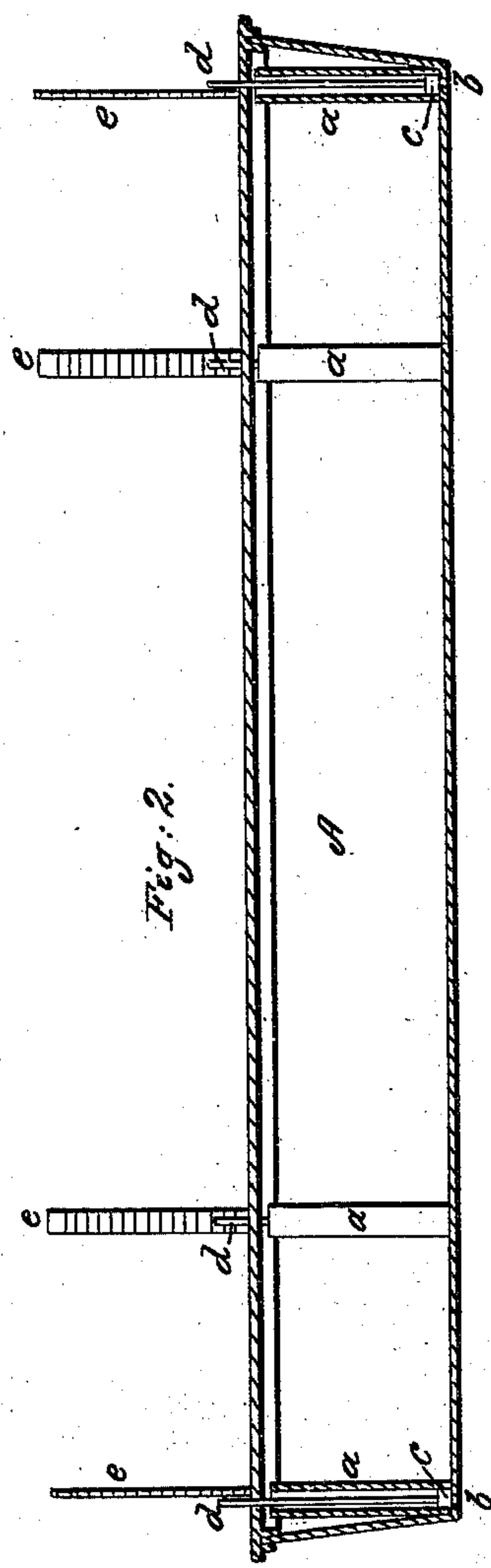
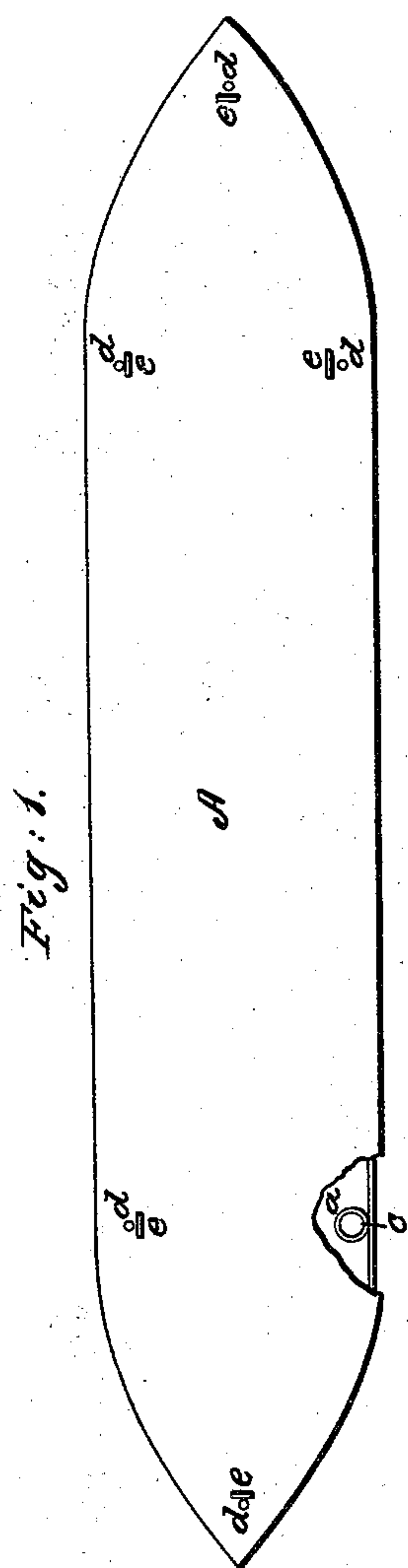


J. E. VANSANT.
Hydrostatic Scales.

No. 11,393.

Patented July 25, 1854.



UNITED STATES PATENT OFFICE.

JOHN E. VANSANT, OF LOUISVILLE, KENTUCKY.

ARRANGEMENT OF INDICATING-TUBES FOR ASCERTAINING DRAFT OF AND FOR TRIMMING VESSELS.

Specification of Letters Patent No. 11,393, dated July 25, 1854.

To all whom it may concern:

Be it known that I, JOHN E. VANSANT, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain
5 new and useful Improvements in the Mode of Ascertaining the Draft of Water of Steamboats, and Thereby Trimming the Same; and I do hereby declare the following to be a full, clear, and exact description of
10 the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1 represents a view of the deck of a vessel with the indicating apparatus in
15 place. and Fig. 2 represents a vertical longitudinal section through the same.

Similar letters in the two figures denote like parts.

My invention is applicable alone to that
20 class of steamboats wherein the strength of the hull of the vessel is sacrificed to lightness of draft—such boats as ply on the Western rivers. An indicator at bow and stern of such boats, by no means exhibits her
25 draft of water, as she may be on an even keel at bow and stern, and be “hogged” several inches in her center. This not only strains the vessel, but where the depth of water and draft of the vessel are calculated
30 upon to almost a fraction of an inch, as is often the case in the Western rivers, especially during low water, such bow and stern indicators alone, are calculated to deceive, and endanger the security of persons
35 and property. It is to avoid this difficulty, in the class of vessels referred to, that my invention is especially designed for, and applicable to. It is admitted that an indicator at bow and stern in an ordinary sea-
40 going vessel, will show near enough the draft of water such vessels are drawing, but such indicators to light draft or weak vessels, so far from being reliable, are actually dangerous, as they may not indicate the true
45 draft by several inches.

The nature of my invention consists in an arrangement to light draft, or weak hull vessels, of tubes with floats and indicators, at the bow, stern, and at two or more points
50 in the wings or quarters of or along the sides of the vessel, so that her true draft throughout her length and breadth may be ascertained, and so that she may be loaded

or trimmed on an even keel, to avoid “hogging” or straining.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A, represents the hull of a light draft
60 steamboat, having at her bow and stern, and at intermediate points between them in the wings, hollow tubes *a, a, a, a, a, a*, the number depending somewhat upon the length of the hull, and the location of the
65 boilers and engine. These tubes may extend from the deck down to or a little below the light draft line, and be placed in the most convenient position, inside of the hull, at the points selected for them, to secure
70 them from accident. The bottoms of these tubes may be nearly closed, leaving a small inlet *b* for the water to enter and escape. This inlet *b*, may be either through the bot-
75 tom or side of the hull, its object being to allow the water to find its level in the tube. Within the tubes are placed floats *c*, of any ordinary construction, that will rise and fall with the water in said tubes; and to these
80 floats a rod or wire *d* is attached extending up above the top of the tube so as to indicate on a marked scale *e*, the exact depth of water the vessel is drawing at each and every point where such tubes and indicators
85 may be placed. By watching these indicators (which may be in the hold of the vessel the vessel may be evenly trimmed at all points by those stowing the cargo, and thus insure the vessel against straining,
90 while the true draft of water is at all times known.

Instead of wires or rods connected to the float, it may be a cord or chain running over a pulley, with a counterweight, and provided with an indicator and scale in any
95 of the well known ways.

Having thus fully described the nature of my invention I would state that, I am aware that the bow, stern, and rudder stocks of vessels have been marked to indicate the
100 draft of water and that tubes with indicators have been used near the bow and stern connected therewith, but this I do not claim, as such tubes and indicators will not
105 fully and clearly give the entire condition of the draft at all points, in the class of

vessels to which I apply my tubes and indicators. But

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

5 The arrangement of tubes and indicators, in the bow, stern, and quarters or wings of light draft vessels, for the purpose of keeping her trimmed by indicating the true draft

of water throughout her length and breadth, and preventing the hogging or straining of the hull, substantially as described. 10

J. E. VANSANT.

Witnesses:

A. B. STOUGHTON,
THOMAS HENRY UPPERMAN.