No. 871,710. PATENTED NOV. 19, 1907.

G. W. LANE.

AIR SHIP.

APPLICATION FILED OCT. 29, 1906.

2 SHEETS—SHEET 1.

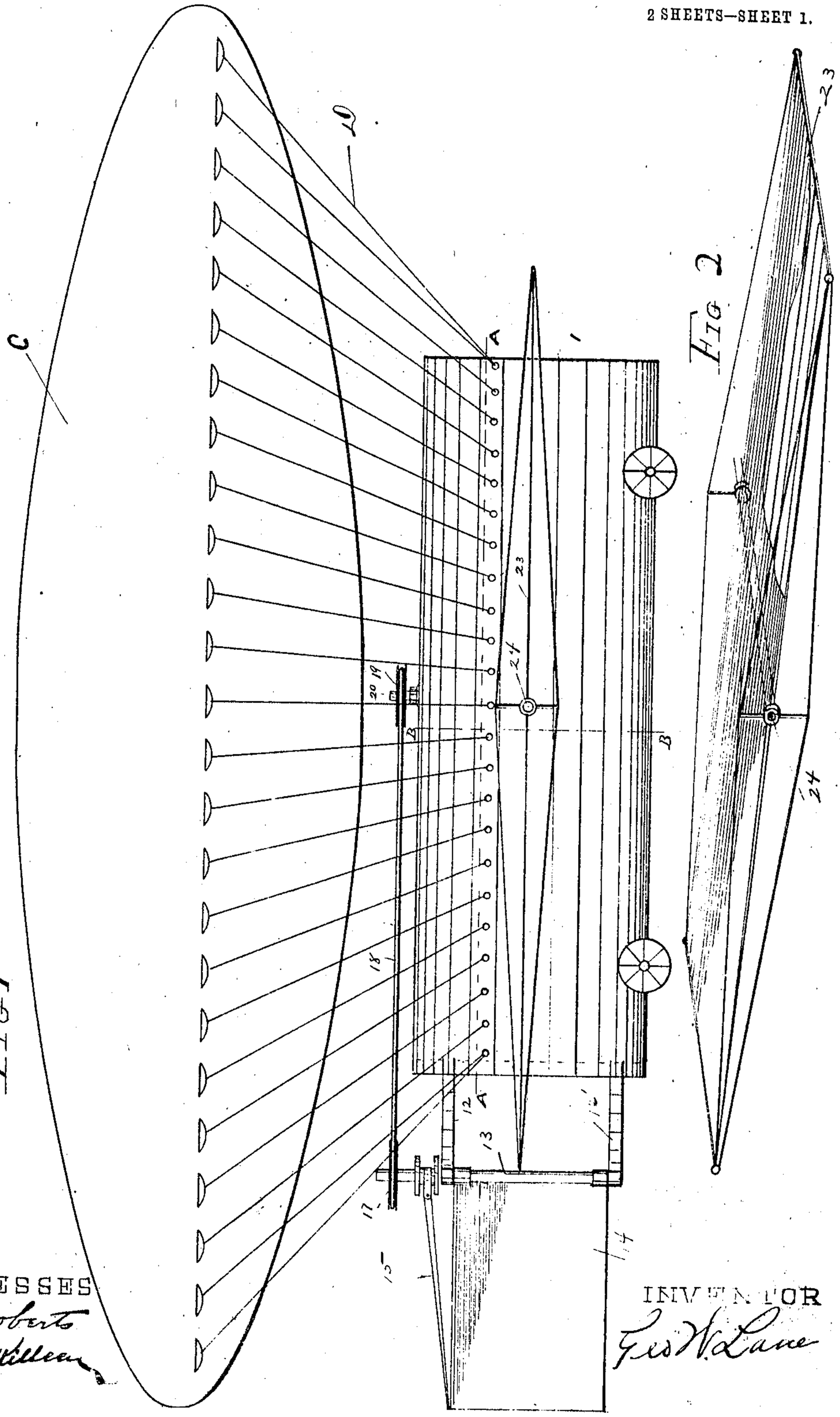

FIG 1

FIG 2

WITNESSES

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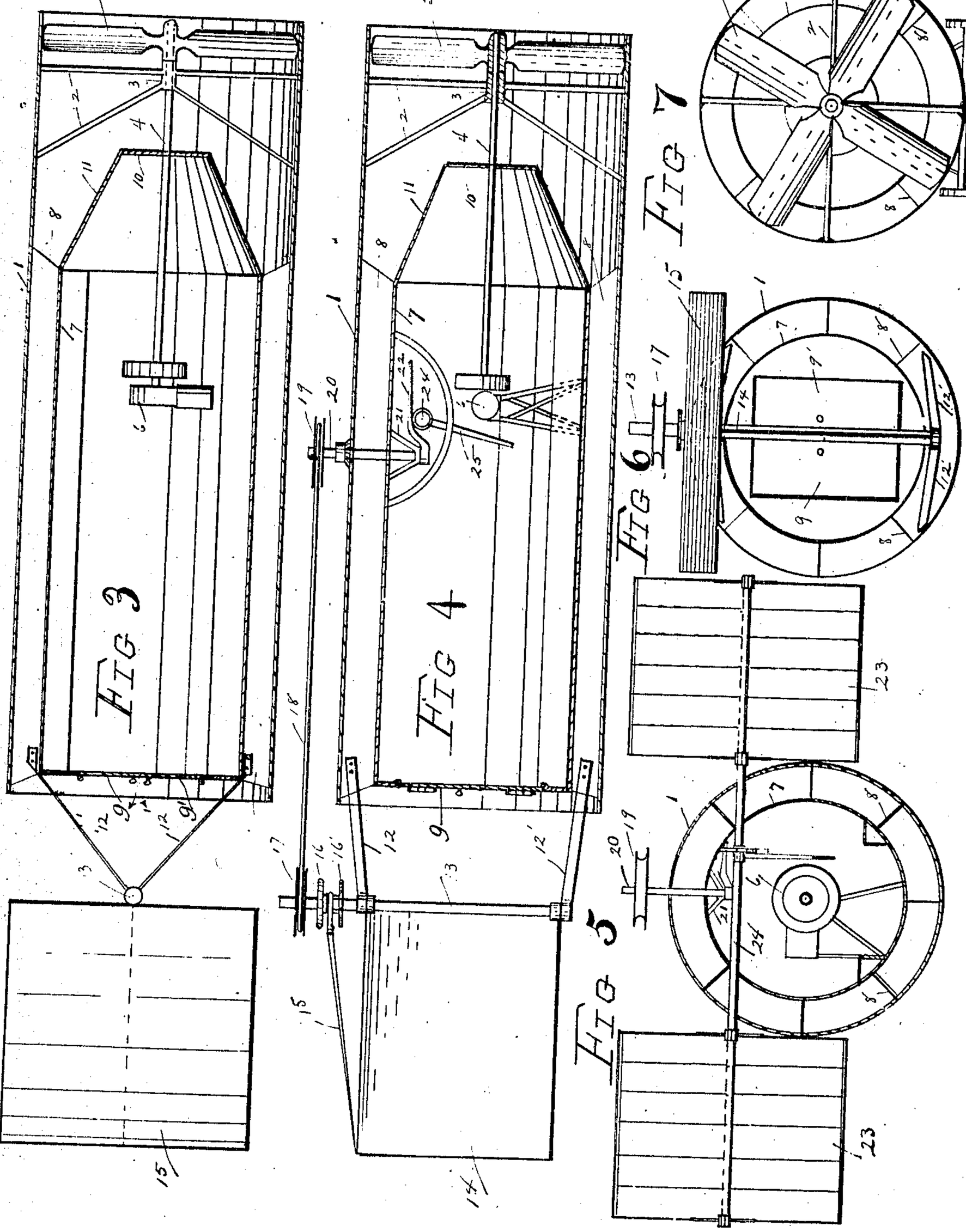

WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE W. LANE, OF ST. LOUIS, MISSOURI.

AIR-SHIP.

No. 871,710. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed October 29, 1906. Serial No. 341,023.

To all whom it may concern:

Be it known that I, GEORGE W. LANE, a citizen of the United States, residing in the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Air-Ships, of which the following is a full and clear description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in aerial vessels, and it consists in the novel construction and arrangement of parts more fully set forth in the specification and pointed out in the claims.

In the drawings Figure 1 is a view in side elevation of my improved air-ship, as it would appear adjusted to navigate in a straight course. Fig. 2 is a detail perspective of one of the guide-planes. Fig. 3 is a transverse longitudinal section of the car taken on the line A—A of Fig. 1. Fig. 4 is a vertical middle section of the car. Fig. 5 is a cross section of the car taken on the line B—B of Fig. 1, except that the guide-planes are disposed so that their plane surfaces are at an acute angle with the car body. Fig. 6 is a rear end view, showing the rudders and the doors of the inner section or passenger compartment. Fig. 7 is a front end view, showing the propeller.

The object of my invention is to provide an improved air-ship, or craft, capable of navigating the air; one which can ascend and descend, or otherwise alter its course or direction during its movement in the air.

Referring to the drawings, C represents a buoyant gas body, or envelop, preferably tapered at each end, and suitably fastened on each side are guy ropes D which connect the gas body with the car of the ship.

The car is constructed of two cylindrical shells of substantially different lengths; the outer or longer shell 1 is provided in its forward end with a frame piece 2 having a tubular bearing 3 to support the drive shaft 4 having a propeller 5 mounted on its outer end within the casing 1. The said shaft 4 is driven by a suitable engine or motor 6 stationed within the inner or short cylindrical shell 7 forming the compartment for the operator or passengers.

The inner shell 7 is completely enveloped by the outer shell 1, and is so set forward upon the partitions 8 as to form a chambered portion at the rear of the shell 7 which is closed at the end by the doors 9, 9′. The forward end of the inner shell 7 is provided with a suitable window 10, and a tapered portion 11 to deflect the air current through the ducts formed between the partitions 8 and the shells 1 and 7, and suitably fixed to the rear of the ship are the braces 12, 12′ which extend rearward to hold and support the vertical rudder shaft 13 to which is fixed the vertical rudder 14 and the adjustable horizontal rudder 15. The said horizontal rudder 15 is pivotally connected to the rudder shaft 13 upon which it is adapted to be raised or lowered in an inclined plane by the adjustable collars 16; the outer end of the rudder 15 being free to move along the top of the vertical rudder 14.

The rudder shaft 13 is provided near its top end with a grooved wheel 17 which is connected by a cable or rope 18 with a similar grooved wheel 19 fixed to a vertical shaft 20 leading through the shells 1 and 7 to a bracket 21 secured to the top wall of the inner shell 7; the said shaft 20 is turned by the lever 22 for the manipulation of the rudders for steering the ship.

The guide-planes 23 are mounted, one on each side of the car, on a transverse shaft 24 extending through the upper middle section of the shells 1 and 7 to a suitable distance beyond the outside of the car to carry the guide-planes 23. The said guide-planes are made preferably of two truss beams spaced with canvas interlaced with wire so as to hold the web firmly in a plane surface.

The shaft 24 is provided with a lever 25 to manipulate the planes 23 by inclining their plane surfaces to a resistance of the air as the ship is propelled forward to ascend or descend according as the planes are inclined. In operation, the ship is driven by the propeller 5 which rotated by the engine 6 forces an air current through the air ducts to the rear of the ship where it is expelled against the outside air producing propelling force and forward movement in the ship.

What I claim is—

1. The combination, in an air-ship, of a buoyant gas body or envelop, with a car comprising two cylindrical shells of substantially different lengths supported by guy-ropes connecting the gas body with the outer or longer shell 1; the inner or short shell 7 supported on partitions 8 within the long shell 1, substantially as set forth and described.

2. In an air ship, the combination with a

buoyant gas body, of a car comprising two cylindrical shells of substantially different lengths supported by guy-ropes connecting the gas body with the outer or longer shell 1; the said outer shell provided at its forward end with a frame having a tubular bearing to support the main shaft 4 driven by a suitable engine or motor stationed within the compartment or inner shell 7; and a propeller fixed upon the outer end of the shaft 4 within the casing or shell 1, substantially as and for the purpose described.

3. In an air-ship, the combination with a buoyant gas body, of a car comprising two cylindrical shells of substantially different lengths supported by guy-ropes connecting the gas body with the outer or longer shell; partitions 8 to support the short shell or passenger compartment 7 within the long shell 1; the said shell 7 provided at its forward end with a window, and a tapered portion 11 to deflect the air current through the ducts formed between the two shells 1 and 7, substantially as set forth.

4. In an air-ship, the combination of a car body comprising two cylindrical shells of substantially different lengths; the inner or short shell 7 supported upon partitions 8 within the long shell 1; a suitable engine or motor stationed within the inner shell 7 and adapted to drive a propeller mounted upon the drive shaft within the outer shell or casing 1; a transverse shaft 24 suitably mounted in the upper middle section of the car body and extending a suitable distance beyond the outside of the shell 1; a guide-plane 23 mounted one on each end of the shaft 24, outside the shell 1, and adapted to be inclined so that their plane surfaces form a resistance to the air as the ship is propelled forward, according as it is desired to cause the ship to ascend or descend.

In testimony whereof I affix my signature to this specification in the presence of two witnesses.

GEO. W. LANE.

Witnesses:
WM. C. KILLEEN,
F. W. MOEHLE.