

No. 776,641.

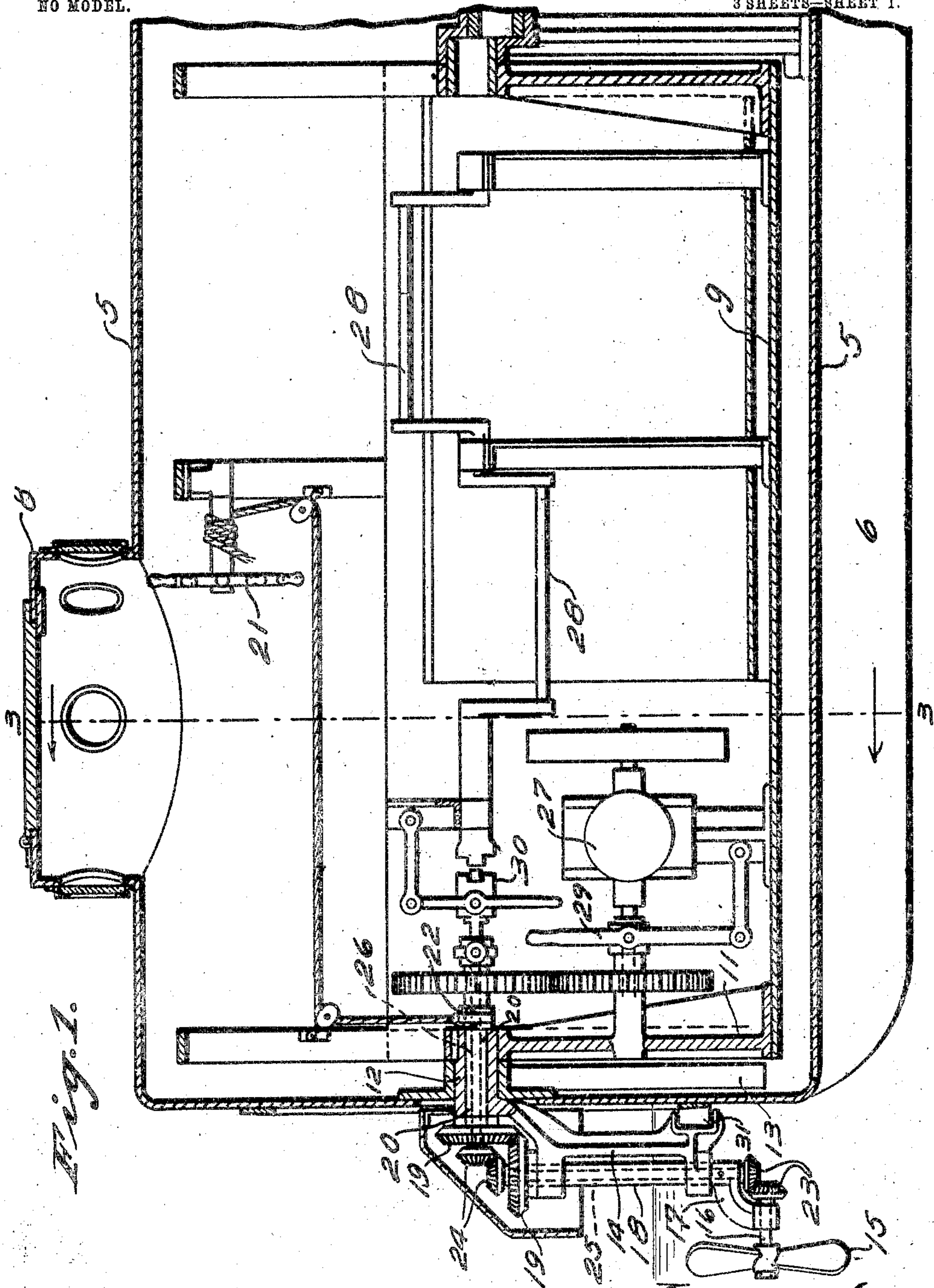
PATENTED DEC. 6, 1904.

R. A. BROWN.
LIFE BOAT.

APPLICATION FILED FEB. 29, 1904.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:

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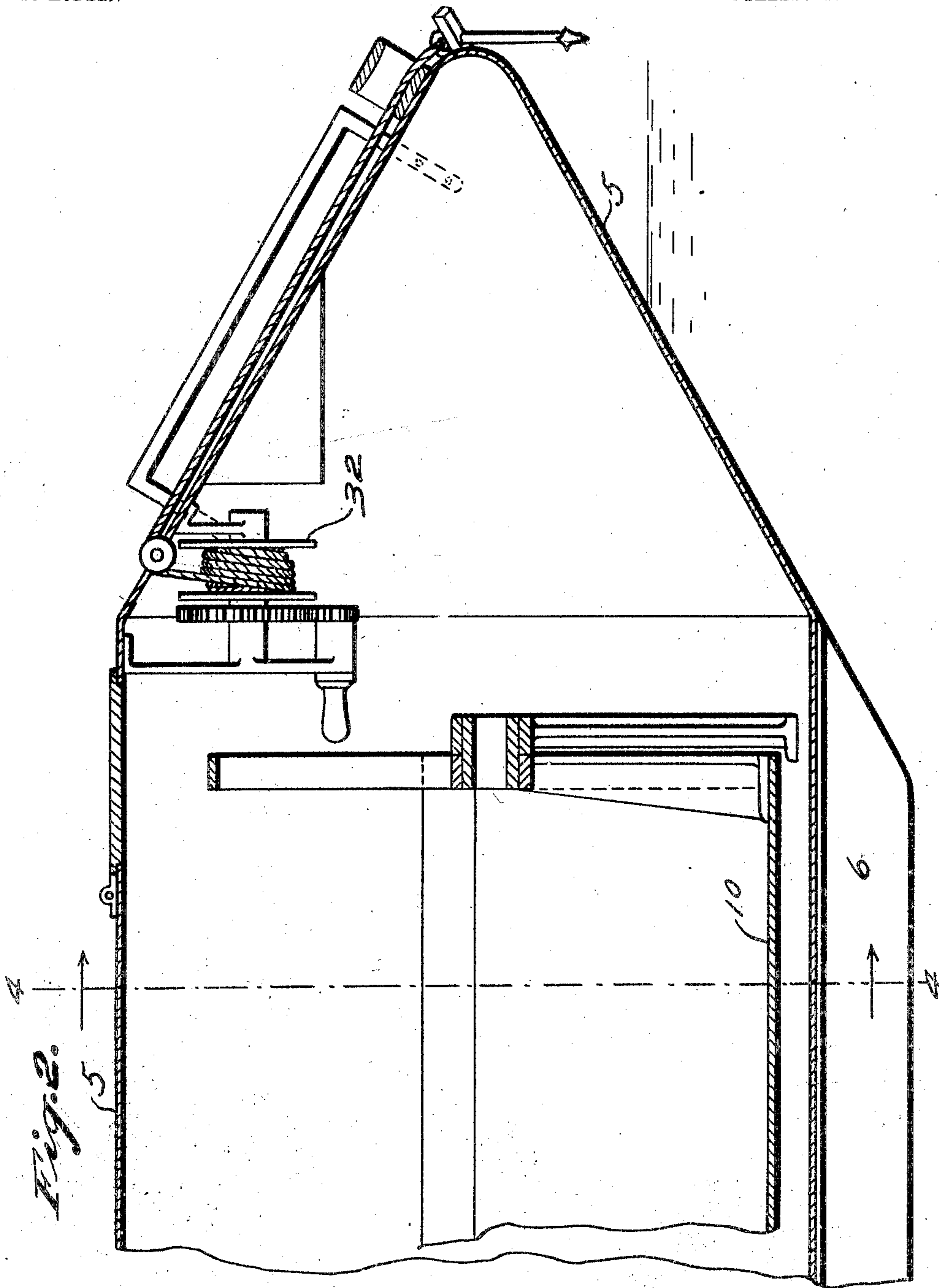
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3 SHEETS—SHEET 2.



Witnesses:

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3 SHEETS—SHEET 3.

Fig. 4.

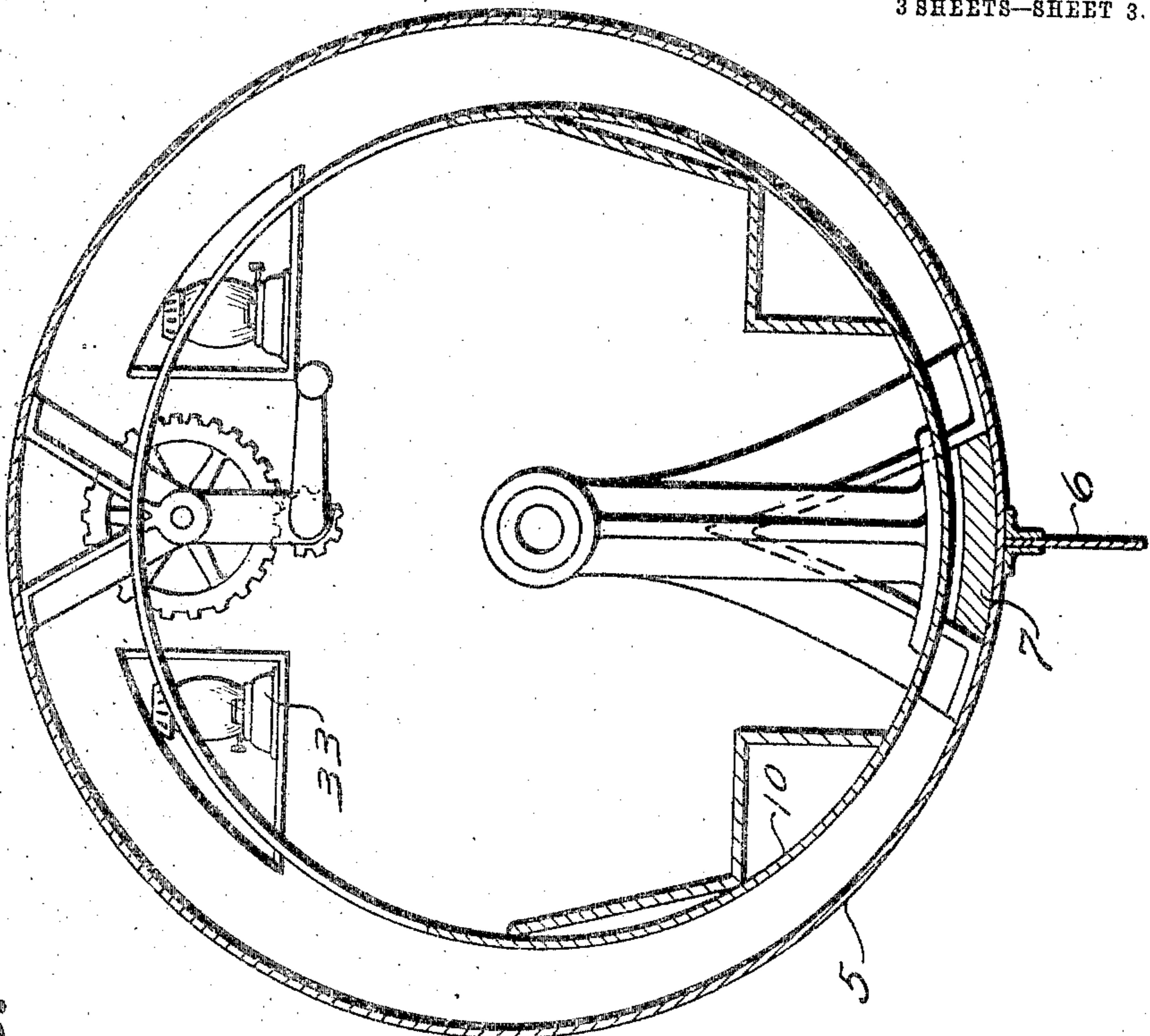
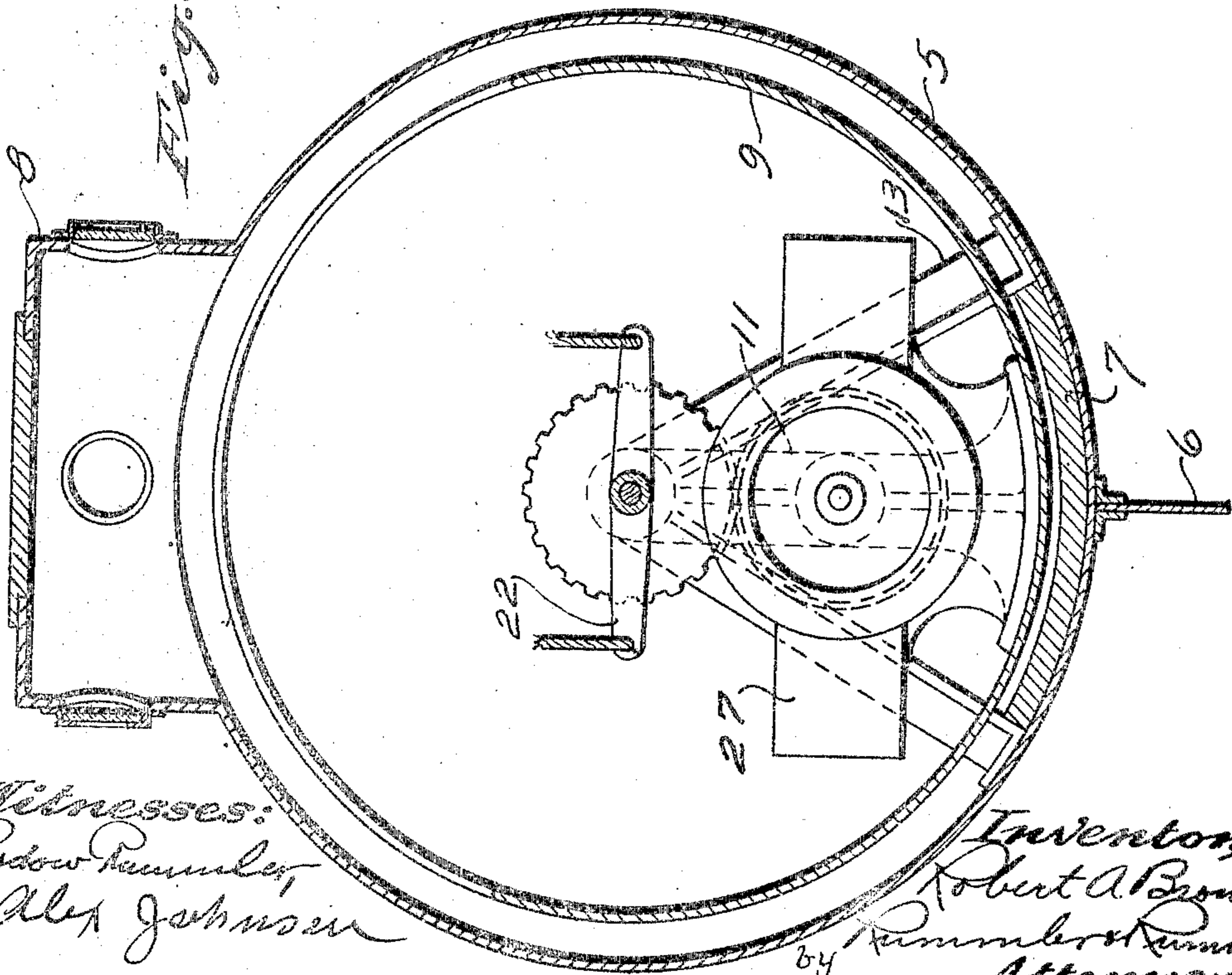


Fig. 3.



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UNITED STATES PATENT OFFICE.

ROBERT A. BROWN, OF CHICAGO, ILLINOIS.

LIFE-BOAT.

SPECIFICATION forming part of Letters Patent No. 776,641, dated December 6, 1904.

Application filed February 29, 1904. Serial No. 195,828. (No model.)

To all whom it may concern:

Be it known that I, ROBERT A. BROWN, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Life-Boats, of which the following is a specification.

My invention relates to that class of life-boats which are provided with an inner car arranged to remain normally in equilibrium independently of the rolling or rotating of the outer hull of the boat.

The main objects of this invention are to provide in a boat of this class improved propelling and steering mechanism operated from within the inner car and suitably connected with said inner car, so as to remain at all times submerged and in equilibrium regardless of the rolling of the outer hull, and to provide a suitable supporting connection between the hull and car, whereby the weight of the revoluble inner car normally tends to urge the outer hull into a certain position of equilibrium. I accomplish these objects by the structure shown in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of the rear portion of a life-boat constructed according to my invention. Fig. 2 is a vertical longitudinal section of the forward portion of the same, being a continuation of Fig. 1. Fig. 3 is a vertical transverse section on the line 3 3 of Fig. 1. Fig. 4 is a vertical transverse section on the line 4 4 of Fig. 2.

In the construction shown the outer hull 5 is substantially circular in cross-section, being substantially cylindrical for the main part of its length and reduced to conical form at its forward end. The hull 5 is preferably designed in such proportion that the axis of the outer hull will lie in a substantially horizontal position and a considerable distance above the surface of the water. The outer hull 5 is preferably provided with a keel or fin 6 and is suitably ballasted, as at 7, so as to normally remain in a position of equilibrium. The hull 5 is entirely inclosed and is watertight, so that it cannot be swamped by violent rolling or capsizing. The ballast 7 is so arranged as to prevent the boat from remaining

in any but its normal upright position. The outer hull 5 is provided with a turret 8, having suitable window-lights for the purpose of guiding the boat.

Journaled on horizontal axes within the hull 5 are two cars, each adapted through the disposition of its weights to remain in equilibrium regardless of the angular position of the hull 5 on its axis. The rear car 9 is journaled on an axis coincident with that of the outer hull 5, while the forward car 10 is journaled on an axis considerably below the axis of the outer hull, and its weight thus serves to assist in maintaining the equilibrium of the outer hull 5.

The rear end of the car 9 is hung by a bracket 11 from a hollow shaft 12, which is journaled in a bracket 13, rigidly secured to the outer hull 5. The hollow shaft 12 is continued outside of the hull 5 in the form of a downwardly-extending arm 14, which carries the propeller mechanism. The propeller 15 is rigid on its shaft 16, which is journaled on a horizontal axis in the member 17, which in turn is keyed to a hollow shaft 18, journaled in bearings on the arm 14. Bevel-gears 19 connect the shaft 18 with a hollow shaft 20, which is journaled within the shaft 12. A steering-wheel 21, located within the inner car 9 and connected by ropes with a yoke 22 on the shaft 20, controls the disposition of the member 17, and thereby serves to swing the propeller-shaft laterally around the shaft 18 for the purpose of steering the boat. The propeller-shaft 16 is driven by the bevel-gears 23 and 24, together with their shafts 25 and 26, which extend concentrically through the shafts 18 and 20. The shaft 26 is geared to the engine 27 or may be driven directly by the cranks 28. The connections with the engine or cranks are controlled by the clutches 29 and 30, respectively. To steady the lower end of the arm 14, a conical roller 31 is journaled on such arm and bears on an annular track at the stern of the hull 5.

The winch 32, which is needed for raising and lowering the boat from a ship or pier and for hoisting the anchor, is located in the forward conical part of the hull, so as to clear the car 10 in the case of the capsizing of the

outer hull. The running-lights 33 are placed in recesses cut at each side of the conical bow of the hull.

In operation the propeller is always submerged, since its supports are rigidly connected with the inner car, which remains in equilibrium regardless of any rolling of the outer hull. Since the forward car is suspended below the center of the hull, its weight tends to normally urge the outer hull into its normal upright position and opposes the rolling of the outer hull, although the car itself always remains in equilibrium.

It will be seen that some of the details of the construction shown may be altered without departing from the spirit of my invention.

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

1. In a boat, the combination of an outer rotatable hull of substantially circular cross-section; an inner car journaled in said hull on an axis parallel with but non-coincident with the axis of the outer hull, said car being adapted to remain in equilibrium and to normally urge said hull into a certain position of equilibrium, substantially as described.

2. In a boat, the combination of a substantially cylindrical outer hull adapted to float with its axis in a substantially horizontal position; an inner car journaled in said hull on an axis parallel with but non-coincident with the axis of said outer hull, said car being adapted to remain in equilibrium and to normally urge said hull into a certain position of equilibrium, substantially as described.

3. In a boat, the combination of an outer hull; an inner car journaled on a horizontal axis within said outer hull and adapted to remain in equilibrium during the rolling of said outer hull; an arm extending outwardly through said inner car and through one end of said hull and downward on the outside of said hull; a propeller journaled on a horizontal axis on said frame below the axis of said car; and mechanism for operating said propeller from within said car; said arm being rigidly secured to said inner car so as to retain the propeller in its normal position below the sur-

face of the water regardless of the rolling of said outer hull, substantially as described.

4. In a boat, the combination of an outer hull; an inner car journaled on a horizontal axis in said outer hull and adapted to remain in equilibrium during the rolling of said outer hull; an arm extending outwardly through said inner car and through one end of said hull and downward on the outside of said hull; a propeller journaled on a horizontal axis on said frame below the axis of said car; and mechanism for operating said propeller from within said car; a member journaled on a vertical axis on said arm; a propeller journaled on a horizontal axis on said member; driving mechanism for operating said propeller from the interior of said car; and mechanism operated from the interior of said car for rotating said member on its vertical axis independently of the operation of said driving mechanism; said arm being rigidly secured to said inner car, so as to retain the propeller in its normal position below the surface of the water regardless of the rolling of said outer hull, substantially as described.

5. In a boat, the combination of an outer hull; an inner car journaled on a horizontal axis in said outer hull and adapted to remain in equilibrium during the rolling of said outer hull; an arm rigidly secured to said car and extending outwardly from said inner car and through one end of said hull and downward on the outside of said hull; a member journaled on a vertical axis on said arm; a propeller journaled on a horizontal axis on said member; a pair of horizontal shafts journaled axially of said inner car; suitable mechanism connecting one of said horizontal shafts with said propeller; suitable mechanism connecting the other of said shafts with said member; and means within the car for independently rotating said shafts, substantially as described.

Signed at Chicago this 26th day of February, 1904.

ROBERT A. BROWN.

Witnesses:

RUDOW RUMMLER,
EUGENE A. RUMMLER.