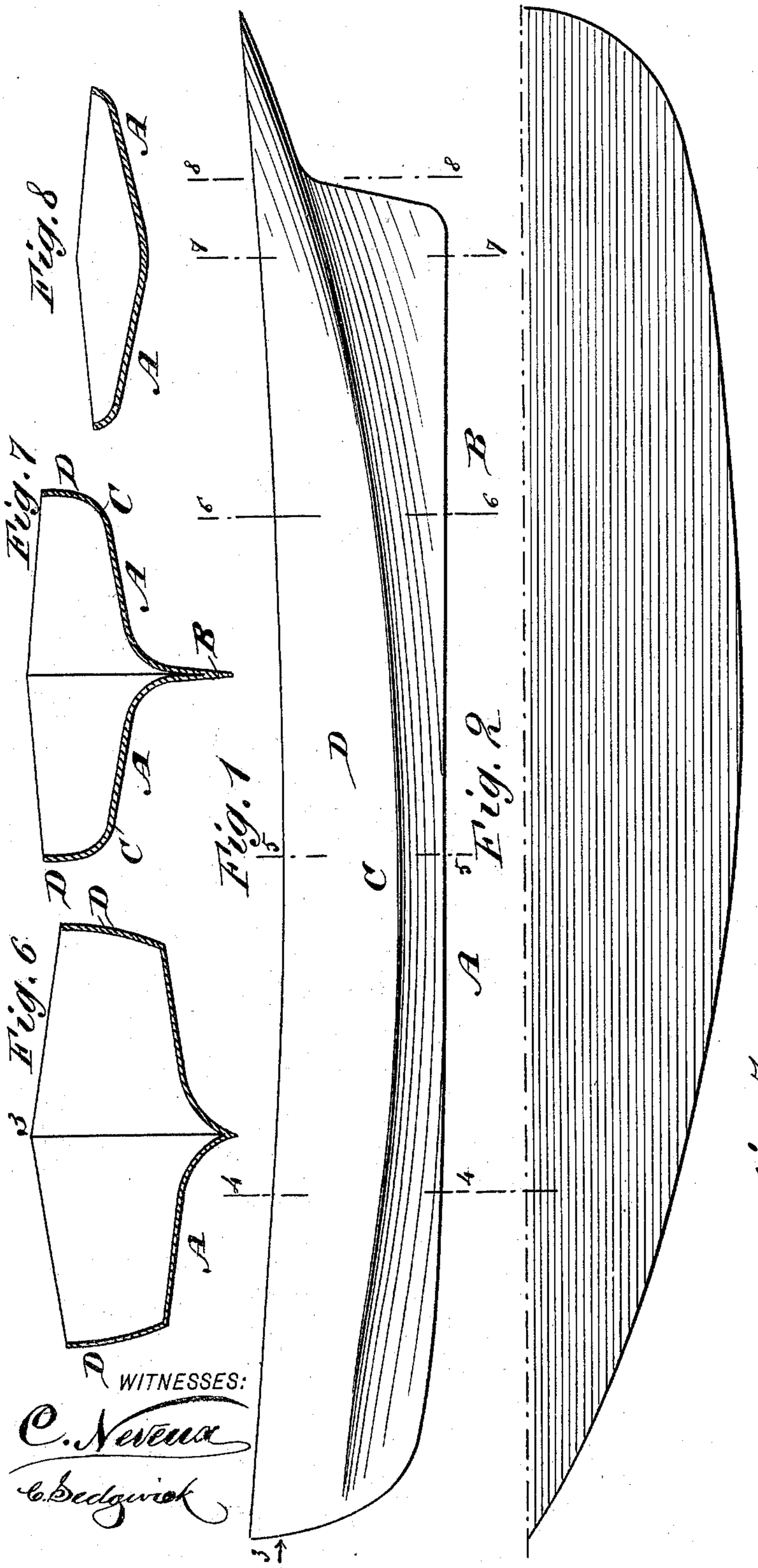
(Model.)

P. O'BRIEN.

SHIP'S HULL.

No. 509,672. Patented Nov. 28, 1893.



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PATRICK O'BRIEN, OF ST. JOHN'S, NEWFOUNDLAND.

SHIP'S HULL.

SPECIFICATION forming part of Letters Patent No. 509,672, dated November 28, 1893.

Application filed October 4, 1892. Serial No. 447,810. (Model.)

To all whom it may concern:

Be it known that I, PATRICK O'BRIEN, of Presbytery, Riverhead, St. John's, Newfoundland, have invented a new and useful Improvement in the Construction of Hulls of Vessels, of which the following is a full, clear, and exact description.

My invention relates to an improvement in the construction of the hulls of vessels, and has for its object to construct a hull in such manner that a maximum of speed will be attained together with a maximum of safety, and further to construct the hull in such shape that drift to leeward will be in a great measure avoided.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a vessel's hull constructed in accordance with my invention. Fig. 2 is a plan view of one-half of the hull. Fig. 3 is a view of the bow. Fig. 4 is a transverse section taken practically on the line 4—4 of Fig. 1. Fig. 5 is a similar section taken practically on the line 5—5 of Fig. 1. Fig. 6 is a similar section taken essentially on the line 6—6 of Fig. 1. Fig. 7 is a similar section taken on the line 7—7 of Fig. 1, and Fig. 8 is a similar section taken on the line 8—8 of Fig. 1.

In the construction of the hull the bottom A, is curved to present a convexity from the stem to the stern and a concaved face from the keel B to the sharp-edged bilge C, and from the bilge to the top of the hull the sides D, are curved, presenting an outer convexed surface at the stern, and the remaining portions of the sides are outwardly flared, the outer surface being essentially straight in cross section; but in every case where a cross section is taken through the bilge the sides and the bottom of the hull meet at an obtuse angle. Thus the sharp-edged bilge section to an extent is a side keel, and the bottom being concaved from the keel to the bilge a greater bearing surface is presented to the water, and the craft is thereby rendered less liable to upset, and at the same time in a rough sea, as the sides are not perpendicular but carried outwardly from the bilge, that feature taken in connection with the concaved bottom will effectually prevent the boat constructed on such lines from shipping water to any great extent. The outward inclination of the sides preferably increases from one end of the hull to the other. Drift to leeward is also prevented in great measure, as the outwardly flared sides offer such resistance to the water as to cause the hull to be forced over more to windward than in the hulls of ordinary construction; and, again, the steering qualities of the hull are greatly augmented, especially in heavy winds, which throw the hull over upon its side, as the bilge sections at that time serve as a side keel and hold the vessel up to its course. The degree of concavity is varied along the line of the bilge according to where a cross section is taken through the hull, and the variations of curvature at the bottom it has been the endeavor of the inventor to show by means of the numerous cross sections presented in the drawings. The concavity preferably increases toward the stern as shown.

It will be understood that the proportions of length, breadth, depth, angles and the degree of concavity of the hull will vary according to the class of vessel being constructed. It may be here remarked that when the hulls of steamers are constructed as above described they will roll but little, even in a heavy sea.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A boat's hull having a bottom extending upwardly from the keel, said bottom being convex in longitudinal and concave in transverse direction, and essentially straight sides inclined inwardly from the deck toward the bottom, said bottom and sides meeting at sharp angles to form bilges which are adapted to serve as side keels, substantially as shown and described.

2. A boat's hull having a bottom extending upwardly from the keel, said bottom being convex in longitudinal and concave in transverse direction, the concavity increasing to-

ward the stern, and essentially straight sides inclined inwardly from the deck toward the bottom, the portion of the sides near the stern being essentially convex, and the inclination of the sides increasing from one end of the boat to the other, the said bottom and sides meeting at sharp angles to form bilges which are adapted to serve as side keels, substantially as shown and described.

PATRICK O'BRIEN.

Witnesses:
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