

(No Model.)

4 Sheets—Sheet 1.

A. B. BOYLES.
LIFE BOAT.

No. 311,868.

Patented Feb. 10, 1885.

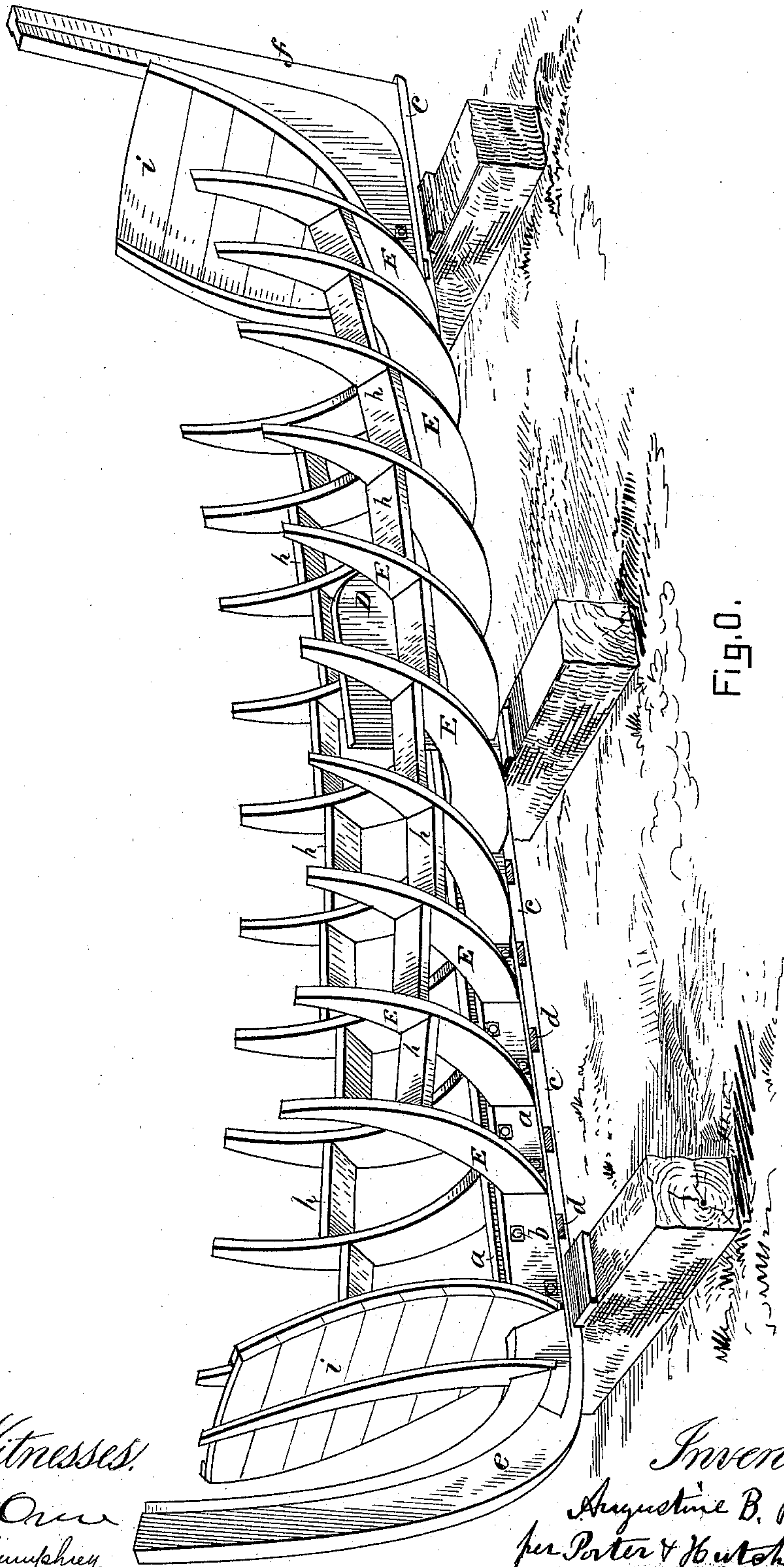


Fig. 0.

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Eugene Humphrey

Inventor:

Augustine B. Boyles
per Porter & Hutchinson,
Attys.

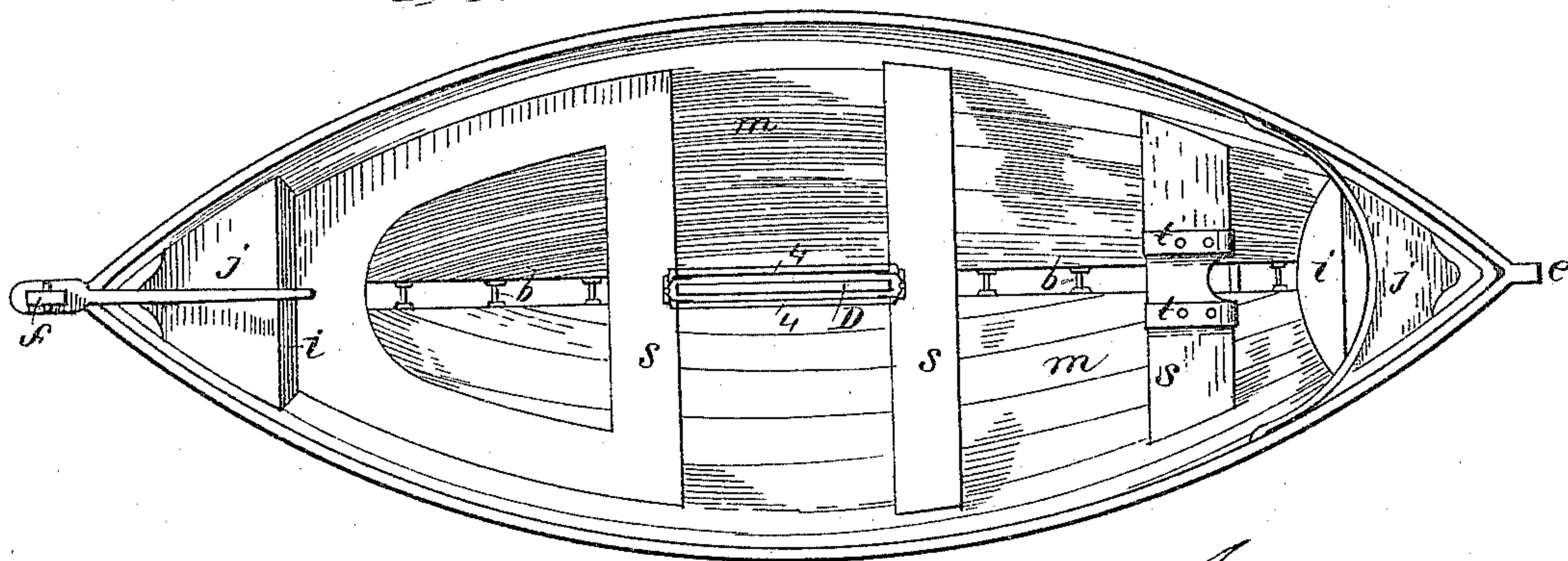
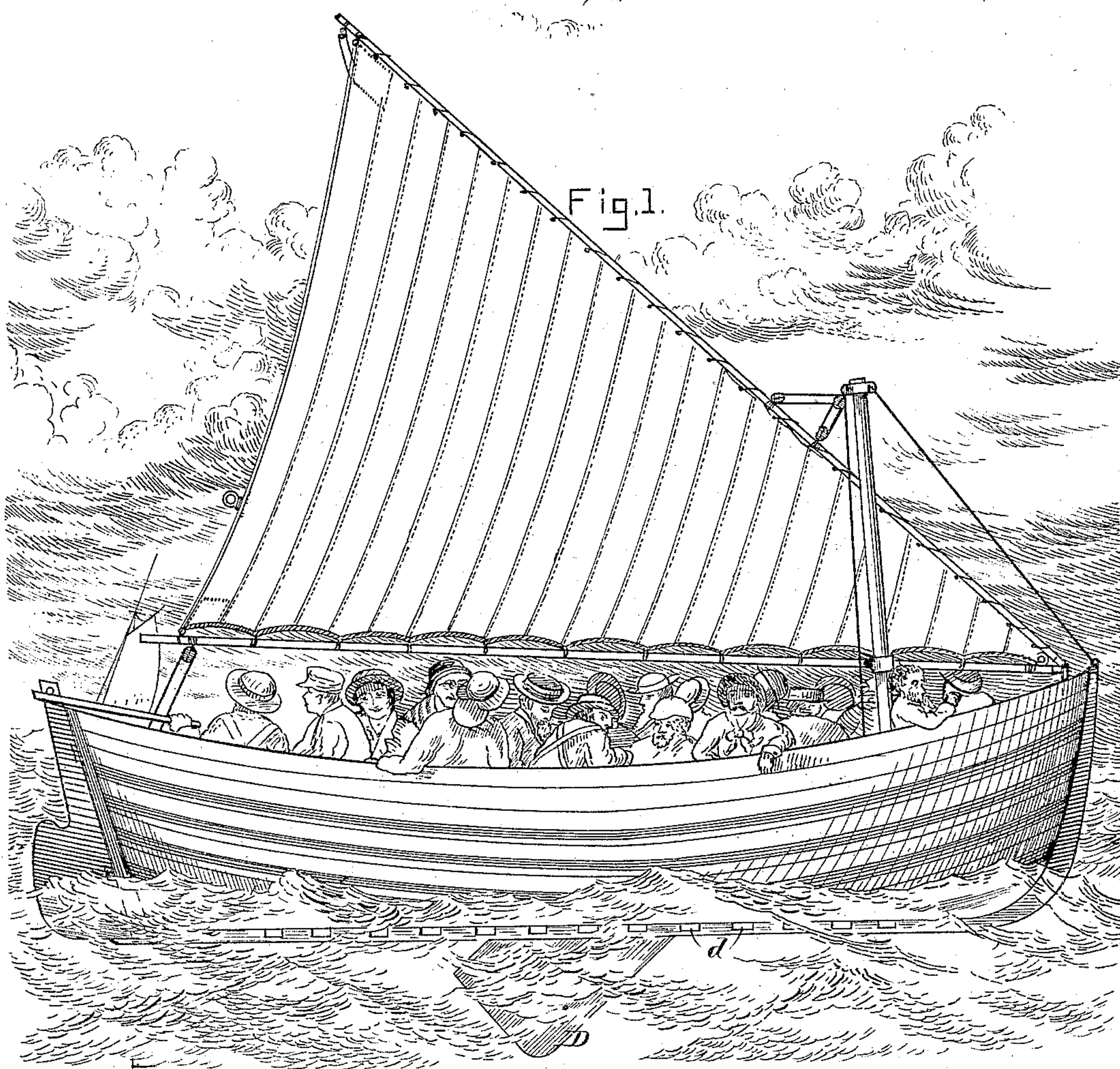
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Fig. 2.

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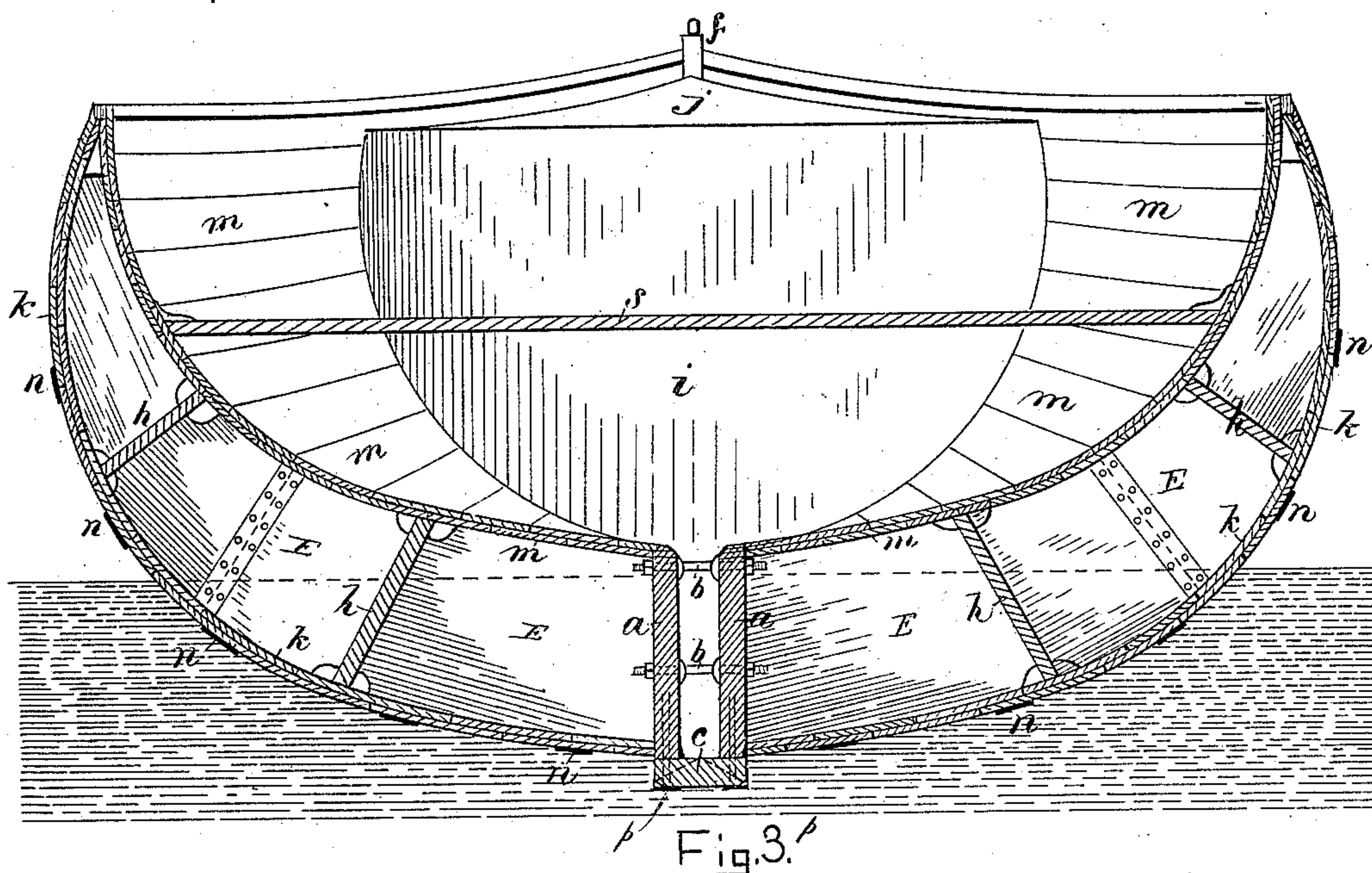


Fig. 3.

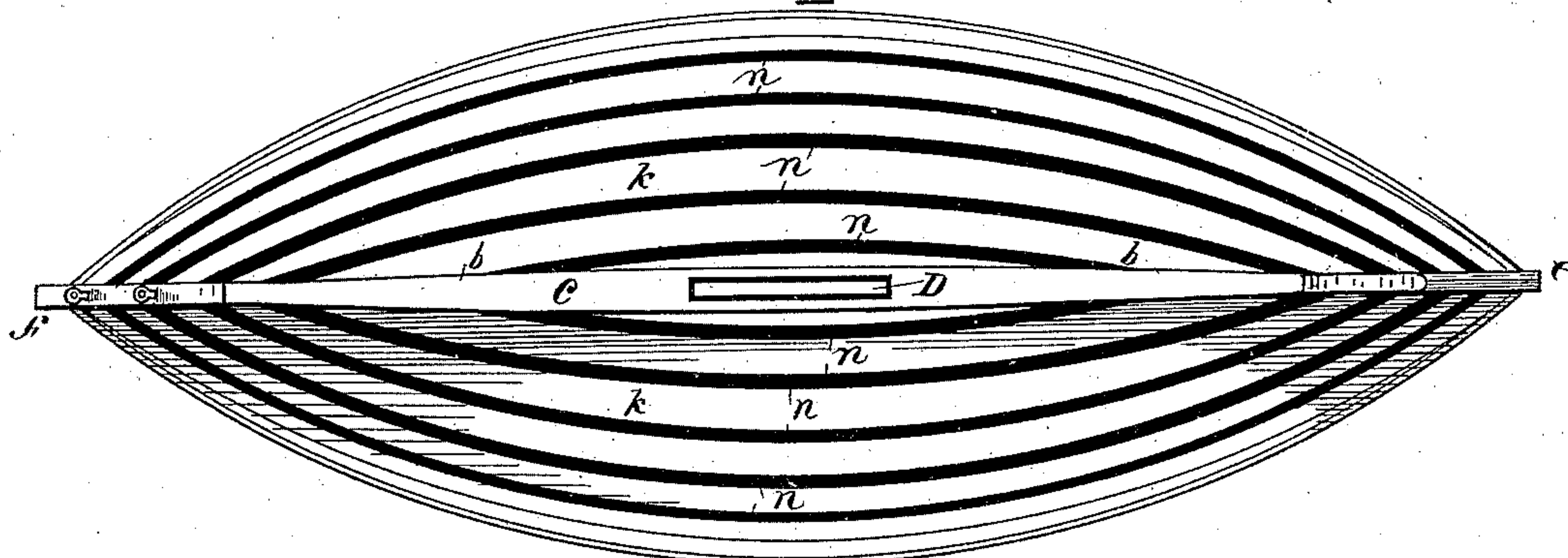


Fig. 4.

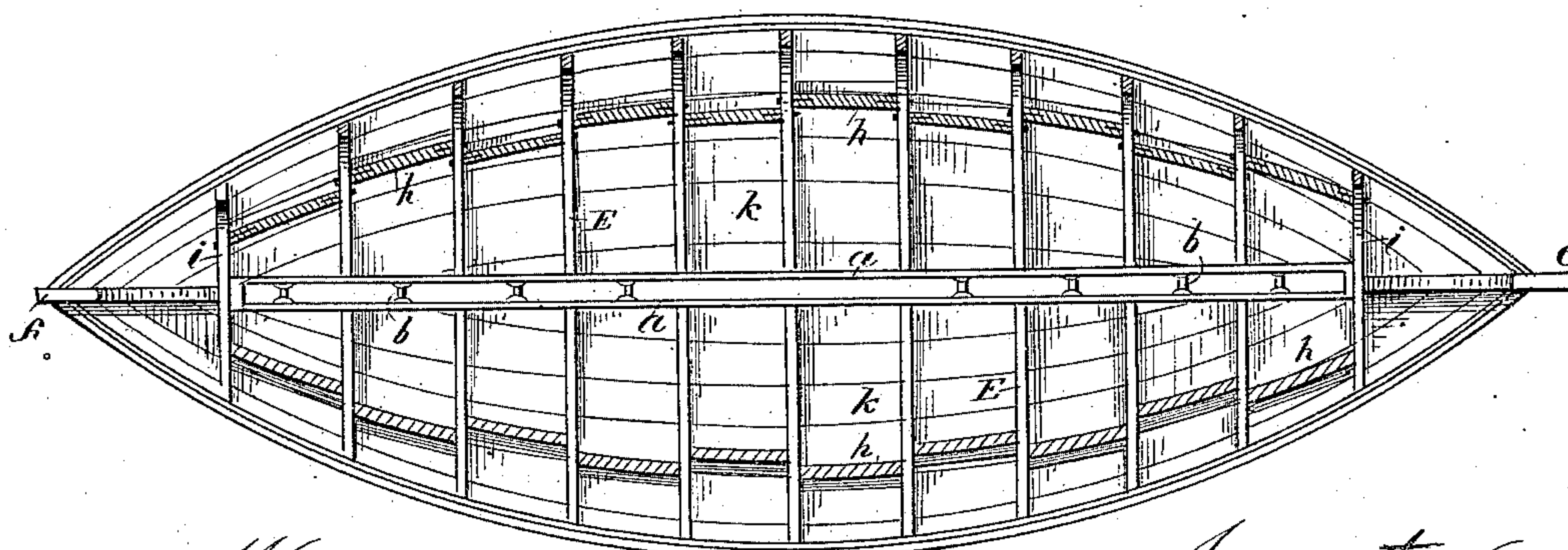


Fig. 5.

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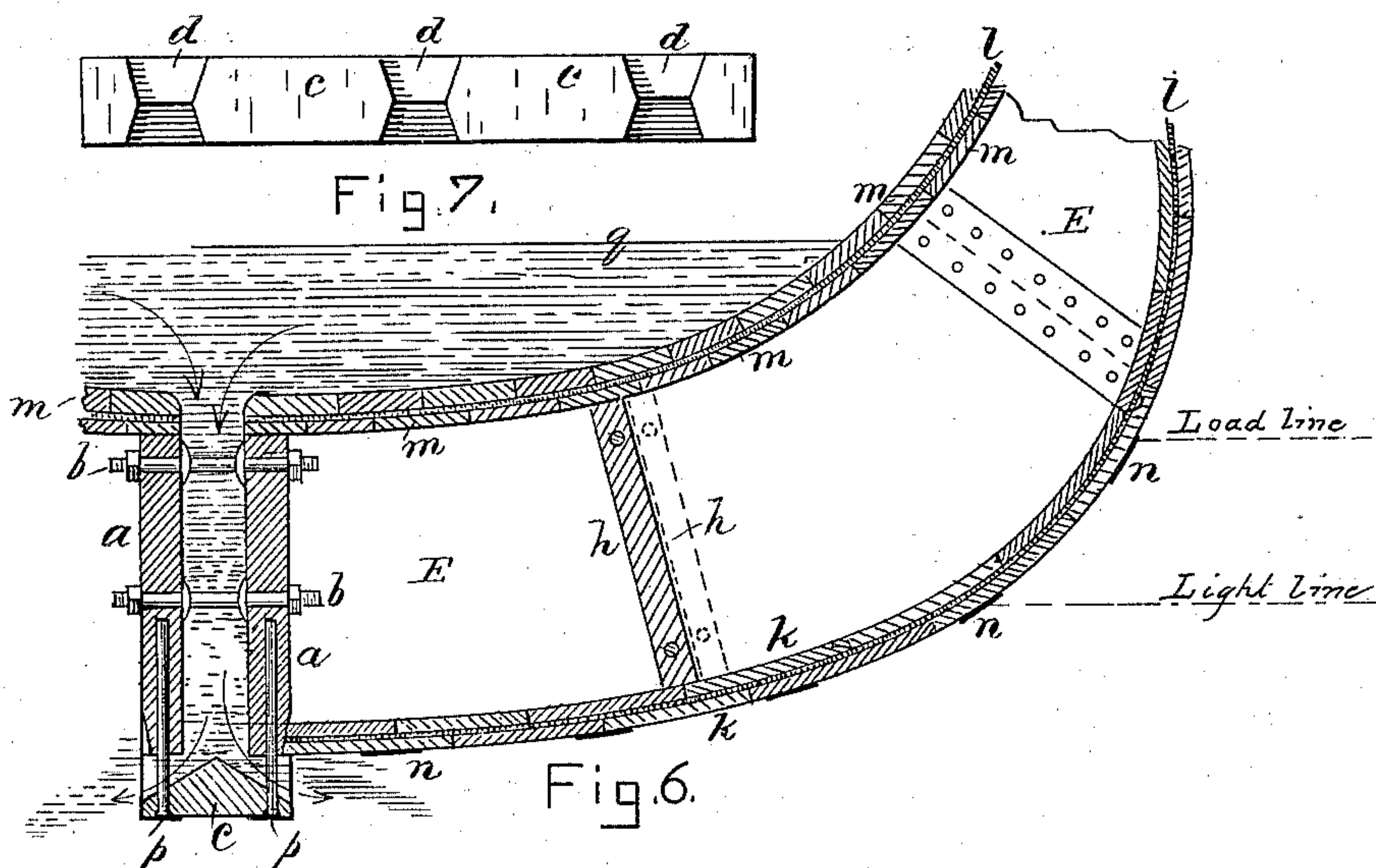
(No Model.)

4 Sheets—Sheet 4.

A. B. BOYLES.
LIFE BOAT.

No. 311,868.

Patented Feb. 10, 1885.



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UNITED STATES PATENT OFFICE.

AUGUSTINE B. BOYLES, OF BOSTON, MASSACHUSETTS.

LIFE-BOAT.

SPECIFICATION forming part of Letters Patent No. 311,868, dated February 10, 1885.

Application filed July 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTINE B. BOYLES, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Life-Boats, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

This invention has for its object certain improvements in life-boats and other small open craft which from their use are exposed to high seas, the danger of being overturned in launching, and shipping water when loaded; and it consists in the construction and combination of the divers devices embodied therein, as will, in connection with the accompanying drawings, be hereinafter more particularly and fully set forth and claimed.

In said drawings, Figure 0 is a perspective view of the frame of my boat. Fig. 1 is a side elevation of my boat as rigged, equipped, loaded, and under sail. Fig. 2 is a top plan view of my boat without the sailing appliances. Fig. 3 is a midship transverse section of my boat. Fig. 4 is a plan view of my boat as when turned keel up. Fig. 5 is a sectional plan view taken as in Fig. 2, but showing the boat as with the ceiling removed and the section horizontal and taken between the top of the keel and the bottom of the thwarts. Fig. 6 is an enlarged section similar to Fig. 3. Fig. 7 is a detached plan view of a portion of the keel-shoe, showing the form of the water vents or scuppers cut therein.

Among the desired characteristics of life-boats the following may be deemed of prime importance: first, that they be self-righting, in order that if overturned in launching, which is a not infrequent mishap, they will automatically right themselves; second, that they be self-bailing, in order that any water which they may ship, either by such overturning or when riding rough seas, will escape from the boat by the law of specific gravity; third, that the boat shall float, even though one or more holes may be made in her walls. These several results I accomplish by the means next to be described.

Referring, again, to the drawings, *aa* represent the two sides of the keel, which sides are arranged with a space between them, as shown, and are secured in such relation by

bolts *b*, which, by interior nuts or fixed collars and exterior screw-nuts, as shown in Figs. 3 and 6, serve to unite and hold parts *a* fixedly in place.

To the lower edges of sides *a*, I secure, as shown, the shoe *c*, in which are formed a series of vents or scuppers, *d*, which are flared outward from the longitudinal center of the shoe, as shown in Fig. 7, and are inclined downward from such center, as shown in Fig. 6. To the keel thus formed I secure the stem *e* and stern-post *f*, at the respective ends thereof, and along the sides of each half of the keel I secure the ribs *E*, between which I arrange the chocks *h*, which are each of the same width as the ribs, to which they are secured at their junction therewith. At a proper distance from the stem and stern-post I arrange a bulk-head, *i*, secured to a pair of ribs, *E*, and which constitute, with the outer covering and decks *j*, water-tight compartments.

I form my outside covering or planking of two thin layers of cedar, *k k*, between which I arrange a continuous sheet or layer of cloth, *l*, and the sheathing is formed in like manner of two thicknesses of cedar, *m m*, with the continuous cloth *l* inclosed between them; and when thus planked and sealed the respective spaces between the keel and chocks *h* and between said chocks and the gunwales each constitute a separate air-chamber that in case others should be by accident broken into serves to sustain the boat and its load. By forming scuppers *d* at right angles, or nearly so, to the space between sides *a* of the keel the water cannot be dashed in jets into the boat upon its occupants, while any water that the boat may ship, as shown at *q*, Fig. 6, will pass downward between the halves of the keel and out through the scuppers, as shown by the arrows in said figure, the depth of ribs *E* being such that when the boat is immersed to its load-line the water-level will be below the sheathing *m*, and hence the boat will be free from water, except when from the roughness of the sea it shall break into the boat, in which event it passes out, as stated.

Upon the outer part of the bottom of shoe *c*, I secure the protecting metal plates *p*, and upon outer planking, *k*, I secure the thin steel plates *n*, as shown in Figs. 3, 4, 6.

I am well aware that it is not new to ar-

range air-tight compartments between the inner and outer walls of water-craft, or to arrange such compartments in the bow and stern; hence I make no claim thereto.

5 I am also aware that it is not new to construct boats with ribs of sufficient depth that the load-line will be below the floor, and with openings in the keel to allow the water to escape from the boat; but I am, I believe, the
10 first to form said openings or water-ways indirect, or in two directions, and so as to prevent the water from being forced violently up into the boat by the pitching thereof; and I am, I believe, the first to combine in the same
15 boatsuch self-bailing water-ways and air-tight compartments, as by such vents in the keel the air confined beneath the boat while it is overturned will escape till the boat has so far settled that it is buoyed by the stem and stern
20 air-tanks, when, if constructed with the outline of cross-section shown in my drawings, even the slight motion of the water will roll it over and right it, and hence it becomes both a self-righting and self-bailing boat.

25 I claim as my invention—

1. The combination, with the keel formed with two halves extending from the stem to the stern-post, and having a coincident water-space between them, of a shoe secured to the
30 lower edges of the two halves of the keel, and having formed therein the lateral vents or scuppers for the escape of the water from the space between said halves of the keel, substantially as specified.

35 2. The combination, with the keel formed with a longitudinal water-space between the halves thereof, of a shoe secured to said keel and closing the space or water-way between the halves thereof, and having the lateral vents
40 or scuppers, respectively, formed with a bottom line descending from the longitudinal

vertical center of the shoe outward, and with side lines flaring outward or diverging from said longitudinal center, in manner as specified.

45 3. The combination of a keel formed in two longitudinal halves, respectively, united with the stem and stern-post, and secured one to the other, and having a continuous water-space between them, a series of ribs secured
50 at their inner ends to said halves of the keel, and constituting the cross-section frames of the boat, and of a depth to allow the connection of the outer planking and inner sheathing with said keel respectively at the top and bot-
55 tom thereof, and said outer planking and inner sheathing secured to said keel, and transverse ribs, whereby a series of compartments are formed upon each side of the keel between the inner and outer wall of the boat, and ex-
60 tending to the bottom of the keel, and a water-space is formed between the compartments on the respective sides of the boat, substantially as specified.

4. The combination, with a single stem and
65 stern-post, of a keel longitudinally divided, and having the ends thereof, respectively, united with said stem and stern-post, and having also a continuous water-space between said halves, and a series of stays passing
70 through and uniting said halves of the keel, whereby the halves of the boat are united at its central longitudinal line by means of the stem and stern-post and said stays of the divided keel, yet a continuous water-way is pro-
75 vided between the stem and stern-post, substantially as specified.

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Witnesses:

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