

No. 610,843.

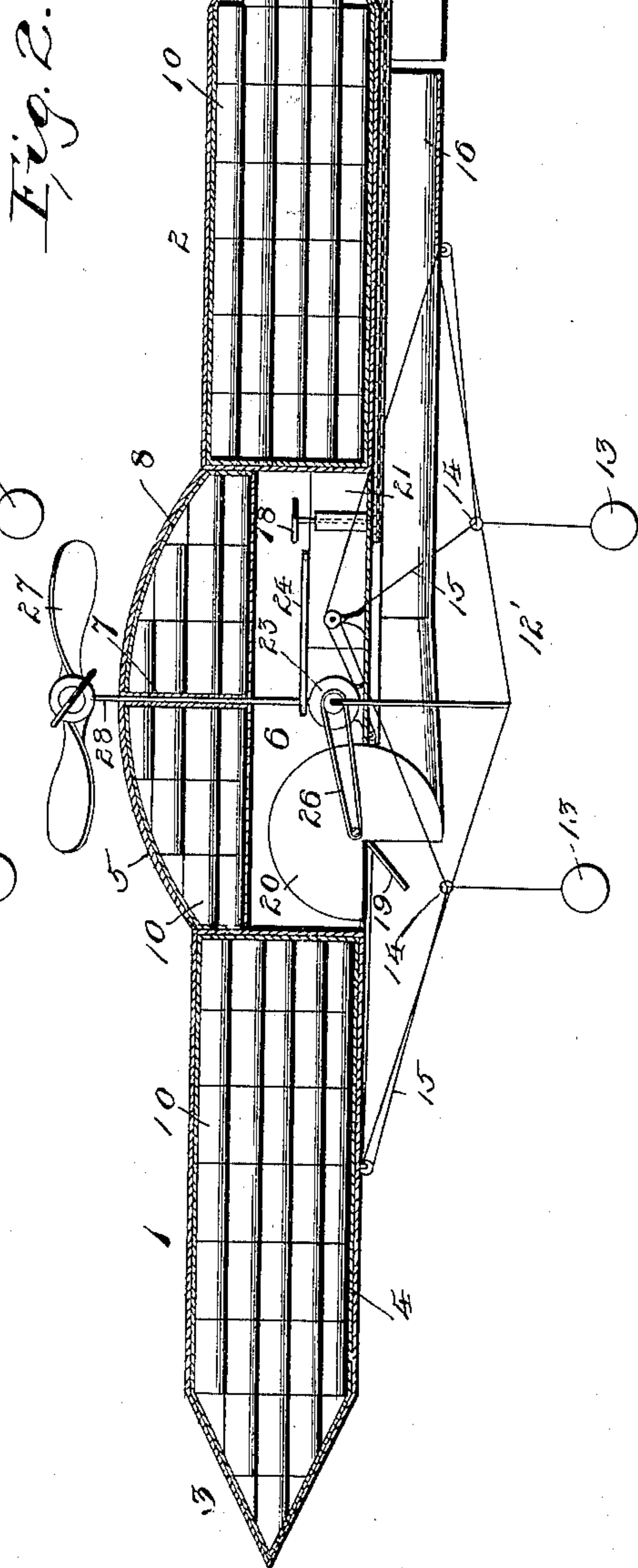
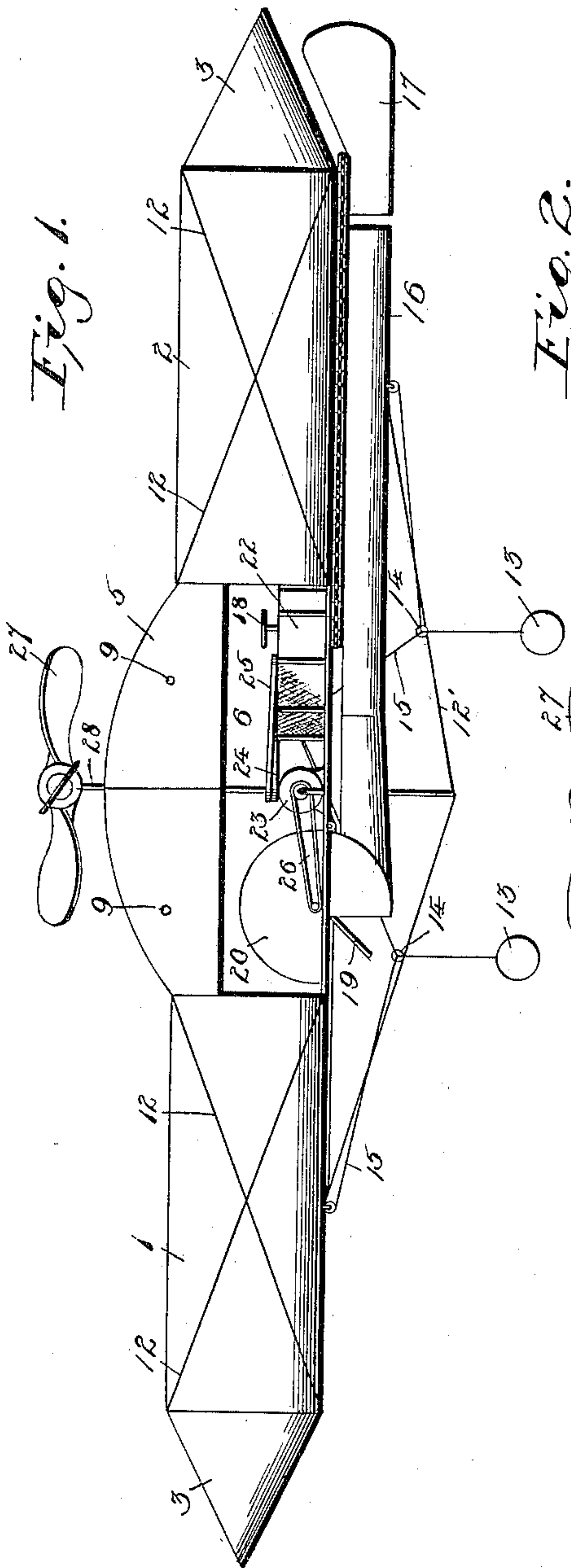
Patented Sept. 13, 1898

T. J. BROWN.
AERIAL SHIP.

(Application filed Mar. 26, 1897.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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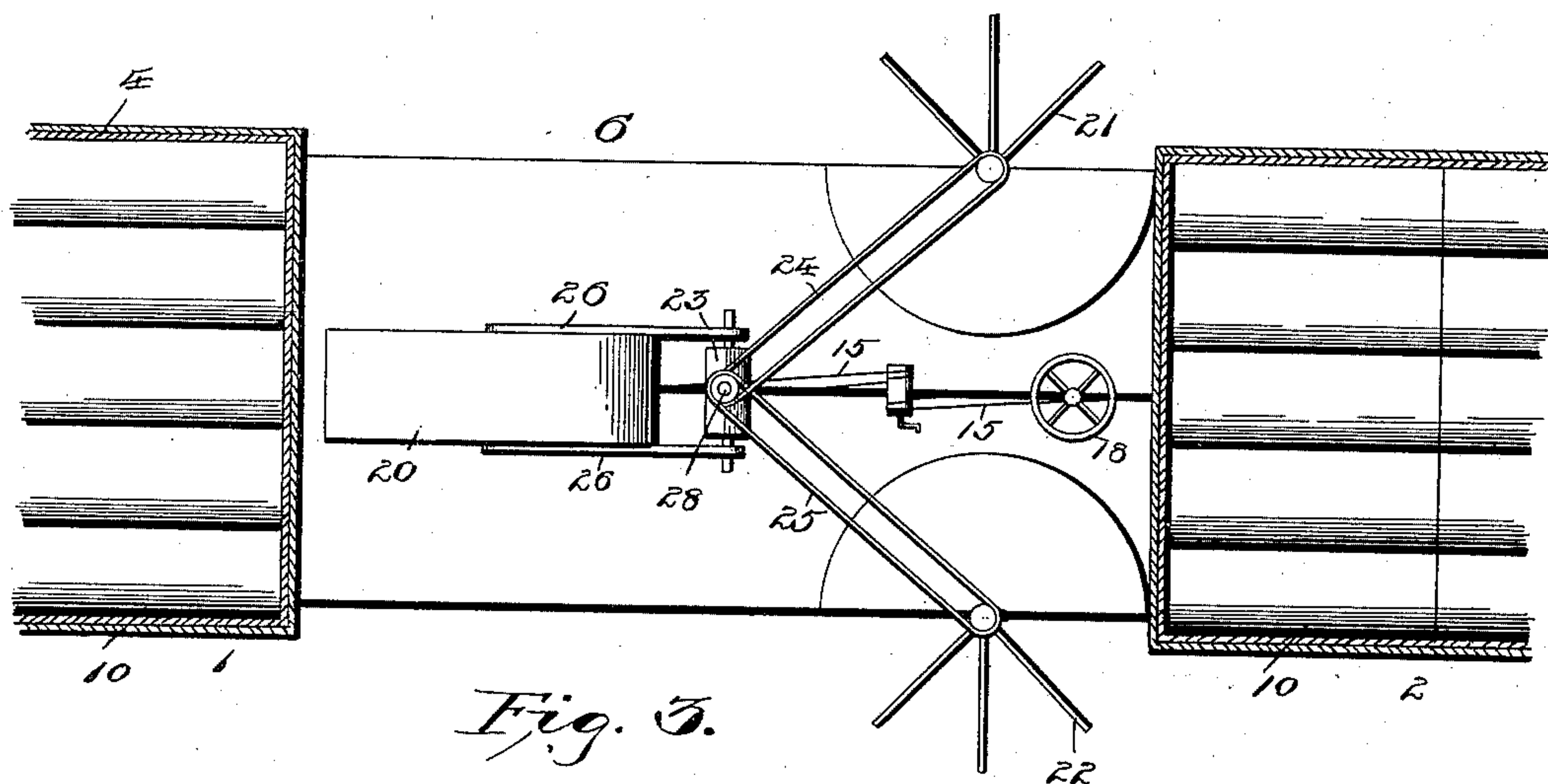


Fig. 3.

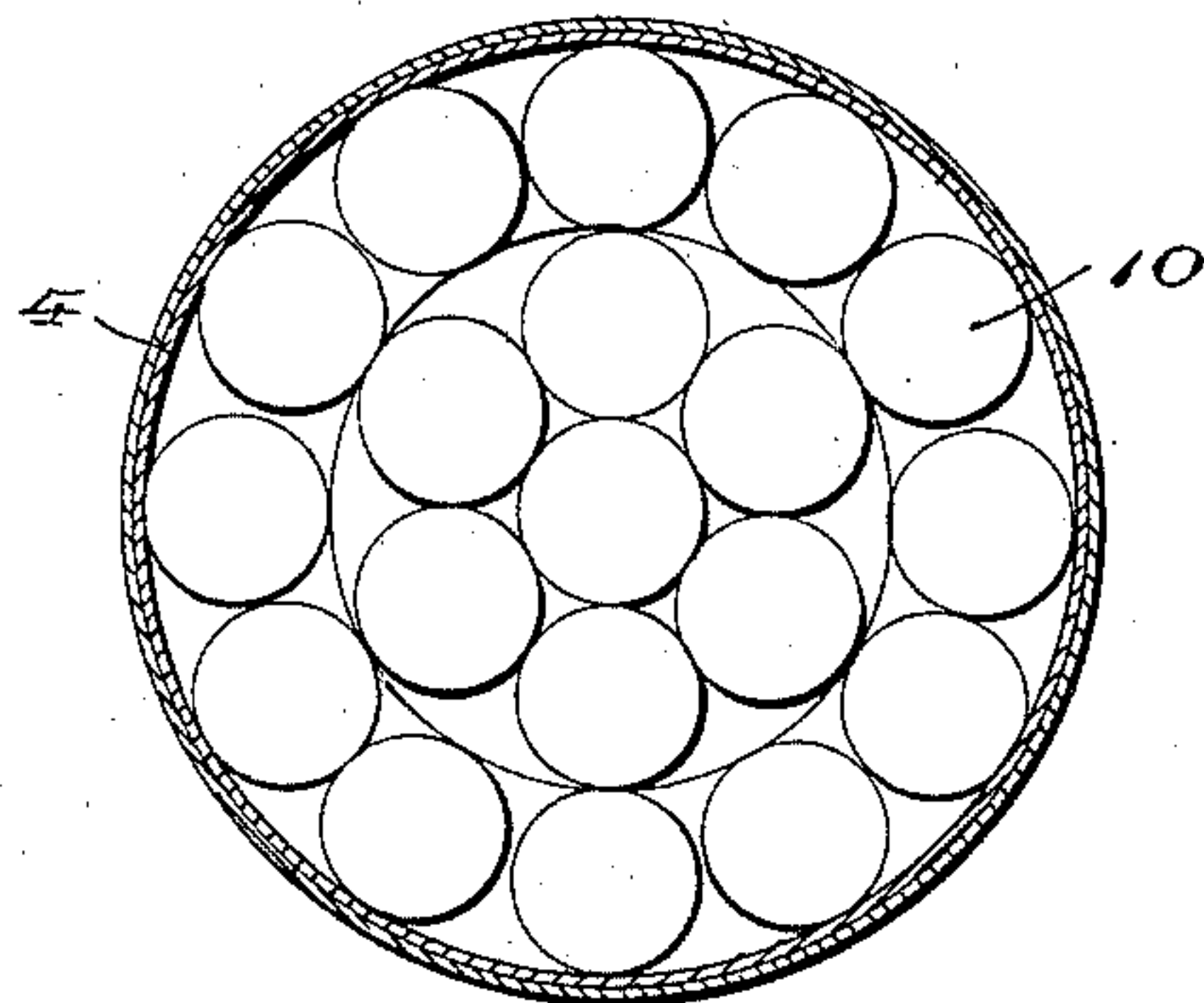
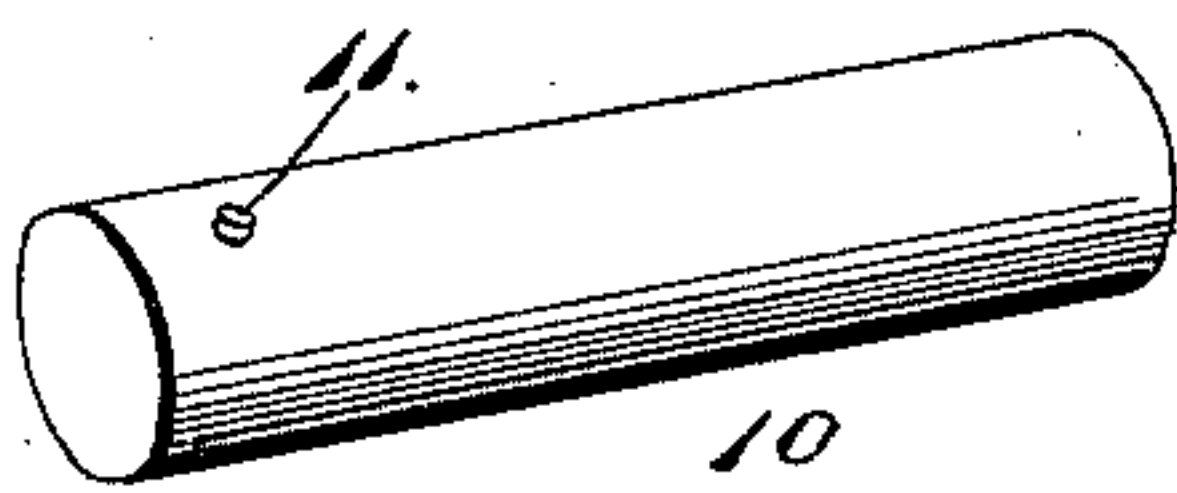


Fig. 4.

Fig. 5.



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UNITED STATES PATENT OFFICE.

THOMAS J. BROWN, OF SEDALIA, MISSOURI.

AERIAL SHIP.

SPECIFICATION forming part of Letters Patent No. 610,843, dated September 13, 1898.

Application filed March 26, 1897. Serial No. 629,365. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. BROWN, of Sedalia, in the county of Pettis and State of Missouri, have invented certain new and useful Improvements in Aerial Ships; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to aerial ships.

My object is to provide an aerial ship which will be of extreme lightness and strength and readily steered or propelled.

A further object is to provide an aerial ship having improved buoyant devices comprising individual cells or receptacles, so that if any of the cells are damaged the buoyant power will not be materially impaired, thereby rendering the ship of great value for purposes of war.

Having the foregoing objects in view, the invention consists of an aerial ship comprising individual buoyant devices and propelling and steering mechanisms, the construction of which will appear more fully hereinafter and the novel features thereof be more particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation. Fig. 2 is a longitudinal section. Fig. 3 is a horizontal section. Fig. 4 is a cross-section taken through one of the cylinders, showing the individual gas-receptacles packed therein; and Fig. 5 is a detail view of one of said gas receptacles or cells.

The ship has two end gas-cylinders 1 and 2, which are duplicates. Each cylinder is provided with a conical end 3, so that the smallest possible resistance will be offered to the air. These cylinders are made of sheet-aluminium for the sake of great lightness and strength, and they are lined inside with balloon-silk 4. There is an aluminium body 5, which is located between and connects the cylinders and is disposed in the upper part of the ship, so as to leave a space 6 below it for the crew and passengers and certain devices to be described later. This body is provided with a central partition 7, which divides it into two chambers. Each chamber is lined with balloon-silk 8, and they are pro-

vided with release-valves 9 to allow the escape of the gas or the filling of the chambers.

In Fig. 5 I have shown in detail one of the cells or independent gas-receptacles. This receptacle 10 is made in the shape of a cylinder and is constructed of balloon-silk, being provided with an inflation and an exhaust valve 11 at a suitable point. These cells or receptacles are packed in the chambers and the cylinders in concentric relation, as clearly shown by the drawings. By thus disposing them a great many can be inserted in a given space, as will be apparent. These cells are also packed into the conical ends of the cylinders and they are properly packed in the body 5. It will thus be seen that if any one, or, in fact, quite a number, of the individual cells should be damaged the efficiency of the ship would not be seriously impaired. The ship is therefore of great value for aerial warfare, as it would have to be very seriously damaged before its buoyant power would be materially detracted from.

The numerals 12 designate stay-wires for various parts of the ship. From the lower stay-wires 12' there are hung equalizing-weights 13, which depend from runners 14, operated from the car or open space 6 by wires 15, so that by shifting these equalizing devices either forwardly or toward the center of the ship the latter can be tilted or inclined to any desired degree and made to ascend or descend.

At the bottom of the ship there is a conduit 16, which leads rearwardly, and there is a rudder 17, against which air issues from this conduit and by its deflection causes the ship to turn. Controlling devices 18 also connect with the rudder and lead to the car, so that it may be properly inclined to receive the air-supply.

The numeral 19 designates a propeller-wheel which is adapted to deliver air to the conduit and also to propel the ship, said wheel being partly incased in a housing 20. There are side propeller-wheels 21 and 22.

The numeral 23 designates a suitable motor, and suitable belting 24 and 25 connects the side propeller-wheels with the motor, while belting 26 connects it with the front propeller-wheel.

The numeral 27 designates a horizontally-disposed propeller which is on the upper end of the shaft 28, that is geared to the motor. This latter propeller is used for raising and
5 lowering the ship.

My air-ship is adapted either for passenger-service or for carrying high explosives to be dropped or lowered into fortifications, &c. The linings of the chambers of the body can
10 be inflated, if desirable, after the individual air-cells have been placed therein. When the air-ship is equipped with the gas cells or receptacles, it possesses great buoyancy, and owing to the provision of the steering and
15 propelling devices the ship can be readily handled.

There are many slight changes which could be resorted to in carrying out the invention without detracting from any of the advantages thereof, and hence I am to be understood as reserving the right to make all such
20 changes as properly come within the spirit and scope of my invention.

Having thus described my invention, what
25 I claim as new, and desire to secure by Letters Patent, is—

1. In an aerial ship, the combination of a body provided with upper independent chambers having a series of independent cells or
30 gas-receptacles constructed of balloon-silk, and opposite end cylinders in like manner supplied with similar independent cells, a horizontal propeller located above the two chambers at the center of the body, side propeller-wheels on the said body, a central propeller, and means for operating said propellers, substantially as described.
35

2. In an aerial ship, the combination of a body having two upper independent chambers separated by a partition and opposite
40 end cylinders, each of the chambers and cylinders having individual inflatable gas-cells

mounted therein, a conduit under the central portion of the ship and extending to the stern thereof, a rudder in line with the rear end of
45 said conduit, a central propeller in the body for driving air into the conduit and also propelling the ship, an upper propeller above the chambers, propellers on opposite sides of the body, and means for operating said propellers, substantially as described.
50

3. In an aerial ship, the combination with a body having opposite end cylinders and upper central chambers with a plurality of independent inflatable cells mounted therein,
55 and means for propelling said ship, substantially as described.

4. In an aerial ship, the combination of a body having central upper chambers and end cylinders, the said chambers being independent
60 of each other and of the cylinders and both having individual inflatable gas-cells mounted therein, a conduit along the bottom of the ship and extending to the rear thereof, a rudder in line with the rear end of said conduit, a propeller for driving air through the
65 said conduit and means to regulate the position of the rudder, substantially as described.

5. In an aerial ship, the combination of a body having upper independent chambers
70 and end cylinders, both the chambers and cylinders having individual inflatable gas-cells mounted therein, upper, side and central propellers, and adjustable weights connected to the underside of the ship and adapted to be moved to balance the same or deflect
75 it in descension, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THOMAS J. BROWN.

Witnesses:

C. E. MARSH,
W. W. HOFFMAN.