

No. 815,737.

PATENTED MAR. 20, 1906.

J. P. POOL.
NAVIGABLE VESSEL.
APPLICATION FILED SEPT. 23, 1904.

2 SHEETS—SHEET 1.

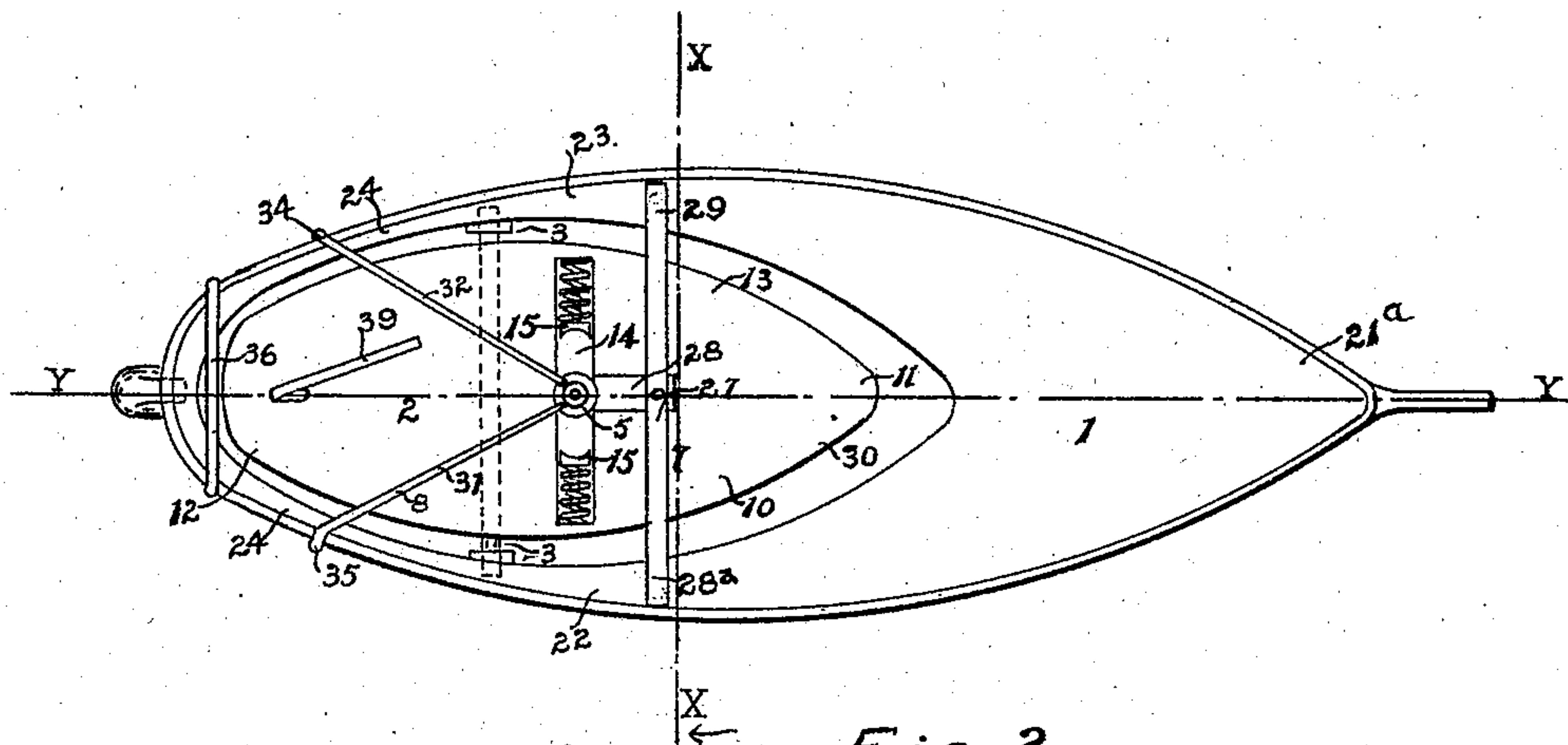


Fig 2.

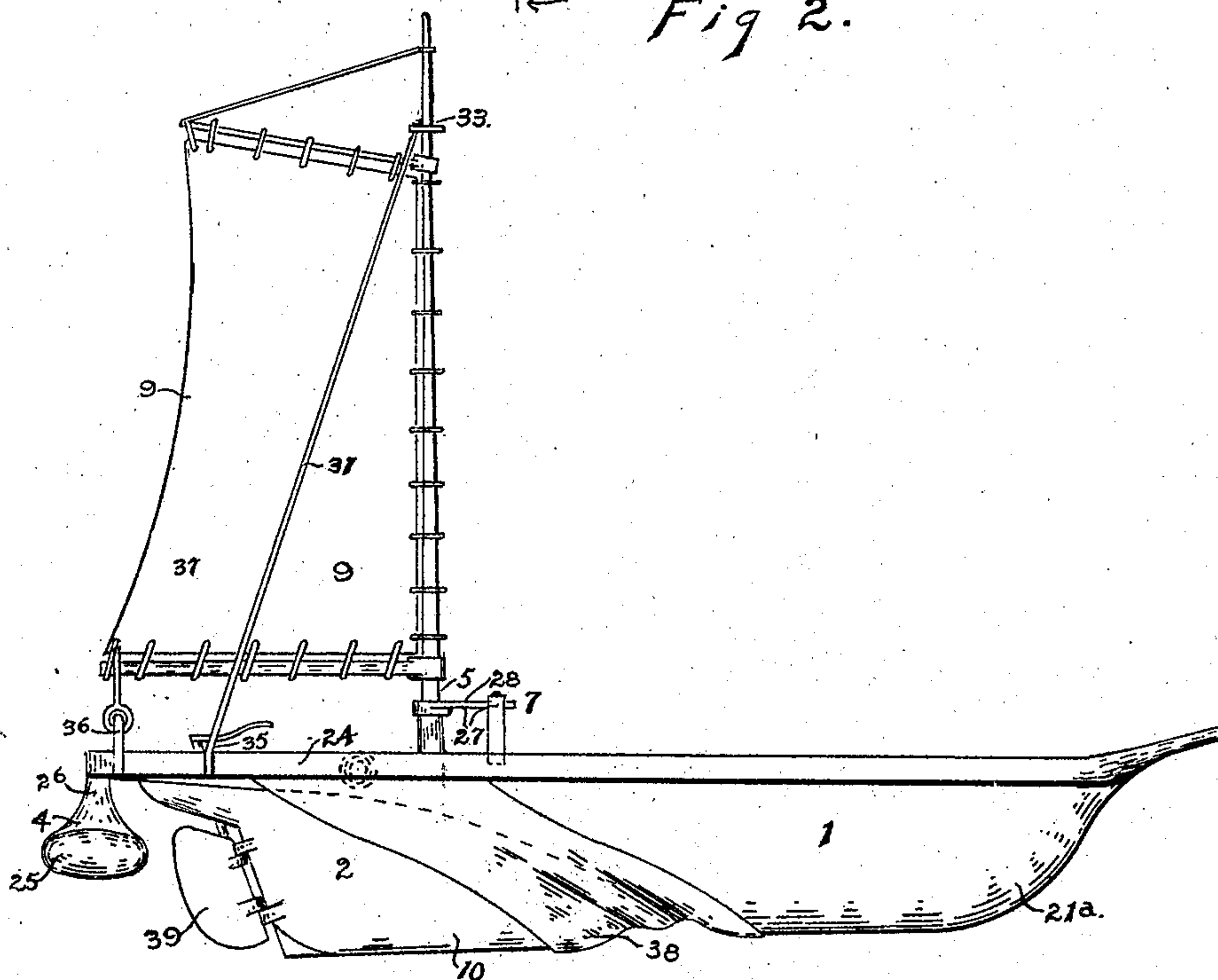


Fig 1.

Witnesses
Wm. H. Hawkins.
Edgar B. Haymond.

James P. Pool, Inventor,
By his Attorney Raymond J. [Signature]

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2 SHEETS—SHEET 2.

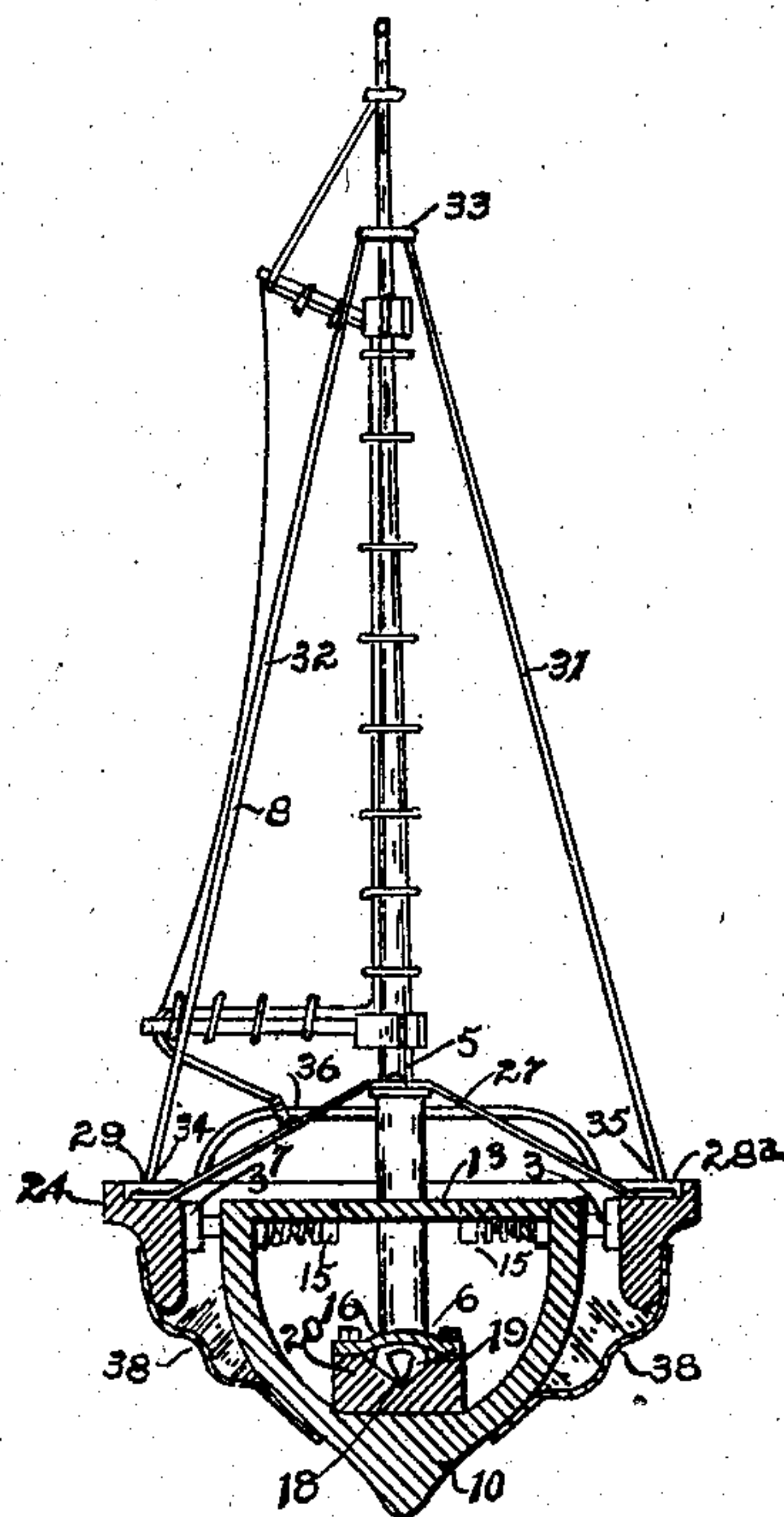


Fig. 3.

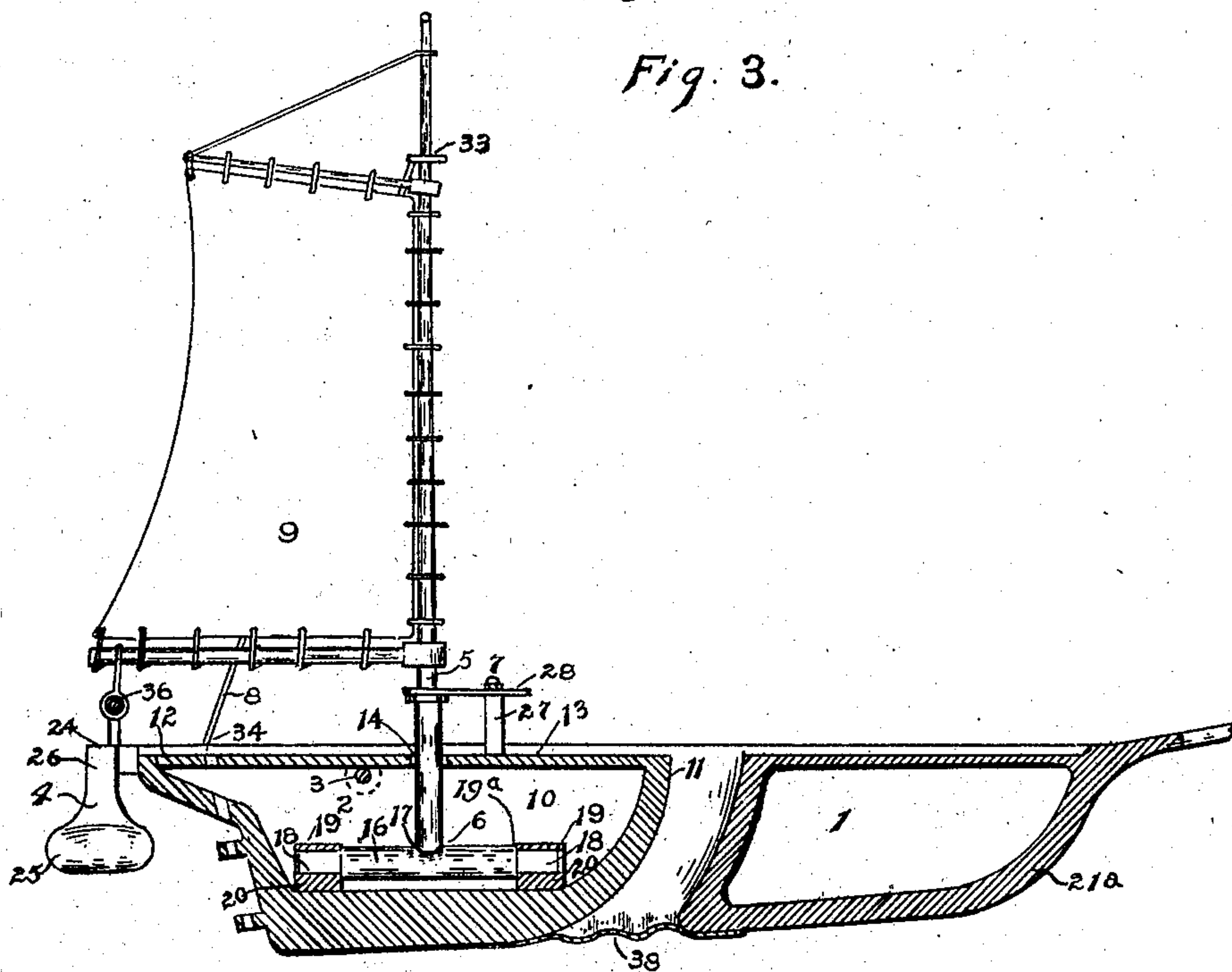


Fig. 4.

Witnesses.
Wm. H. Hawkins.
Edgar B. Haymond.

James P. Pool, Inventor,
By his Attorney Raymond S. Phillips

UNITED STATES PATENT OFFICE.

JAMES P. POOL, OF NEW YORK, N. Y.

NAVIGABLE VESSEL.

No. 815,737.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed September 23, 1904. Serial No. 225,572.

To all whom it may concern:

Be it known that I, JAMES P. POOL, a citizen of the United States, residing in the borough of Brooklyn, in the county of Kings and city and State of New York, have invented certain new and useful Improvements in Navigable Vessels, of which the following is a specification.

This invention relates to navigable vessels.

It has for its object to provide improvements in vessels of this class whereby shall be obtained greater stability in the movement of the vessel through the water, and consequently greater speed of movement and comfort and security to persons carried by the vessel.

In the drawings, Figure 1 is a side elevation of a sailing vessel constructed according to the invention. Fig. 2 is a plan view of the same. Fig. 3 is a vertical transverse sectional view taken upon the line X X, Fig. 2; and Fig. 4 is a longitudinal vertical section view taken upon the line Y Y, Fig. 2.

The corresponding parts in all the figures are denoted by the same reference characters.

Referring with particularity to the drawings, 1 designates the load-carrying member of the improved vessel, and 2 the sail-carrying member of the same, the members 1 and 2 being connected together, as at 3, in such manner as to be capable of relative and preferably pivotal movement. The load-carrying member 1 is provided with a counterweight 4, which is preferably arranged rearwardly of the sail-carrying member 2, the load-carrying member 1 extending in the main forwardly of the sail-carrying member 2. The load-carrying member 1 and the counterweight 4 are rigidly connected together, so that pivotal movement of the member 1 is accompanied by pivotal movement of the counterweight 4. The member 1 and the member 2 are formed and arranged to rest directly upon the water, and the counterweight 4 is adapted to depend within the water.

The sail-carrying member 2 is provided with a mast 5, which is mounted, as at 6, for oscillation in a plane transverse to the vessel within predetermined limits, but is incapable of oscillation in any other plane. The mast 5 is operatively connected with the load-carrying member 1 preferably by two operative connections 7 and 8, respectively,

the former of which operates upon the load-carrying member 1 forwardly of the points 3 of pivotal connection of the load-carrying member 1 with the sail-carrying member 2, and the latter of which operative connections is connected with the load-carrying member 1 rearwardly of the said points 3 of pivotal connection with the members 1 and 2.

As the mast 5 oscillates and careens under lateral air-pressure upon the sail or sails, of which latter a single mainsail 9 is shown in the drawings, by means of the operative connections 7 and 8 the load-carrying member 1 is depressed in the water and the counterweight 4 is caused to rise both with respect to the sail-carrying member 2, and the careening tendency of the entire vessel is transmuted into a tendency toward further stability of the entire vessel by the sinking or submerging of the load-carrying member 1 forwardly of the points of pivotal connection 3. The counterweight 4 is of proper mass to effectually balance the portion of the load-carrying member 1 forward of the points 3 of pivotal connection. Furthermore, the counterweight 4 as it depends in submerged position adds to the stability of the vessel, tending to balance the same against lateral careening.

A preferred form of construction, arrangement, and operative connection of parts and members of a vessel constructed according to the invention is as follows: The sail-carrying member 2 consists of a hull 10 of conventional or other preferred form tapering from its central portion to its bow portion 11 and its stern portion 12. The hull 10 is provided with the customary deck 13, in which, approximately at the central portion, is formed a laterally-elongated mast-hole 14, through which the mast 5 projects, such mast-hole being provided at its opposite end portions with opposed spring-buffers 15, against which the mast 5 bears in its oscillations to and fro laterally of the vessel, such buffers 15 yieldingly opposing and terminating the said oscillations of the mast 5. The mounting or stepping of the mast 5, as at 6, so that the mast may be able to rock or oscillate laterally, is by means of a shaft 16, which extends longitudinally of the hull 10 beneath the deck 13 of the same and to which the lower end of the mast 5 is directly connected in upright position, as at 17. Each end of the shaft 16 is provided with an elongated edged bearing 18, which rests within a bearing-opening 19 in a

separate standard 20, the standards 20 being spaced one from the other and arranged in a line longitudinally of the hull 10. The bearings 18 are free to rock in the bearing-openings 19 to a predetermined extent, equivalent to that permitted by the dimensions of the mast-hole 14. Suitable shoulders 19^a on the shaft 16, in contact with and between the standards 20, prevent longitudinal displacement of the bearings 18 in the bearing-openings 19.

The load-carrying member 1 consists of a bowed hull 21^a, which extends around and embraces the bow portion 11 of the hull 10 and is pointed at its forward or bow portion 21 similar to the corresponding portion of the conventional sailing vessel. The rearward end portions 22 and 23 taper rearwardly to the points of pivotal connection 3 with and at opposite sides of the hull 10 and approximately in the same transverse section of the hull 10 as that in which the mast 5 is stepped. The counterweight 4 is connected with the hull 21^a by means of a bowed frame 24, which extends around and embraces the stern portion 12 of the hull 10 and is rigidly connected at its forward ends with the hull 21^a at the points 3 of pivotal connection of the load-carrying member 1 with the sail-carrying member 2. The counterweight 4 is of bulbous formation, tapering from its lowermost flaring portion 25 to its uppermost portion 26, which is directly connected with the frame 24. The counterweight 4 serves as a counterbalance for the hull 21^a; but as the latter rests directly upon and within the water the mass of the counterweight 4 is not necessarily proportionate to the mass of the hull 21^a, but is only of such weight as to steady the latter.

The operative connection 7 between the mast 5 and the load-carrying member 1 consists of a transverse bar 27, which is connected rigidly with the mast 5 by an arm 28, which projects forwardly from the mast 5, and the opposite end portions 28^a and 29 of the bar 27 bear upon the opposite rear end portions 22 and 23 of the hull 21^a, just forward of the points 3 of pivotal connection of the members 1 and 2. The hull 10 may be chambered or cut away, as at 30, at opposite sides of said hull 10 to permit the operative depression of the ends 28^a and 29 for their engagement with the hull 21^a in the careening or oscillation of the mast 5.

The operative connection 8 consists of a stay 31 and a stay 32, which stays are connected at their upper ends, as at 33, with the upper portion of the mast 5 and are respectively connected at their lower ends, as at 34 and 35, with the frame 24 at opposite points rearwardly of the points 3 of pivotal connection of the members 1 and 2. The stays 31 and 32 when the mast 5 is in perpendicular position may be normally taut; but as the

mast careens in either lateral direction the stay at the side of the vessel from which it swings tends to elevate the frame 24 at the corresponding side of the vessel, the other side being slackened as, the frame 24 being rigid, the elevation of any portion of the same is accompanied by the elevation of the entirety. The traveler 36 of the sheet 37 of the sail 9 is also connected at its ends with the frame 24 adjacent to the extreme rearward portion of the latter, so that the pressure of the wind upon the sail and the careening of the mast 5 tend also to elevate the traveler 36 and the frame 24 simultaneous with the elevation of the frame 24 by the stays 31 and 32 and the depression of the hull 21^a by the transverse bar 27.

Between the hull 10 and the hull 21^a at the sides and bottom portion of said hulls an apron or flexible shield 38 may be extended, consisting of oiled canvas or other suitable material, to prevent invasion of the space between said hulls by water and objects, such as driftwood floating upon the water, the passage of which obstructions between said hulls operating against free relative movement of the hulls 10 and 21^a and serving also to impede the progress of the vessel.

The vessel is steered by a rudder and tiller 39 or other suitable equivalent means.

The operation and advantages of the improvements herein described will be readily understood from the foregoing description, taken in connection with the accompanying drawings, and the following statement. In sailing vessels of the conventional and ordinary type when the same are proceeding in any other course than that directly before the wind the pressure of the air upon the sail or sails causes a tendency to lateral current of the vessel, upsetting the stability of the vessel and militating against the comfort of persons aboard the same, as well as causing capsizing under extreme conditions. In the navigation of a vessel embodying the improvements described as the mast 5 within the limits permitted by the construction of the supporting means 6 and the portions of the mast-opening 14 careens or oscillates laterally of the vessel and the air-pressure upon the sail 9 the operative connection 7 between the mast 5 and the hull 21^a causes depression of the hull 21^a with respect to the hull 10, the obtaining of which result is assisted by the elevation of the frame 24 by the operative connection 8. Instead of the entire vessel careening laterally the hull 21^a is caused to sink further in the supporting medium, securing increased stability of the entirety. The same effect is produced by the careening of the mast 5 in either lateral direction through the instrumentality of the transverse bars 27 and the stays 31 and 32, and also the auxiliary lifting capacity of the sheet 37 upon the traveler 36 and the frame

24. The frame 24 together with the counterweight 4 and the hull 21^a are free to swing pivotally at the points 3 of pivotal connection of the load-carrying member 1 with the sail-carrying member 2. The counterweight 4 opposes the sudden and violent relative movement of the hull 10 and the hull 21^a, and also in its depending submerged position the counterweight acts as a weighted keel to oppose any undue careening of the vessel. It will be manifest that the degree of submergence of the hull 21^a is proportionate to the degree of pressure of the propelling air upon the sail 9 and that at all times the vessel in its entirety instead of being careened over and substantially rolled out of the water, as is the case in vessels of the ordinary type, is kept upon a substantially even keel within the water in a position of satisfactory equilibrium. The mast 5 because of its stay connection with the frame 24 and its bearing upon the hull 21^a through the bar 27 is not so loosely and insecurely stepped as to inefficiently bear the weight and pressure of the sail 9; but said mast yields readily in a lateral direction to the air-pressure upon the sail to accomplish the objects of the invention as described.

I do not desire to be understood as limiting myself to the construction, operative connection, and relative arrangement of parts and members as herein shown and described, but reserve the right to vary the same in adapting the improvements to varying conditions of use without departing from the spirit of the invention or the terms of the following claims.

Having thus described the invention, I claim and desire to secure by Letters Patent—
40 1. A vessel of the character described, comprising a sail-carrying member and a load-carrying member adapted to rest upon the water and connected together, and operative connections extending between said
45 sail-carrying member and said load-carrying member.

2. A vessel of the character described, comprising a sail-carrying member, a load-carrying member connected with said sail-carrying member and movable with relation thereto, said sail-carrying member and said load-carrying member being adapted to rest upon the water, and operative connections extending between said sail-carrying member and said load-carrying member and arranged to transmit pressure from the sail-carrying member to the load-carrying member to relatively move said members.

3. A vessel of the character described, comprising a sail-carrying member provided with a loosely-mounted sail and mast, a load-carrying member connected with said sail-carrying member and capable of movement relative thereto, and an operative connection
65 extending between said mast and said load-

carrying member, said sail-carrying member and said load-carrying member being adapted to rest upon the water.

4. A vessel of the character described, comprising a sail-carrying member provided with a loosely-mounted sail and mast, a load-carrying member pivotally connected with said sail-carrying member, and an operative connection extending between said mast and said load-carrying member, said sail-carrying member and said load-carrying member being adapted to rest upon the water. 70

5. A vessel of the character described, comprising a sail-carrying member provided with a loosely-mounted sail and mast, a load-carrying member arranged forwardly of the sail-carrying member and pivotally connected with the same, and an operative connection extending between said mast and said load-carrying member, said sail-carrying member and said load-carrying member being adapted to rest upon the water. 75

6. In a vessel of the character described, a sail-carrying member, and a counterweighted load-carrying member pivotally connected with the sail-carrying member, said members being adapted to rest upon the water. 80

7. In a vessel of the character described, a sail-carrying member and a load-carrying member pivotally connected with the sail-carrying member and provided with a counterweight, said members being adapted to rest upon the water with said counterweight in submerged position. 85

8. In a vessel of the character described, a sail-carrying member, a load-carrying member pivotally connected with the sail-carrying member and arranged forwardly thereof, and a counterweight rigidly connected with the load-carrying member and arranged rearwardly of said sail-carrying member, said members being adapted to rest upon the water. 90

9. In a vessel of the character described, a sail-carrying member, a load-carrying member pivotally connected with the sail-carrying member and arranged forwardly thereof, and a counterweight rigidly connected with the load-carrying member and arranged rearwardly of said sail-carrying member, said members being adapted to rest upon the water, with said counterweight in submerged position. 100

10. In a vessel of the character described, a sail-carrying member consisting of an elongated hull, and a load-carrying member consisting of a separate hull pivotally connected with the hull of the sail-carrying member and arranged forwardly of the sail-carrying member. 105

11. In a vessel of the character described, a sail-carrying member consisting of an elongated hull, and a counterweighted load-carrying member consisting of a hull pivotally connected with the hull of said sail-carrying member. 110

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member and arranged forwardly of said sail-carrying member.

12. A vessel of the character described, comprising a sail-carrying member provided with a mast and sail mounted for oscillation laterally, a load-carrying member arranged forwardly of the sail-carrying member and pivotally connected with the latter, and an operative connection extending between said mast and the load-carrying member whereby oscillation of said mast causes depression of said load-carrying member relative to said sail-carrying member; said members being adapted to resting upon the water.

13. In a vessel of the character described comprising a sail-carrying member consisting of a hull provided with a mast a sail mounted to oscillate laterally, a load-carrying member arranged forwardly of the sail-carrying member and consisting of a hull pivotally connected with the hull of the sail-carrying member, and an operative connection between the said mast and said hull of said load-carrying member consisting of a transverse bar fixed to said mast and arranged to bear at its ends upon said hull of said load-carrying member.

14. A vessel of the character described comprising a sail-carrying member, consisting of a hull, a load-carrying member arranged forwardly of said sail-carrying member and consisting of a hull pivotally connected with the hull of said load-carrying member, said hull of said sail-carrying member being provided with a mast and sail arranged to oscillate laterally, and an operative connection extending between said mast and said load-carrying member consisting of a stay connected with said mast and connected with said sail-carrying member rearwardly of the point of pivotal connection of said sail-carrying member and said load-carrying member.

15. A vessel of the character described, comprising a sail-carrying member consisting of a hull provided with a mast and sail mounted for oscillation laterally, a load-carrying member consisting of a hull arranged forwardly of said sail-carrying member and a frame rigidly connected therewith and extending rearwardly of said sail-carrying member, said hull and said frame of said load-carrying member being pivotally connected with the hull of said sail-carrying member in the transverse section of the latter in which said mast is mounted, a transverse bar connected with said mast and arranged to bear at its ends upon said hull of

said load-carrying member forwardly of said point of pivotal connection, and a stay connected with said mast and connected with said frame rearwardly of said point of pivotal connection.

16. A vessel of the character described, comprising a sail-carrying member consisting of a hull provided with a mast and sail mounted for oscillation laterally, a load-carrying member consisting of a hull arranged forwardly of said sail-carrying member and a frame rigidly connected therewith and extending rearwardly of said sail-carrying member, said hull and said frame of said load-carrying member being pivotally connected with the hull of said sail-carrying member in the transverse section of the latter in which said mast is mounted, a transverse bar connected with said mast and arranged to bear at its ends upon said hull of said load-carrying member forwardly of said point of pivotal connection, a stay connected with said mast and connected with said frame rearwardly of said point of pivotal connection, and a counterweight connected with said frame rearwardly of said sail-carrying member and depending in submerged position.

17. A vessel of the character described, comprising a sail-carrying member consisting of a hull provided with a mast and sail mounted for oscillation laterally, a load-carrying member consisting of a hull arranged forwardly of said sail-carrying member and a frame rigidly connected therewith and extending rearwardly of said sail-carrying member, said hull and said frame of said load-carrying member being pivotally connected with the hull of said sail-carrying member in the transverse section of the latter in which said mast is mounted, a transverse bar connected with said mast and arranged to bear at its ends upon said hull of said load-carrying member forwardly of said point of pivotal connection, and a stay connected with said mast and connected with said frame rearwardly of said point of pivotal connection, said sail being connected with said frame rearwardly of said point of pivotal connection.

In witness whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES P. POOL.

Witnesses:

RAYMOND I. BLAKESLEE,
JOHN G. HONEY.