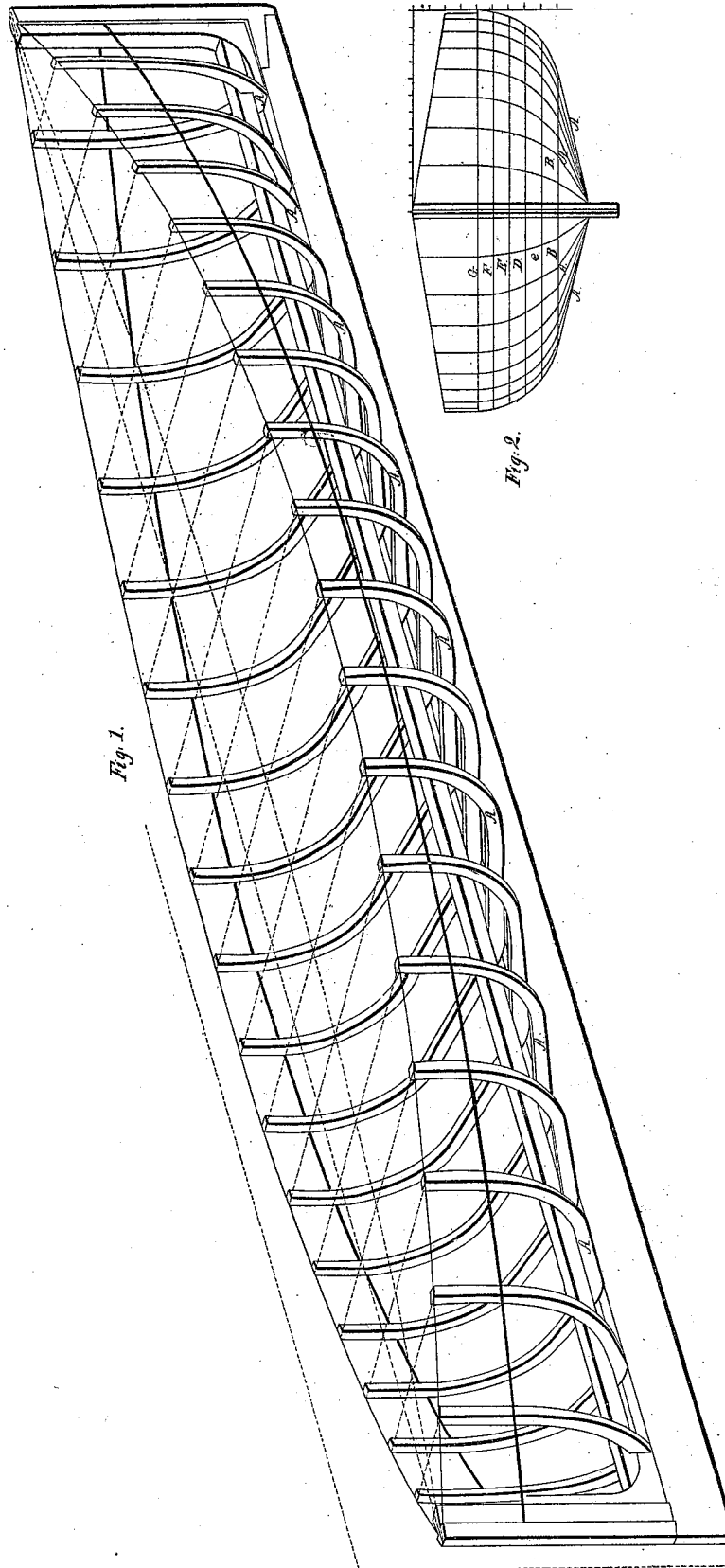


*C. F. Bigelow.*  
*Form.*

*N<sup>o</sup> 492.*

*Patented Feb. 18, 1840.*



# UNITED STATES PATENT OFFICE.

GEORGE F. BIGELOW, OF NORFOLK, VIRGINIA.

## MODE OF CONSTRUCTING SHIPS, BOATS, AND OTHER VESSELS.

Specification of Letters Patent No. 1,492, dated February 18, 1840.

*To all whom it may concern:*

Be it known that I, GEORGE F. BIGELOW, of the borough of Norfolk in the State of Virginia, have invented an improvement in the manner of constructing ships, brigs, and vessels of all kinds, either for sea or river service, by which improvement they are, whether large or small, built upon one established principle, which, it is believed, will be found in practice to furnish vessels which will pass through the water with less resistance and possess greater stability than those built upon any other plan.

The principle upon which I proceed and upon which my improvement rests is that of making all the water lines of my vessel of whatever kind it may be segments of circles. In carrying out this principle rigidly the stem and stern or fore and aft parts of my vessels will have the same form and the greatest breadth of beam will be exactly amidships. Should it, however, be desired to have the greatest breadth of beam either forward or abaft of this point, it may be effected to any desired extent by adopting two different curves in each of the water lines, in which case the shortest end will become a segment of a curve of smaller radius than that of the longer end, the variation of the radii being governed by the distance to which the greatest breadth of beam is removed from amidships, a variation which will not in the slightest degree affect the principle upon which I proceed—namely, that in passing through the water the lines by which said water is divided by the forward part of the vessel and those also by which it flows in toward the stern shall both whatever may be the draft of the vessel, be simple segments of circles.

Although it is not absolutely necessary to the carrying out of my principle of construction that the stem and stern posts should rise vertically, or nearly so, from the keel, I prefer so to place them, as by this means a greater degree of strength may be attained, and I am well assured that a vessel so formed will pass through the water with equal facility, as one under the ordinary construction. This observation applies more particularly to the stem of the vessel, or cutwater as usually formed.

In the accompanying drawings, Figure 1 is an outline view, in perspective, of the frame of a vessel upon my plan, and Fig. 2 is an end view from the stem or stern thereof, showing the water lines.

I do not intend, however, to confine myself to any particular mold, or manner of framing, but to adopt any known modes of procedure not incompatible with my principle of construction. To the bottom or floor of my vessels, below the lower water line, as at A, A, A, A, Figs. 1 and 2, I give such form as I may think requisite, either to insure stability, or in any other respect to adapt the vessel to the particular purpose to which it is to be applied; but as soon as I arrive at that part of the frame which coincides with the lower water line, which I will suppose to be at B, B, I then give to the ribs, or other frame work, such form as shall constitute said water line a true segment of a circle, either from stem to stern, or, where the greatest breadth of beam is not amidships, from said widest part, toward each end, with no other variation in the radii of said circles, than such as is rendered necessary from the cause above set forth. The same rule will apply to the respective water lines C, D, E, F, G, shown in Fig. 2, their radii being diminished as they approach the gunwale in such proportion as the builder may determine in accordance with the mold which he may determine to give his vessel in its cross section.

Having thus, fully described the nature of my invention and the manner in which I carry the same into operation, what I claim as constituting my improvement, and desire to have secured to me by Letters Patent, is—

The so constructing of ships, and all other vessels, either for sea, or for river, service, that all the water lines, from stem to stern, either from amidships, or from that part having the greatest breadth of beam, shall consist of segments of circles, as herein set forth.

GEORGE F. BIGELOW.

Witnesses:

THOS. P. JONES,  
GEORGE R. WEST.