G. H. SHERWOOD.

AIRSHIP.

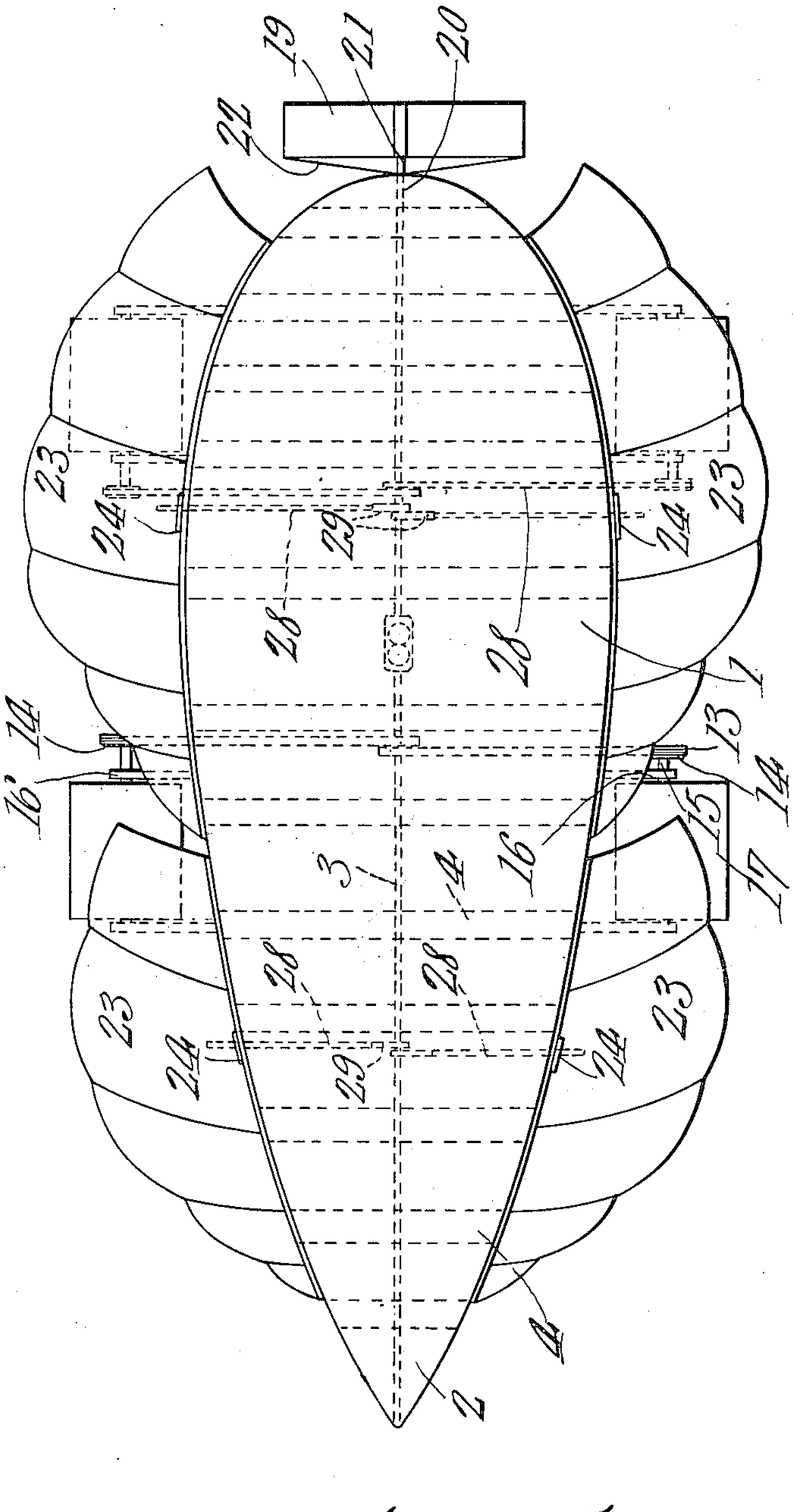
APPLICATION FILED NOV. 12, 1910.

999,471.

Patented Aug. 1, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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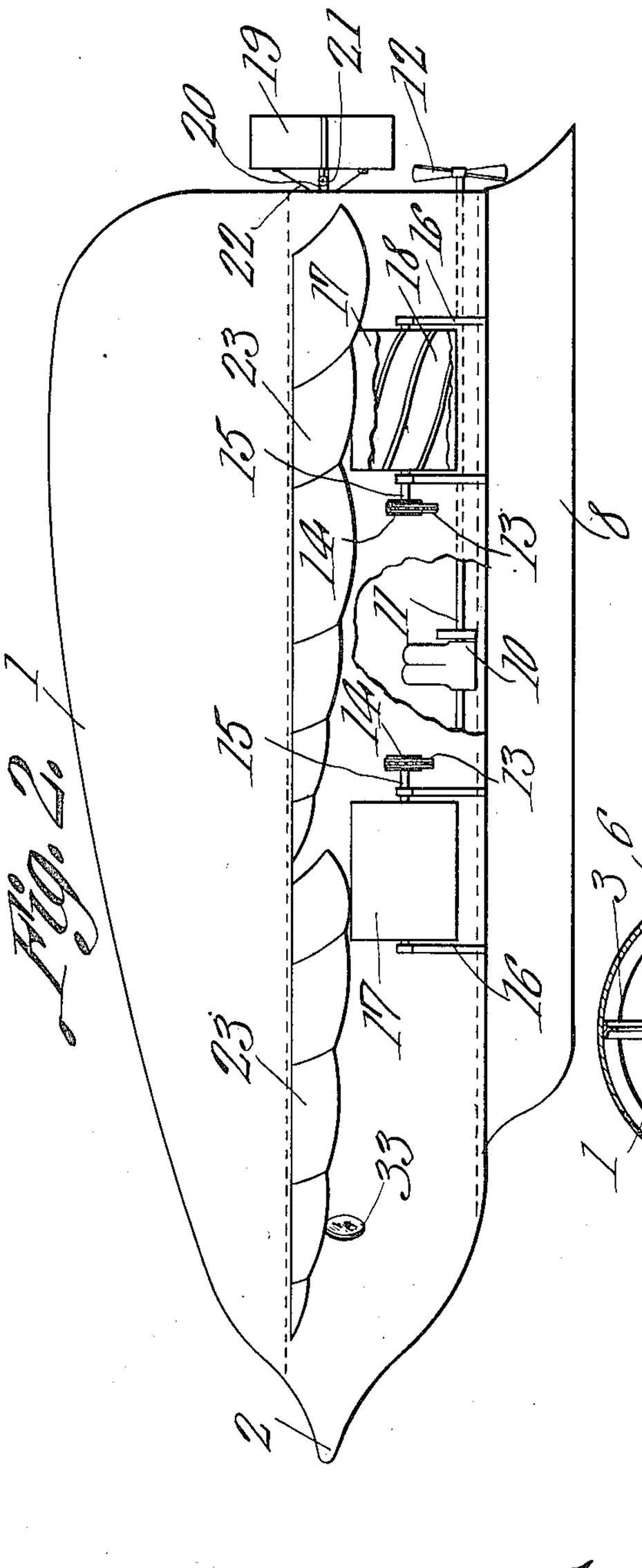

Fig. 2.

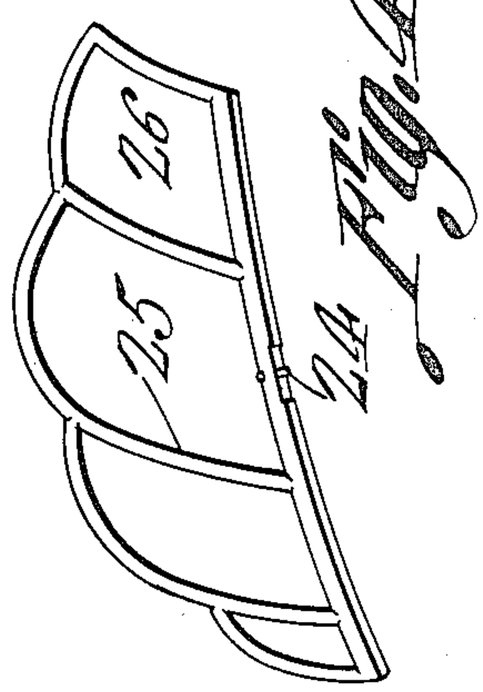

Fig. 4.

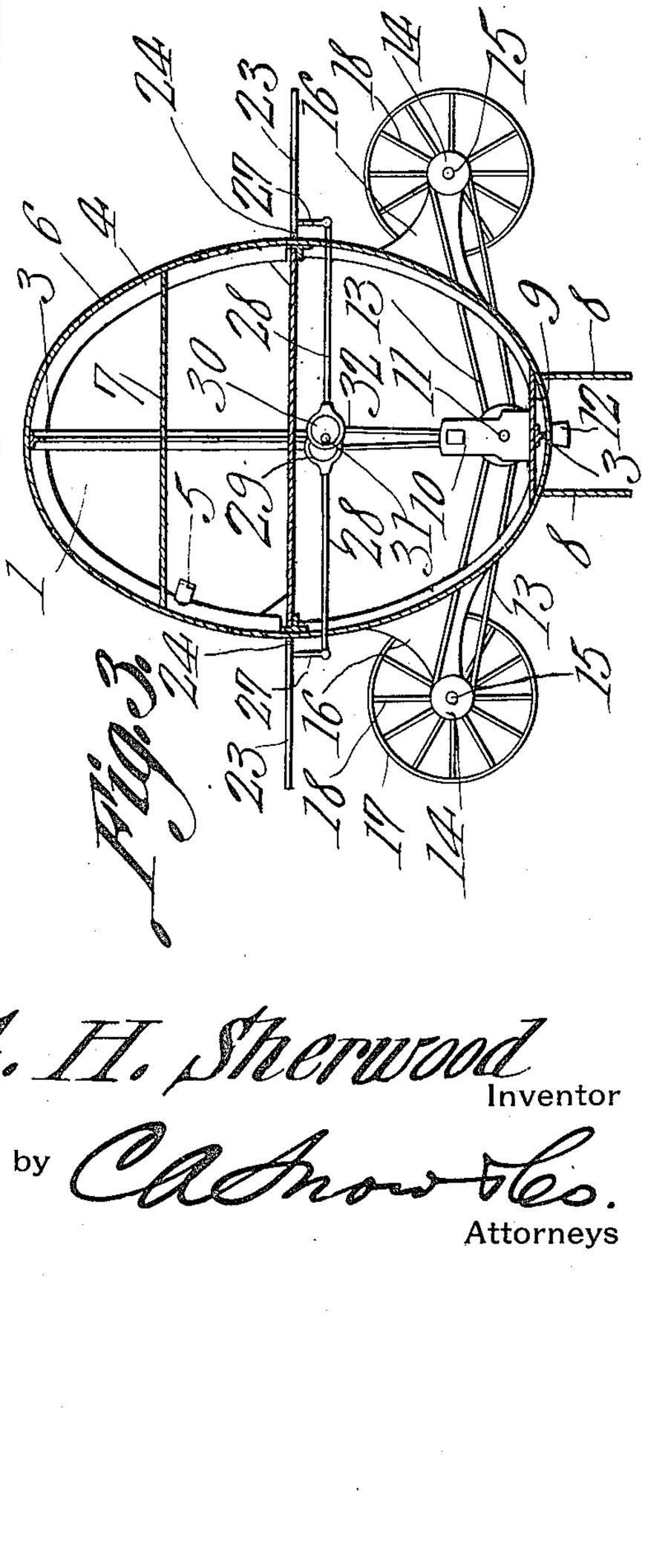

Fig. 3.

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UNITED STATES PATENT OFFICE.

GEORGE H. SHERWOOD, OF DENVER, COLORADO.

AIRSHIP.

999,471. Specification of Letters Patent. Patented Aug. 1, 1911.

Application filed November 12, 1910. Serial No. 592,108.

To all whom it may concern:

Be it known that I, GEORGE H. SHERWOOD, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented a new and useful Airship, of which the following is a specification.

This invention relates to airships and one of its objects is to provide a superstructure supported by a framework of hollow ribs of rubber or the like inflated with air, this superstructure serving to house the upper deck of the airship.

Another object is to provide wings at the sides of the airship and which are mounted for oscillation for the purpose of elevating the structure, these wings being reinforced by ribs or the like containing air under pressure.

Another object is to provide a novel arrangement of keels by means of which the airship may be properly supported upon the ground.

With the foregoing and other objects in view the invention consists in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings: Figure 1 is a plan view of an air ship constructed in accordance with the present invention. Fig. 2 is a side elevation thereof, parts being broken away. Fig. 3 is a vertical transverse section through the air ship. Fig. 4 is a bottom plan view of one of the wings.

Referring to the figures by characters of reference 1 designates the hollow body of the airship, the safe being similar in most respects to the hull of an ordinary boat and being provided, at its front end, with a nose or point 2 for facilitating the movement of the airship through the air. This hull or body is of any preferred construction and has longitudinally extending frame members 3 supported thereabove and which are preferably formed of V-shaped bars of aluminum or other light durable metal. These members are connected at their ends in any preferred manner and constitute supports for ribs 4 arched over the hull or body and formed of rubber or the like, these ribs being inflated with air under pressure. Each rib has a separate valved inlet 5 and when the ribs are inflated they constitute efficient supports for the outer covering 6 of the body, said covering being of canvas or any other desired material. The upper deck 7 of the hull or body is provided for passengers or freight. Windows can of course be arranged at desired points within the covering 6 so as to furnish light to the interior of the machine and at the same time permit the occupants of the car to view the external surroundings.

Parallel longitudinally extending keels 8 are arranged along the bottom of the body or hull and constitute means for properly supporting the airship while on the ground and for facilitating the alighting of the ship. A lower deck 9 is arranged within the body 1 and close to these keels and supports the controlling mechanism. This mechanism includes one or more motors 10 driving a shaft 11 which projects through the rear end of the body and has a propeller 12 thereon for use in driving the airship forward should the same be supported upon a body of water. This shaft 11 also drives chains 13 extending through the sides of the body and engaging sprockets 14 on shafts 15 which are journaled in arms 16 or the like extending laterally from the body 1. Preferably two of these shafts are located at each side of the body and are arranged in alinement, each shaft carrying a propeller made up of a cylindrical casing 17 open at its ends and surrounding a series of blades 18 arranged spirally about the shafts. When the shafts 15 are rotated at a high speed these blades 18 operate to displace the air rearwardly and thus move the airship in a forward direction.

The direction of flight may be controlled by means of a rudder 19 made up of vertical and horizontal intersecting blades secured to a central stem 20 by means of a universal joint 21. A suitable arrangement of cords 22 may be provided for actuating the rudder so as to incline it laterally or in an upward or downward direction so as to steer the airship either upwardly or downwardly or toward either side.

Two wings are located along each side of the body 1, it being designed to arrange these wings along the side members 3 of the frame of body 1. Each wing which has

been indicated generally at 23, is connected to the adjacent frame member 3 by means of one or more hinges 24 and consists of a frame of air inflated tubular members 25 supporting a covering 26 of flexible material, this covering being of any suitable structure and being preferably of such a character as to offer practically no resistance to the atmosphere during the upward movement of the wings but which will displace the air during the downward movement of said wings. Various means may be provided for this purpose and it is not deemed necessary to show the same in detail. Each of the wings has the general appearance of a bird's wing and is pointed at its front end. Moreover, each wing has an arm 27 extending downwardly therefrom adjacent its edge, and connected, as by means of an arm 28, to the straps 29 of an eccentric 30 secured to a shaft 31. This shaft is arranged longitudinally within the body 1 and is adapted to be driven by shaft 11 through a chain 32 or the like. The various tubular members of each wing may be either separately or simultaneously inflatable.

Openings such as shown at 33 may be formed in the front portion of the body 1 and one or more searchlights can be placed back of these openings and used to illuminate the course of the airship at night.

In using the airship, the propelling blades 18 are used to drive it forward. The elevation of the airship is accomplished by operating the wings 23 and these wings can also be employed as sustaining planes. The direction of flight is under the control of the rudder 19. Should one or more of the inflatable portions 4 or 25 collapse from any cause, the remaining inflatable portions will be unaffected thereby because they are separate therefrom. These wings also constitute efficient means for retarding the downward movement of the airship.

It is to be understood, of course, that various changes may be made in the construction and arrangement of the different parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claims.

What is claimed is:

1. In an airship a hull of non-yielding material having a pointed bow, a longitudinally extending frame member supported above and extending from end to end of the hull, said frame member being of non-yielding material, inflatable flexible ribs upstanding from the deck of the hull and extending, at intermediate points, through said non-yielding frame member, a deck supported by said ribs and the frame member, and a flexible outer covering supported by the inflated ribs and the frame member and coöperating with the hull to form a body rounded in cross sectional contour and increasing in size from the bow to the stern.

2. In an airship a body rounded in cross sectional contour and gradually increasing in transverse area from the bow to the stern, said body consisting of a non-yielding hull having a deck, inflatable ribs of flexible material mounted on the deck, and a covering supported by said ribs and merging into the hull, and an upper deck supported by the inflated ribs.

3. In an airship a body consisting of a hull of non-yielding material, a longitudinally extending frame member of non-yielding material supported above and connected to the hull, transversely extending bowed ribs, said ribs being inflatable tubes, a deck supported by the ribs, and a cover of flexible material supported by said ribs and constituting a continuation of the hull.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE H. SHERWOOD.

Witnesses:
G. MOSSON,
D. ZILBERSTEIN.