending at an angle from the sides toward the keel, and having the stern made bulging, or more protuberant above than below the water-line, substantially as specified.

MANUEL MARZAN.

Witnesses:
J. LLERA,
JOSÉ COSTA.