(No Model.)

3 Sheets—Sheet 1.

D. AMMEN.

SEA GOING VESSEL.

No. 267,051. Patented Nov. 7, 1882.

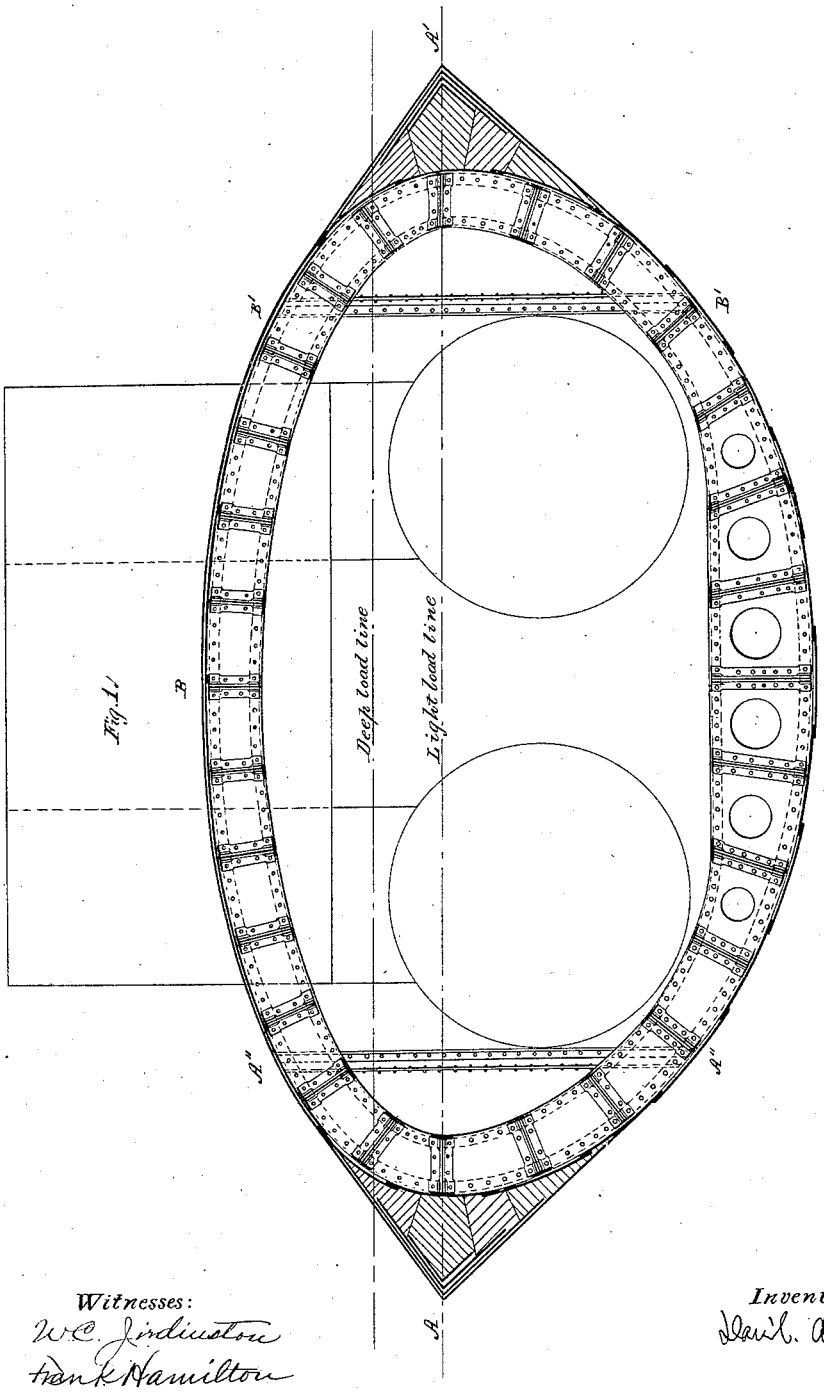

Fig. 1.

Witnesses:
W. C. Lindenstow
Frank Hamilton

Inventor:
David Ammen.

(No Model.)

3 Sheets—Sheet 2.

D. AMMEN.

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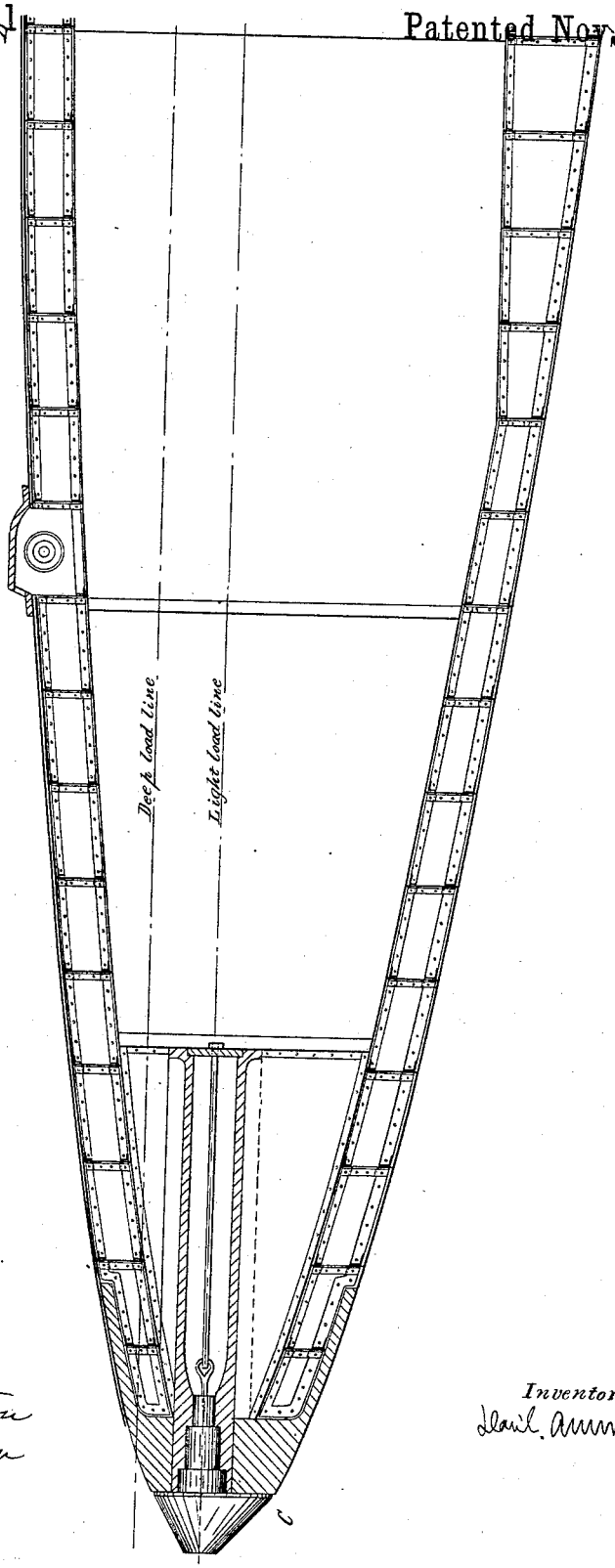

Fig. 2.

Witnesses:
W. C. Jinkinson
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Inventor:
Lewis Ammen.

(No Model.) 3 Sheets—Sheet 3.

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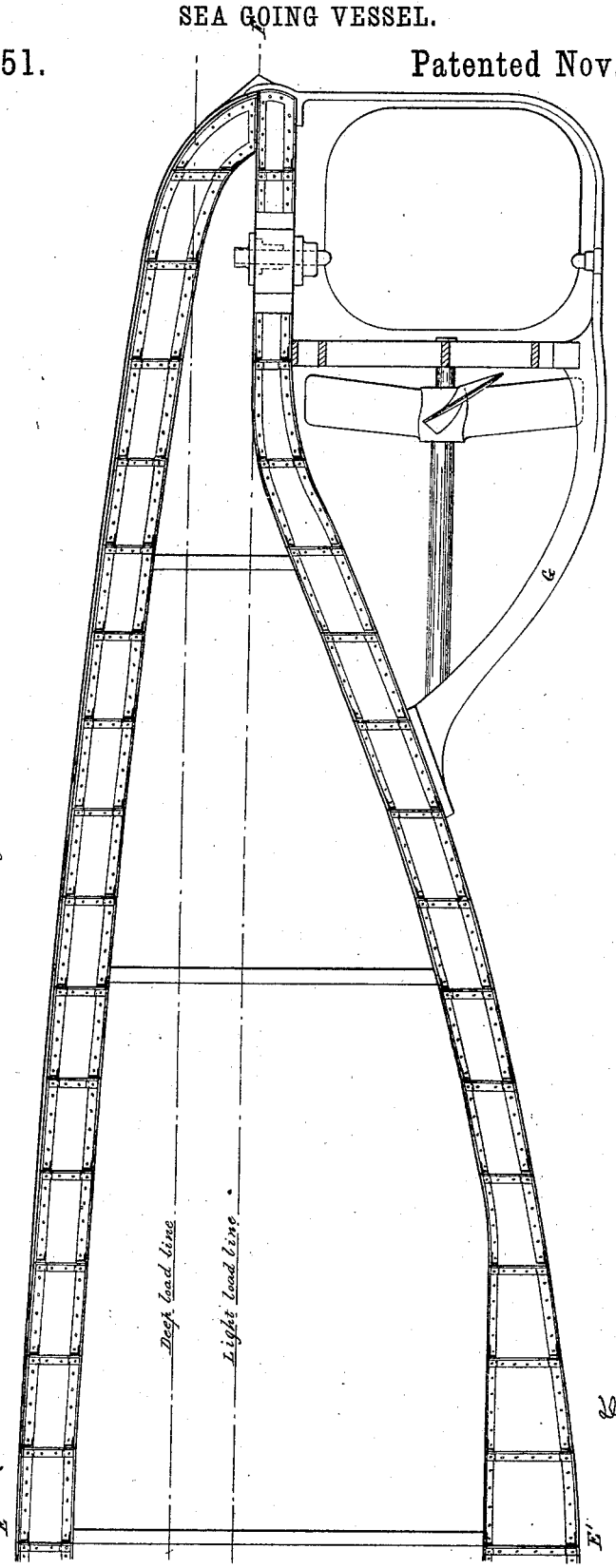

Fig. 3.

Witnesses:
W. C. Jinkinson
Frank Hamilton,

Inventor:
David Ammen.

UNITED STATES PATENT OFFICE.

DANIEL AMMEN, OF BELTSVILLE, MARYLAND.

SEA-GOING VESSEL.

SPECIFICATION forming part of Letters Patent No. 267,051, dated November 7, 1882.

Application filed March 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, DANL. AMMEN, of Beltsville, Prince George's county, and State of Maryland, have invented a new and useful Improvement in Sea-Going Vessels, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a transverse section of the middle body of the vessel. Fig. 2 is a longitudinal projection of the fore body. Fig. 3 is a longitudinal projection of the after body.

The object of the invention is to produce a vessel of extraordinary strength of construction, of great handiness in movement, and capable of being kept afloat and even temporarily repaired at sea should a hole of very considerable size be made in the bottom by whatever cause.

Fig. 1 represents the transverse section of the vessel, and is formed on two semi-conjugates of ellipses, the curves of which are prolonged to meet at A and A′ in the plane common to both ellipses. The spaces between the true ellipses and the prolongations of the curves before mentioned may be filled with sponsoning, as shown in the drawings, should the purpose of the construction be favored by a sponsoning. It also shows longitudinal bulk-heads A″ A″ and B′ B′. Fig. 2 exhibits the principles of the model longitudinally in the coming together of the girders upon which the vessel is built following the curves of a parabola, and showing the line of keel C D′, following the curve of a parabola for any desired proportionate length of the keel, and terminating in the plane of the greatest beam. The point toward which these parabolic curves are projected may be at some distance beyond the terminals or bow and stern of the vessel, and the bow and stern fashioned and fastened as desired. Fig. 3 shows the same principle for the construction of the after body as exhibited by Fig. 2 in the construction of the fore body—namely, the coming together of the girders on parabolic curves, grillage, truss-work, or a curved arm, G, as shown in the drawings, to support the rudder-post, may be employed in the construction, the object of which is to secure the rudder, and at the same time to avoid the lateral pressure against the action of the rudder when employed in turning the vessel as rapidly as possible.

Throughout the vessel transverse bulk-heads are placed where practicable, at distances apart equal to the half-sum of the transverse and vertical diameters of the interior shell of the vessel. For the prevention of sinking, should a considerable hole be knocked in the bottom, it is necessary to have closed all of the apertures through the deck, except the smoke-stack and parts over the fire-room, by means of air-tight scuttles or hatches, and to bulk-head off the fire-room and any portion of the engine-room desired from the other portions of the interior of the vessel, bracing the bulk-heads sufficiently to resist the pressure caused by operating a steam air-pump having the necessary pipes attached, through which the various compartments other than the fire-room or part bulk-headed off shall be filled with compressed air and held under pressure slightly in excess of that of a column of water having the height of the draft of the vessel.

The vessel, as represented in the drawings, has a center transverse section formed on half-ellipses having a common diameter, but different semi-conjugates. The employment of tangents which meet on the plane common to the two half-ellipses forms a sponsoning, materially increasing the beam, which is terminated in an edge. The longitudinal section, as represented in the drawings, is composed of a straight body in the center of any desired length, from whence toward each extremity the girders converge, following the arcs of parabolas, meeting in points on the horizontal plane of the greatest beam, the upper part of the after body being extended as far as necessary for the protection of the twin screws.

The vessel, as designed in construction, is a combination of the longitudinal and transverse bracket-frame system, the modification being the method of sponsoning, as above described, and the meeting in the plane of the greatest beam of the girders upon which the construction is made, terminating in the bow at a given point, the girders being secured in pairs by

screw-bolts to flanges cast on a steel head. On the stern the girders converge in a manner somewhat different, and are secured without the intervention of a casting.

Girders and bracket-frames have been employed for some time, and I make no claim for their use.

What I claim as original is—

1. A vessel constructed on a double system of arches and on tangents to the same for the cross-section, substantially as described.

2. A vessel whose longitudinal sections follow the arcs of a parabola to a common point in the bow in the plane of the two half-ellipses, substantially as described.

3. A vessel the lower section of the after body having parabolic curves to a common point, substantially as desc bed.

4. The arm, as shown in the drawings, which supports the heel of the rudder-post, in combination with the line of keel rounding upward, as described.

5. A vessel having the double elliptical cross-section and the longitudinal parabolic section, substantially such as described.

6. The keel rounding upward, as described, in combination with the arm which supports the propeller, as set forth.

DANL. AMMEN.

Witnesses:

EDMOND BRODHAG,

J. W. HAMILTON JOHNSON.