No. 730,529. PATENTED JUNE 9, 1903.

A. F. GODEFROY.

MEANS FOR PROPELLING VESSELS.

APPLICATION FILED MAY 9, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig.1.

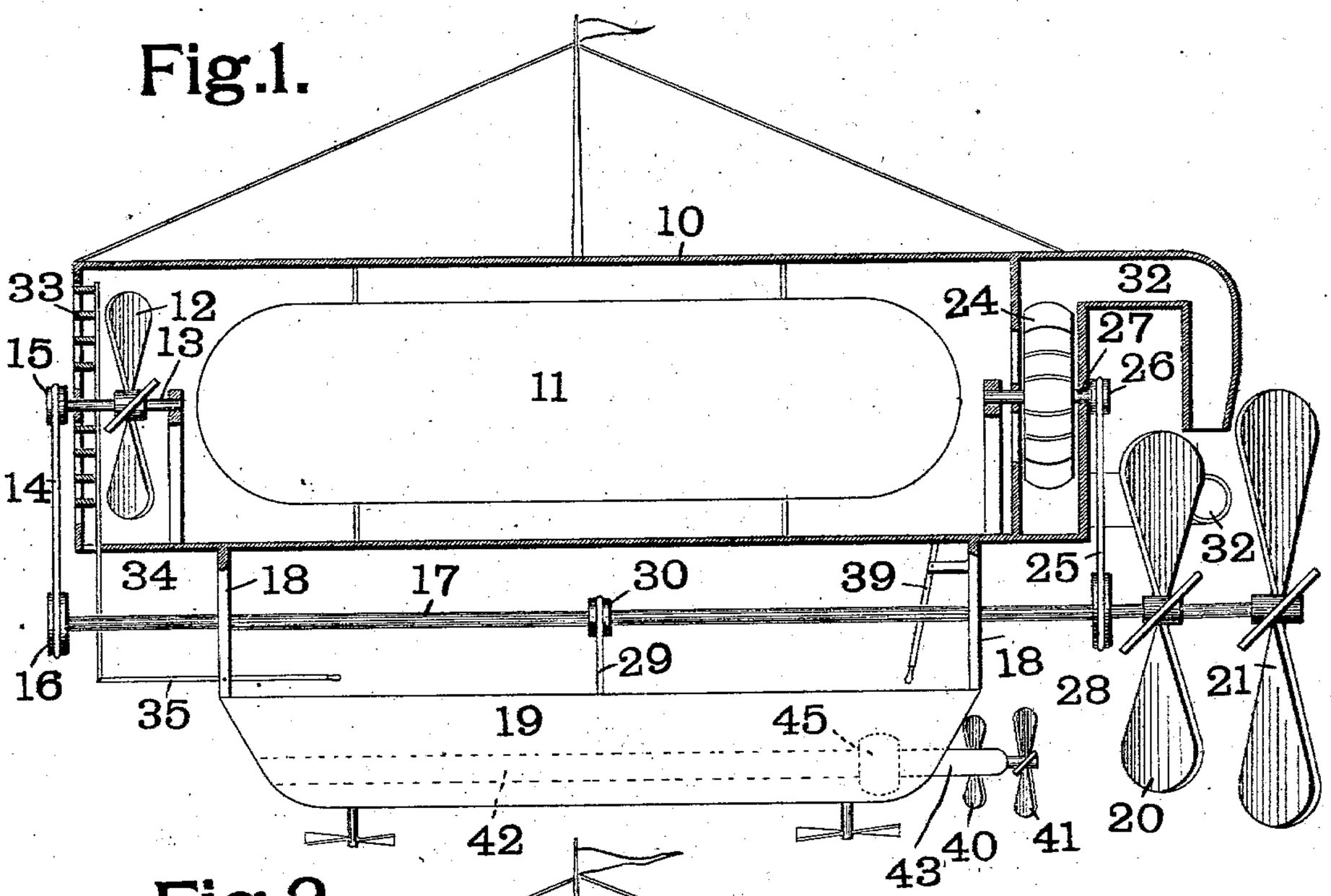
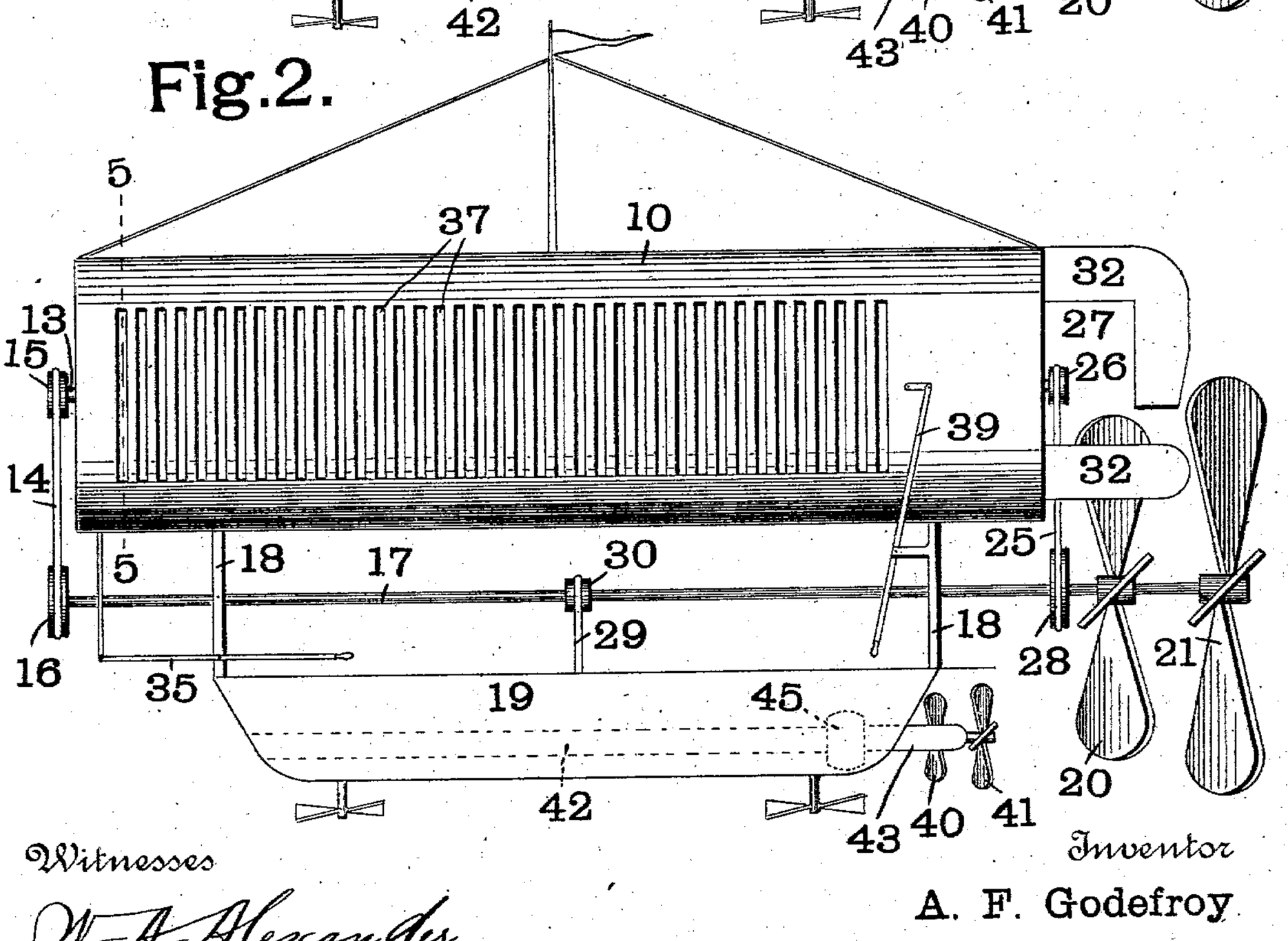


Fig.2.



Witnesses

W. A. Alexander

L. B. Beach

Inventor

A. F. Godefroy

By Attorneys Fowler & Bryson.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig.3.

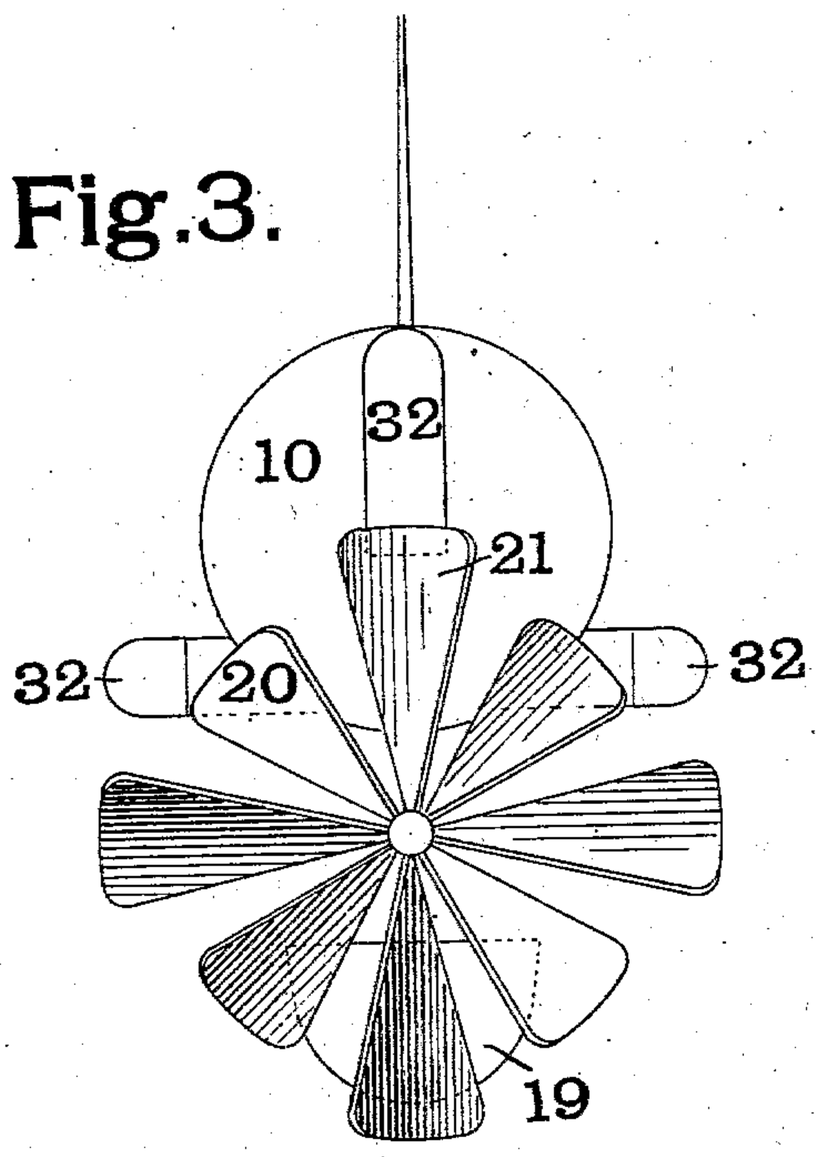


Fig.4.

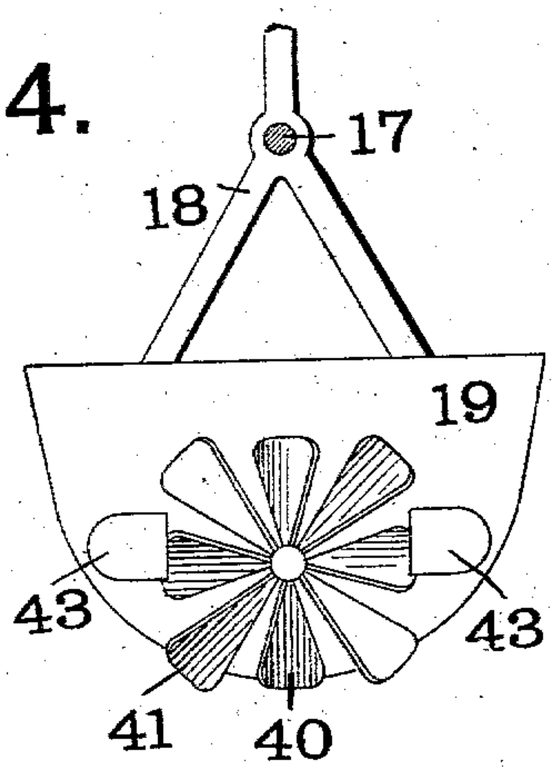


Fig.6.

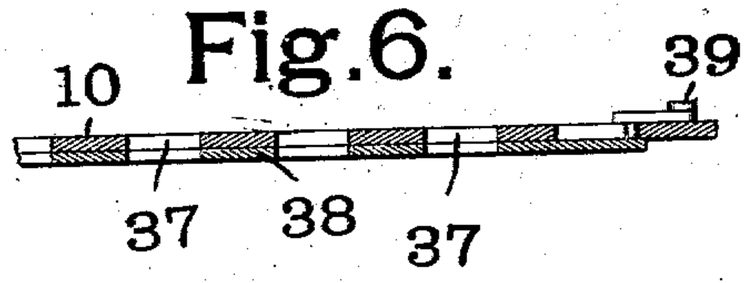
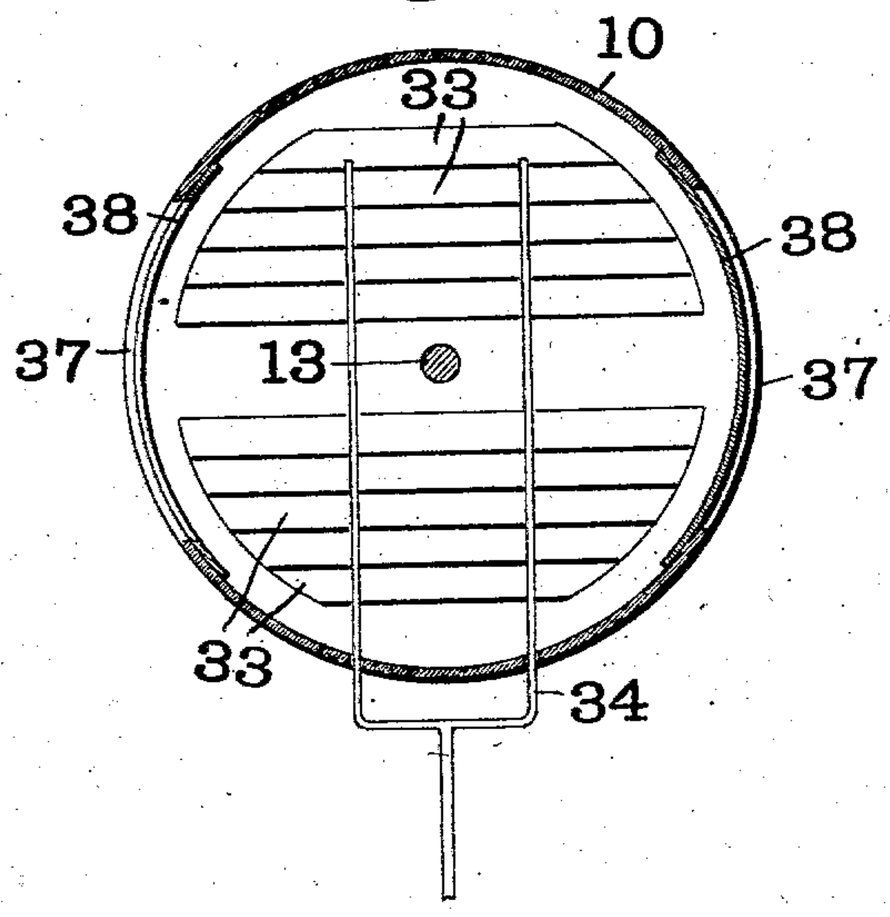


Fig.5.



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UNITED STATES PATENT OFFICE.

ALEXANDRE F. GODEFROY, OF ST. LOUIS, MISSOURI.

MEANS FOR PROPELLING VESSELS.

SPECIFICATION forming part of Letters Patent No. 730,529, dated June 9, 1903.

Application filed May 9, 1902. Serial No. 106,553. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDRE F. GODEFROY, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented a certain new and useful Means for Propelling Vessels, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to means for propelling vessels, and is applicable equally to vessels for navigating the air and to boats for navigating the water.

In the accompanying drawings, which illustrate an aerial vessel made in accordance with my invention, together with a car in the form of a boat, Figure 1 is a side view, partly in section and partly in elevation. Fig. 2 is a side elevation. Fig. 3 is a rear view. Fig. 4 is an enlarged end view of the boat or car. Fig. 5 is an enlarged sectional view on the line 5 5 of Fig. 2, and Fig. 6 is an enlarged section showing a detail of construction.

Like marks of reference refer to similar parts in the several views of the drawings.

10 is the outer shell or casing of the vessel, which is preferably cylindrical in form. Supported within the outer shell or casing 10 is a shell 11, adapted to contain the gas or other buoyant fluid for supporting the vessel in the air. Arranged in front of the shell 11 and within the shell 10 is a fan 12, which is driven by means of a belt 14, passing around a pulley 15 on the shaft 13 of the said fan 12 and around a pulley 16 on a shaft 17. This shaft 17 is journaled in supports 18, by means of which the boat or car 19 is carried. On the rear end of the shaft 17 are carried two fans or propellers 20 and 21, the propeller 21 being arranged behind the propeller 20 and being of greater diameter. At the rear of the shell 11 and within the shell 10 is arranged a fan or blower 24, which is driven by a belt 25, passing around a pulley 26 on the shaft 27 of the blower 24 and around a pulley 28 on the shaft 17. The shaft 17 is driven by means of a belt 29, passing around a pulley 30. The belt 29 is driven by any suitable motor carried in the car 19. Leading from the fan or blower 24 are a number of pipes or conduits 32, preferably three in number, which discharge the air from said fan or blower between the propellers 20 and 21. The front end of the shell 10 is provided with shutters 33, operated by a rod 34, attached to a lever 35 within the reach of the occupants of the car or boat 19. When the vessel is moving against the wind, these shutters can be opened, as shown in Fig. 1, so that the air will be drawn in at the front of the vessel. In the sides of the vessel 10 are provided a number of openings 37, which are adapted to be closed by means of slides 38. These slides 38 are actuated by means of levers 39, extending within reach of the car or boat 19. When the air is blowing against one side of the vessel, the passages 37 in the side can be opened by means of one of the slides 38, so that the air will be drawn in at this side, thus relieving the pressure against the side of the vessel. The car or boat 19 is provided with two propellers 40 and 41, arranged like the propellers 20 and 21 of the vessel 10. Passing through the boat 19 is a conduit 42, (shown in the dotted lines in Figs. 1 and 2,) which is provided with outlets 43, preferably two in number, which discharge the water between the propellers 40 and 41. The water is forced through this conduit 42 by means of a suitable rotary pump 45.

In the operation of my device the fans or blowers 12 and 24 and the propellers 20 and 21 are rotated by means of a motor in the car 19. The air is drawn in either at the front end of the vessel by opening the shutters 33 or at the sides by opening one of the slides 38. The air is discharged between the fans 20 and 21 by means of the pipes 32, thus furnishing a suitable body of air against which the fan can effectively operate to drive the vessel forward. In case the vessel should alight in water the car 19 being in the form of a boat will be driven by the propellers 40 and 41 in the same manner as the vessel 10 is driven by the propellers 20 and 21.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a vessel, of a propeller therefor, and means independent of said propeller for drawing part of the fluid,

through which said vessel passes, from the front of said propeller and discharging it at the rear thereof.

2. The combination with a vessel, of a pair of propellers arranged one behind the other, and means independent of said propeller for drawing part of the fluid through which said vessel passes, from in front of said propellers and discharging it between the said propellers.

3. The combination with a vessel, of a propeller, a second and larger propeller arranged behind said first-named propeller, and means independent of said propeller for drawing part of the fluid, through which the vessel passes, from in front of said propellers and discharging it between said propellers.

4. The combination with a vessel, of a propeller therefor, and means independent of said propeller for drawing part of the fluid through which the said vessel passes from the front of said propeller and discharging it at the rear thereof at an angle to the axis thereof.

5. The combination with a vessel, of a propeller therefor, and means for drawing part of the fluid through which said vessel passes from the front of said propeller and discharging it at the rear thereof substantially at right angles to the axis thereof.

6. The combination with a vessel, of a propeller, a conduit for the passage of a portion of the fluid through which said vessel passes, means independent of said propeller for forcing the fluid through said conduit, apparatus for varying the point of admission of the fluid to said conduit, and means for discharging the fluid passing through said conduit at the rear of said propeller.

In testimony whereof I have hereunto set my hand and affixed my seal in the presence of two subscribing witnesses.

ALEXANDRE F. GODEFROY. [L. S.]

Witnesses:

W. A. ALEXANDER,

L. B. BEACH.