

(Model.)

2 Sheets—Sheet 1.

T. McCARTER & T. COOPER.
Screw Steam Ships.

No. 235,691.

Patented Dec. 21, 1880.

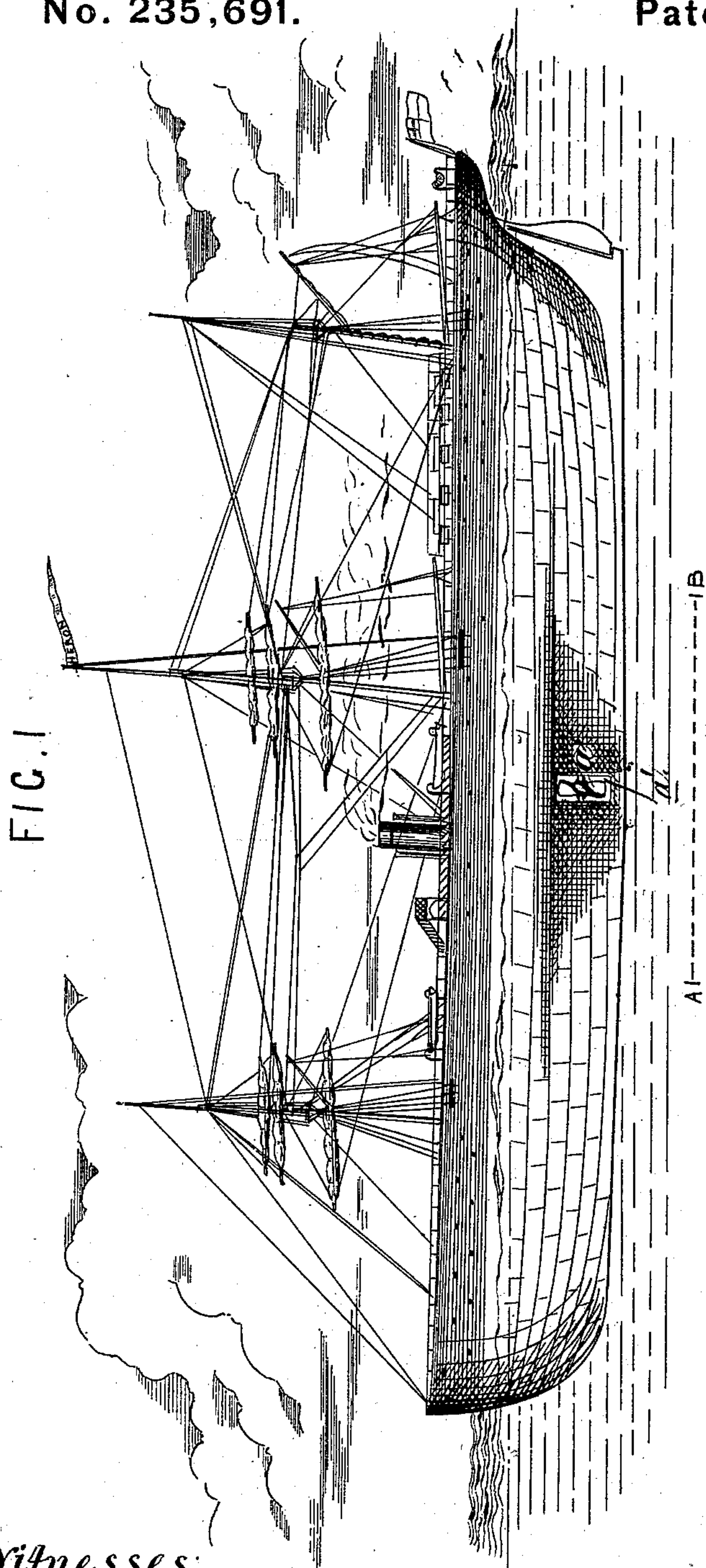


FIG. 3

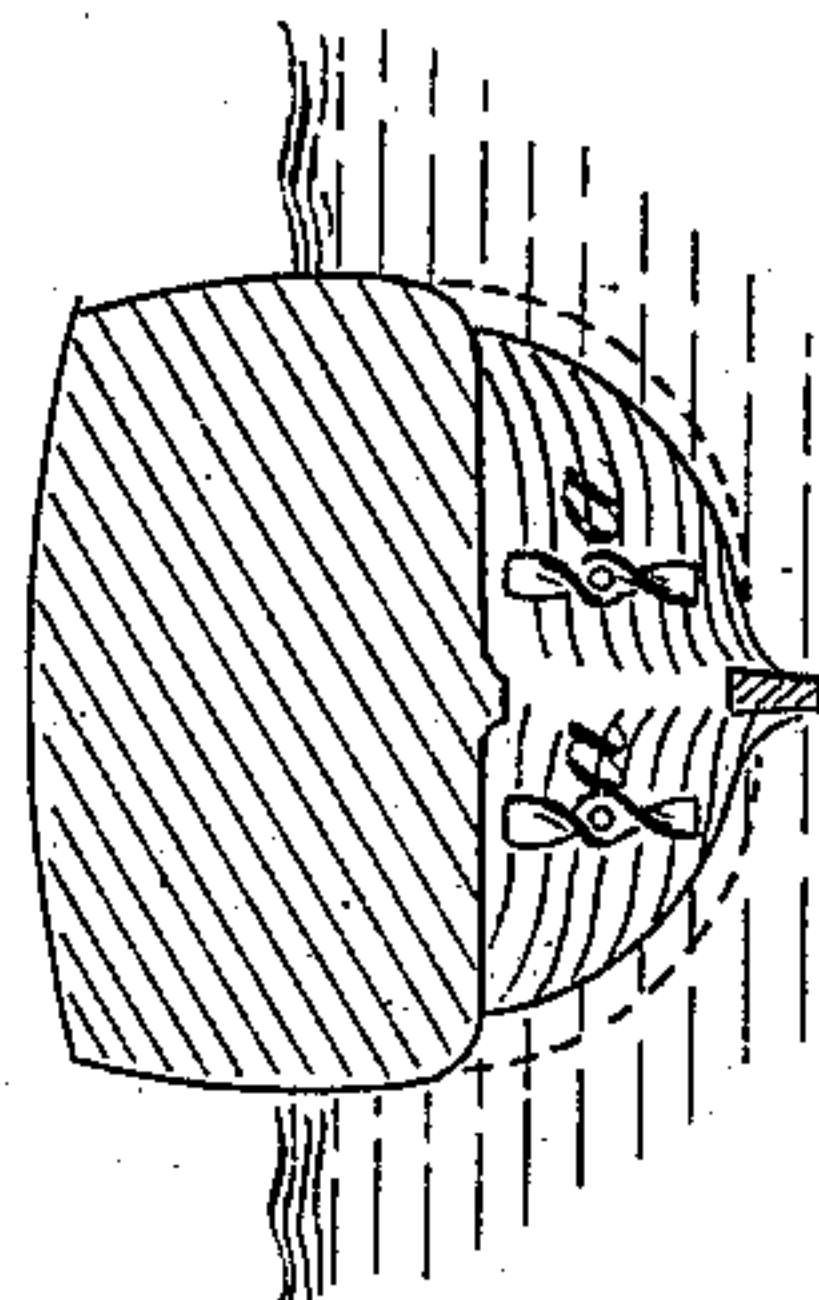
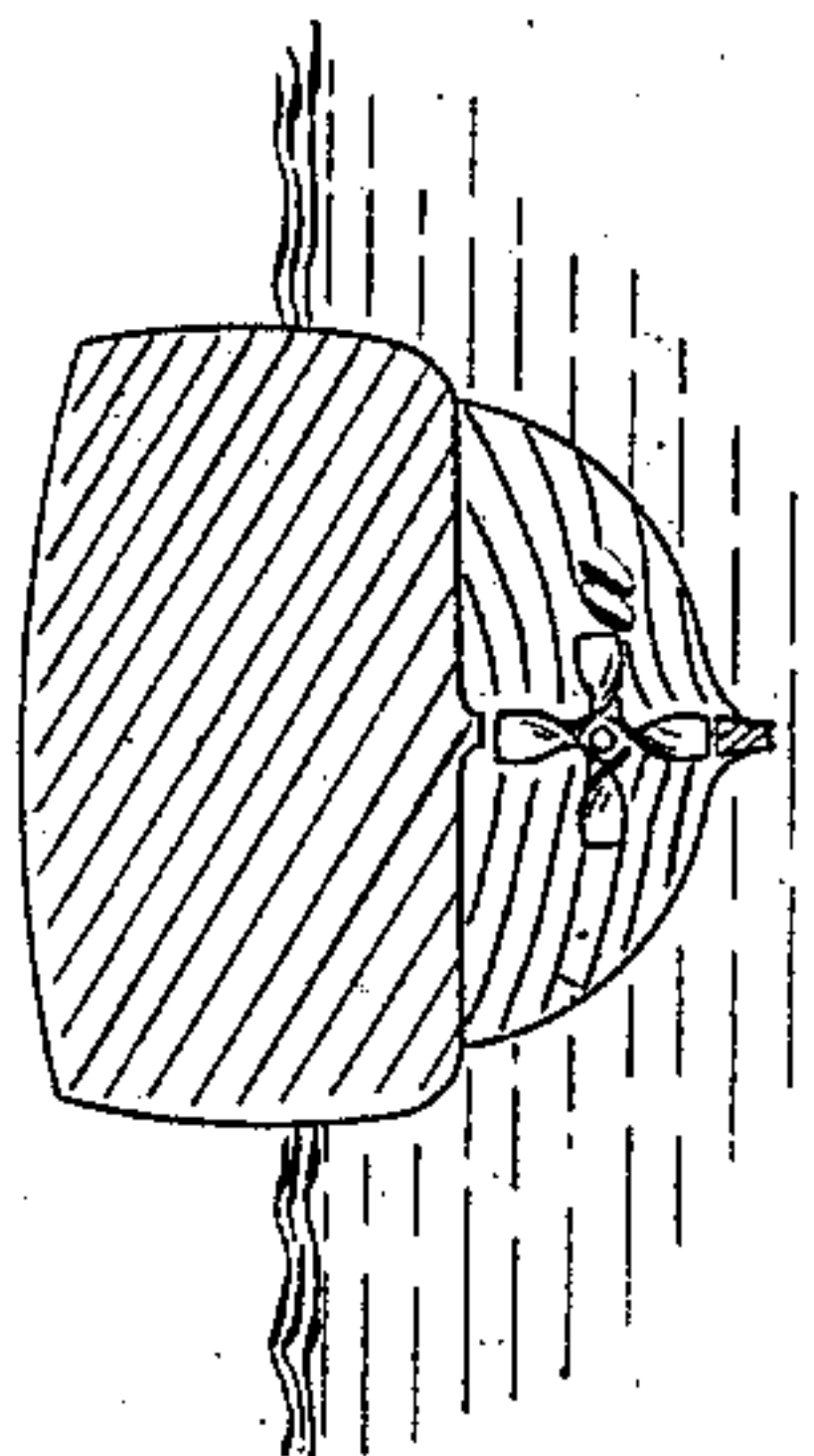


FIG. 2



Witnesses:

Saml R. Turner

Pennington Halsted

Inventors:

Thomas McCarter
and Thomas Cooper
by *John J. Halsted*
their Att'y.

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FIG. 4.

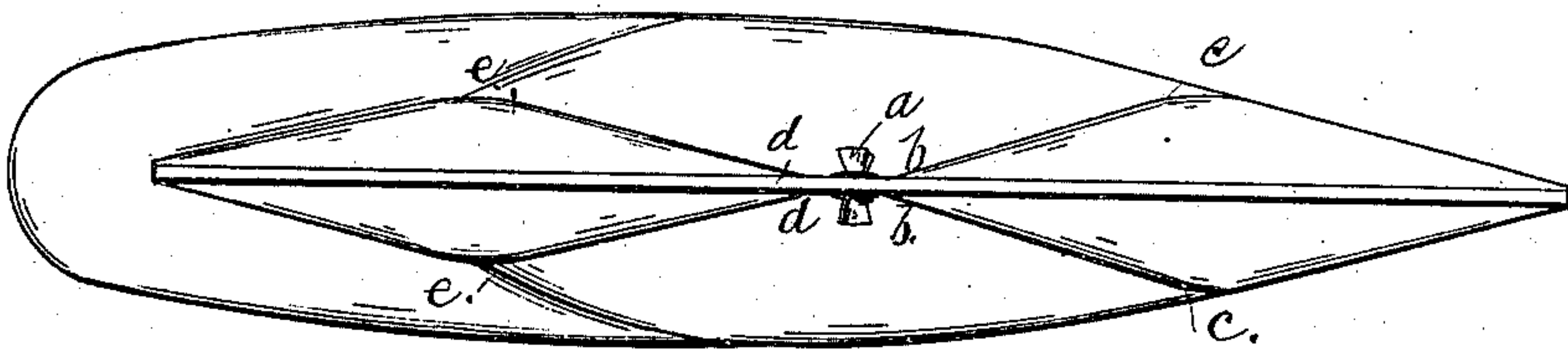
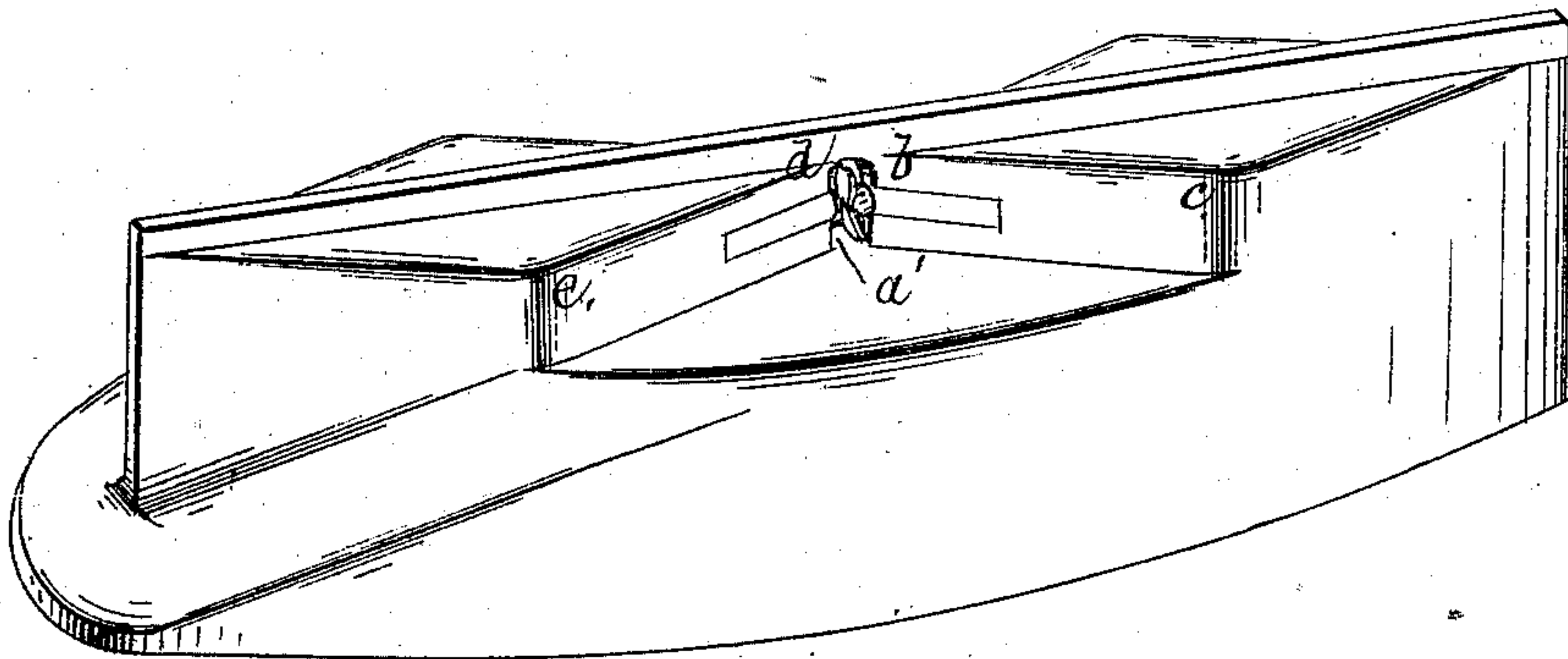


FIG. 5.



Witnesses:

Pennington Halsted
George Cornell

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Thomas M. Carter
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by J. J. Halsted, their Atty:

UNITED STATES PATENT OFFICE.

THOMAS McCARTER AND THOMAS COOPER, OF LONDONDERRY, IRELAND.

SCREW-STEAMSHIP.

SPECIFICATION forming part of Letters Patent No. 235,691, dated December 21, 1880.

Application filed May 31, 1880. (Model.) Patented in England November 17, 1879.

To all whom it may concern:

Be it known that we, THOMAS McCARTER, of Ship Quay street, in the city of Londonderry, Ireland, newspaper proprietor, and THOMAS COOPER, of Alma Place, in the said city of Londonderry, mechanic, have invented a new and useful Improvement in the Construction of Screw Steam Ships or Vessels, (for which we have obtained a patent in Great Britain, No. 4,670, bearing date 17th November, 1879,) which improvements are fully set forth in the following specification, reference being had to the accompanying drawings.

The object of the improvements in the construction of steam ships or vessels is to enable the propeller or propellers to be placed in the center line of the hull of the vessel and at or toward the middle of the length thereof.

The form of propeller employed is that of the screw. The vessel above the keel is cut through to the height required for the free working of the screw or screws employed, and from this opening the sides of the vessel incline fore and aft to admit of the water passing freely to and from the blades of the propeller. By these means the necessity for any considerable length of screw-alley and shafting between the propeller and the engine-power employed is avoided, and the engine-power is enabled to act directly on the propeller-shaft. The vessel is also better able to work in all weathers, while other advantages are secured.

That the invention may be the better understood, we will, by the aid of the accompanying drawings, proceed to describe the same more in detail.

In the drawings, Figure 1 shows the side view of a steam ship or vessel with parts thereof arranged and the propeller applied thereto according to our invention. Fig. 2 shows a section of Fig. 1, taken through the midships.

a represents the screw-propeller, and the vessel at that part is cut away above the keel, or is formed with an opening, *a'*, to the height required to admit of the proper action of the propeller. From this opening both sides of the ship or vessel incline fore and aft from about *A* to *B*, to admit of the water passing freely to and from the blades of the propeller. The shaft of the propeller passes through

packed collars to the interior of the vessel in the usual way.

Fig. 3 represents, by another similar section, the application of a pair of propellers to act over each side of the keel.

We have not thought it necessary to show or to enter into any description of the means for connecting the shafting of the propeller or propellers with the engine-power employed, as such will be simply of the ordinary character employed when giving motion to screw-propellers generally.

Fig. 4 represents an under-side, and Fig. 5 a perspective under-side, view of the vessel, and serve to illustrate more clearly the character of the fore and aft inclines and their relation to the opening *a'* and to the wheel or wheels. The vessel's hull, above its keel, is cut away to the requisite height to afford the necessary space for the free working of the propeller screw or screws, and from this opening the sides of the vessel are shaped or molded to incline gradually away from such central opening both fore and aft, as shown by the lines *b c* and *d e*, and this construction, it will be evident, admits of the greatest freedom of passage to the water flowing both to and from the blades of the screw or screws, these latter being located, as seen, midway of the breadth of the vessel, as well as about midway of its length, and therefore out of all danger, and protected and guarded at every side. The inclines *b c* and *d e* on either side of the vessel meet or merge into the central transverse opening *a'*, in which the propeller or propellers are placed.

Among the advantages accruing from this plan of construction are the following, namely: The greatly-increased average speed attainable, owing to the uniform submersion of the screw and uniform gripe of the water which it maintains, and the avoidance of all the evil results incident to propellers so made or applied as to be liable at times to be out of the water, and to suddenly re-enter it again; the uniform action of the screw in all weathers; the immunity of the screw from danger of an enemy's attack by reason of its non-exposure to view, even in a heavy sea; the avoidance of the need of any considerable length of screw-alley and shafting between the engines

and the propeller; the non-increase of the draft of the vessel; the freedom from liability of damage to the propeller by collision with floating or other obstructions or from vessels alongside; the construction does not weaken the vessel's hull, but gives strength and stability throughout its structure; the cargo-space is not diminished or interfered with; and this system of construction is adapted to vessels of existing construction.

Having thus described our invention, and the means which we adopt in carrying the same into effect, we would have it understood that what we claim is—

1. The described improvement in the construction of steam ships or vessels, the same consisting in the fore and aft inclines *b c* and *d e* on opposite sides of the vessel, such inclines all converging to and connecting with

the transverse opening *a'*, cut through the vessel just above its keel at or about the center both of the length and breadth of the vessel and beneath the cargo-space.

2. In combination with a vessel constructed with the inclines *b c* and *d e*, and with the central opening, *a'*, as described, a propeller or propellers, *a*, located within such opening and applied to be entirely submerged beneath the center of the hull of the vessel and between the hull and keel.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

THOMAS McCARTER.
THOMAS COOPER.

Witnesses:

GEORGE HILL BOGGS,
GEORGE MUIRHEAD.