No. 798,007. PATENTED AUG. 22, 1905.

W. C. BRANCH.

AIR SHIP.

APPLICATION FILED AUG. 8, 1904.

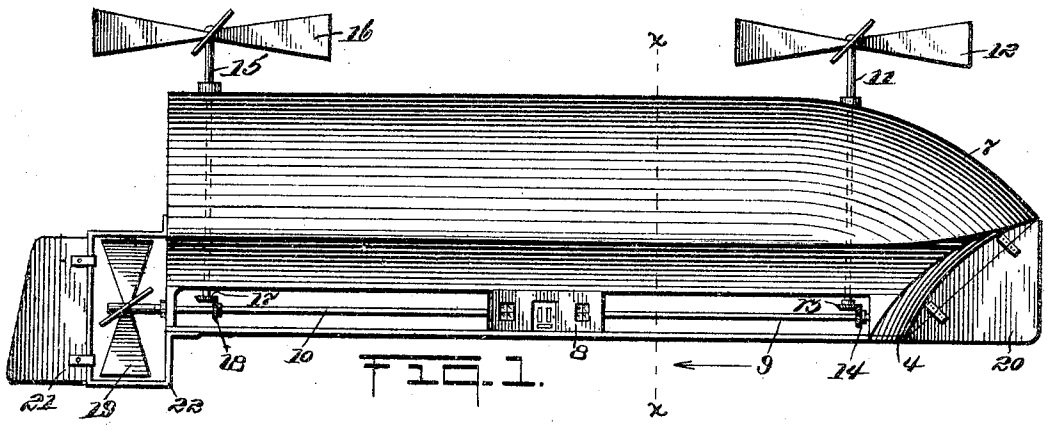


FIG. 1.

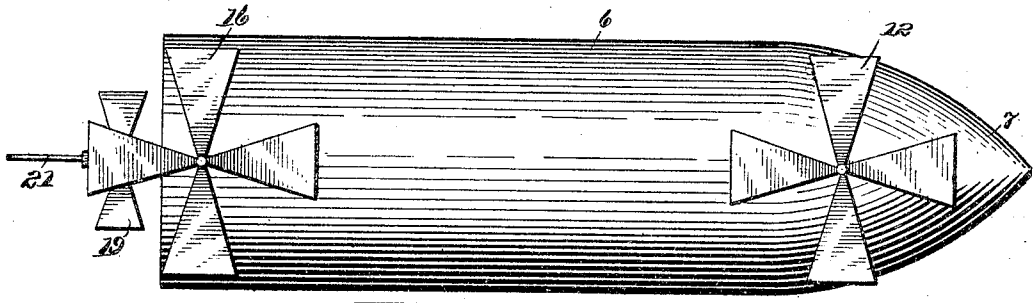


FIG. 2.

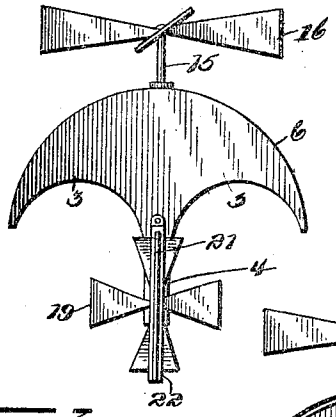


FIG. 3.

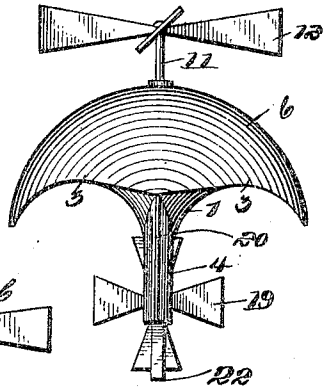


FIG. 4.

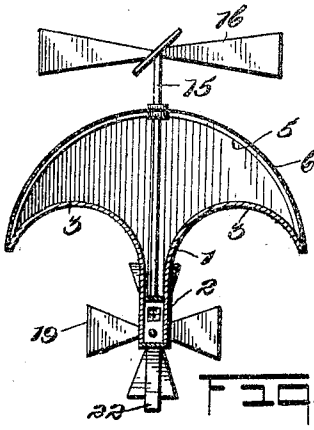


FIG. 5.

WITNESSES:

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AIR-SHIP.

No. 798,007. Specification of Letters Patent. Patented Aug. 22, 1905.

Application filed August 8, 1904. Serial No. 219,902.

To all whom it may concern:

Be it known that I, WILLMER CHAUNCEY BRANCH, a citizen of the United States, and a resident of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and Improved Air-Ship, of which the following is a full, clear, and exact description.

This invention relates particularly to improvements in the balloon or body portion of air-ships, the object being to provide an air-ship body portion so constructed that it will move through the air on a practically even keel or without undue rocking or tipping sidewise and that should a leakage of gas occur will descend slowly, thus making the air-ship practically safe for passengers.

I will describe an air-ship embodying my invention and then point out the novel features in the appended claims.

Reference is had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of an air-ship embodying my invention. Fig. 2 is a plan thereof. Fig. 3 is a rear end view. Fig. 4 is a front end view, and Fig. 5 is a section on the line *x x* of Fig. 1.

The body of the air-ship comprises a bottom portion 1, consisting of light metal—such, for instance, as aluminium—and this metal is turned downward at the center, as indicated at 2, to practically form a keel, and the upper portion of the bottom plate at the sides is curved outward and downward, as indicated at 3, thus practically forming air-chambers similar to that of a parachute, which will offer sufficient buoyancy to the balloon or body should gas escape therefrom. The front end of the bottom portion is wedge-shaped or pointed, as indicated at 4. Attached to the edges of the bottom portion are semicircular ribs 5, to which the top or covering 6 is attached and which may be of any suitable material, such as light sheet metal or silk. This top portion at the front end is also carried to a point from the sides and from the top, as indicated at 7. It is obvious that the top and bottom portions form the walls of a gas-container.

Arranged underneath the body is a cabin 8, in which is a suitable motor, from which a shaft 9 extends forward and a shaft 10 extends to the stern of the air-ship. Extended vertically through the forward portion of the body is a shaft 11, to which is attached above the body a propeller 12. The lower end of the shaft 11 has a bevel-gear 13, meshing with a bevel-gear 14 on the shaft 9. Extended upward through the stern portion of the body is a shaft 15, to which is attached a propeller 16, and on the lower end of this shaft 15 is a bevel-gear 17, meshing with a bevel-gear 18 on the shaft 10. These propellers 12 and 16 are designed to cause an upward or downward movement of the air-ship, depending upon the directions upon which said propellers are rotated, it being understood that suitable change-gearing will be provided to shift the rotary motion while the motor is operating at all times in one direction to cause the rotary movement of a propelling-wheel 19 on the rear end of the shaft 10.

As a means for steering the ship through the air I attach a rudder 20 to the forward end or bow, this being preferable to attaching the main rudder to the stern, because it more quickly catches the action of the air. I may, however, employ at the stern an auxiliary rudder 21, which, as here shown, is mounted to swing on a frame 22, attached to the stern of the body. Any suitable means may be provided for operating these rudders in unison.

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

1. An air-ship, comprising an inflatable body, having a continuous elongated bottom formed with a pendent longitudinally-extending keel merging into arched portions extending laterally of the upper part of the keel, for practically the full length of the latter.

2. An air-ship, comprising an inflatable body, having a continuous elongated bottom of light metal formed with a pendent longitudinally-extending keel merging into arched portions extending laterally of the upper part of the keel for practically the full length thereof.

3. An air-ship, comprising an inflatable body, tapered at its forward end and having a continuous elongated bottom formed with a pendent longitudinally-extending keel merging into arched portions extending laterally of the upper part of the keel for practically the full length thereof.

4. An air-ship, comprising an inflatable body, having a skeleton supporting-frame and provided with a continuous elongated bottom

formed with a pendent longitudinally-extending keel merging into arched portions extending laterally of the upper part of the keel for practically the full length of the latter, and vertical shafts mounted in said frame both forwardly and rearwardly of the structure, and provided with propellers.

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

WILLMER CHAUNCEY BRANCH.

Witnesses:

ROBT. W. CONNOLLY,

D. L. PHILLIPS.