

R. G. RETTINGER.

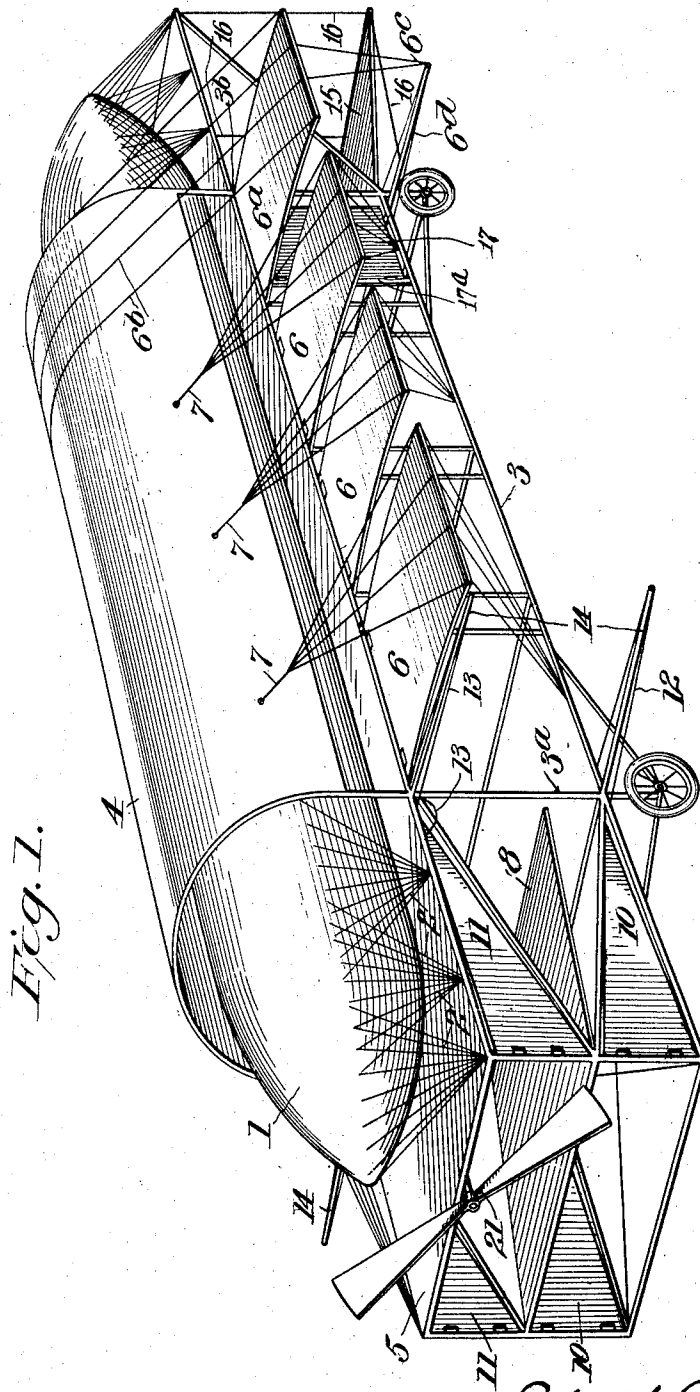
AIRSHIP.

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983,459.

Patented Feb. 7, 1911.

3 SHEETS—SHEET 1.



Witnesses

C. H. Walker
J. O. Reed

By

Inventor
Robert G. Rettinger
C. W. Clement
Attorney

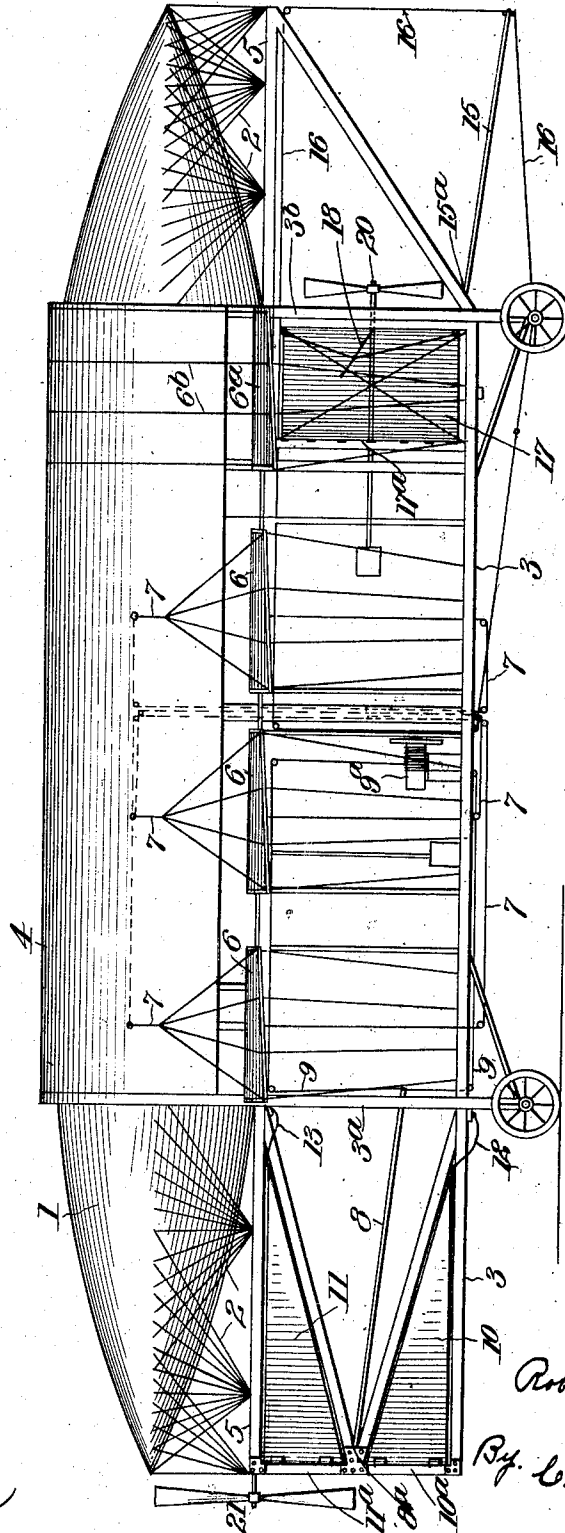
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3 SHEETS—SHEET 2.

Fig. 2.



Witnesses
C. M. Walker.
D. O. Reed

Inventor
Robert G. Rettinger
By E. W. Lehmann
Attorney

R. G. RETTINGER.

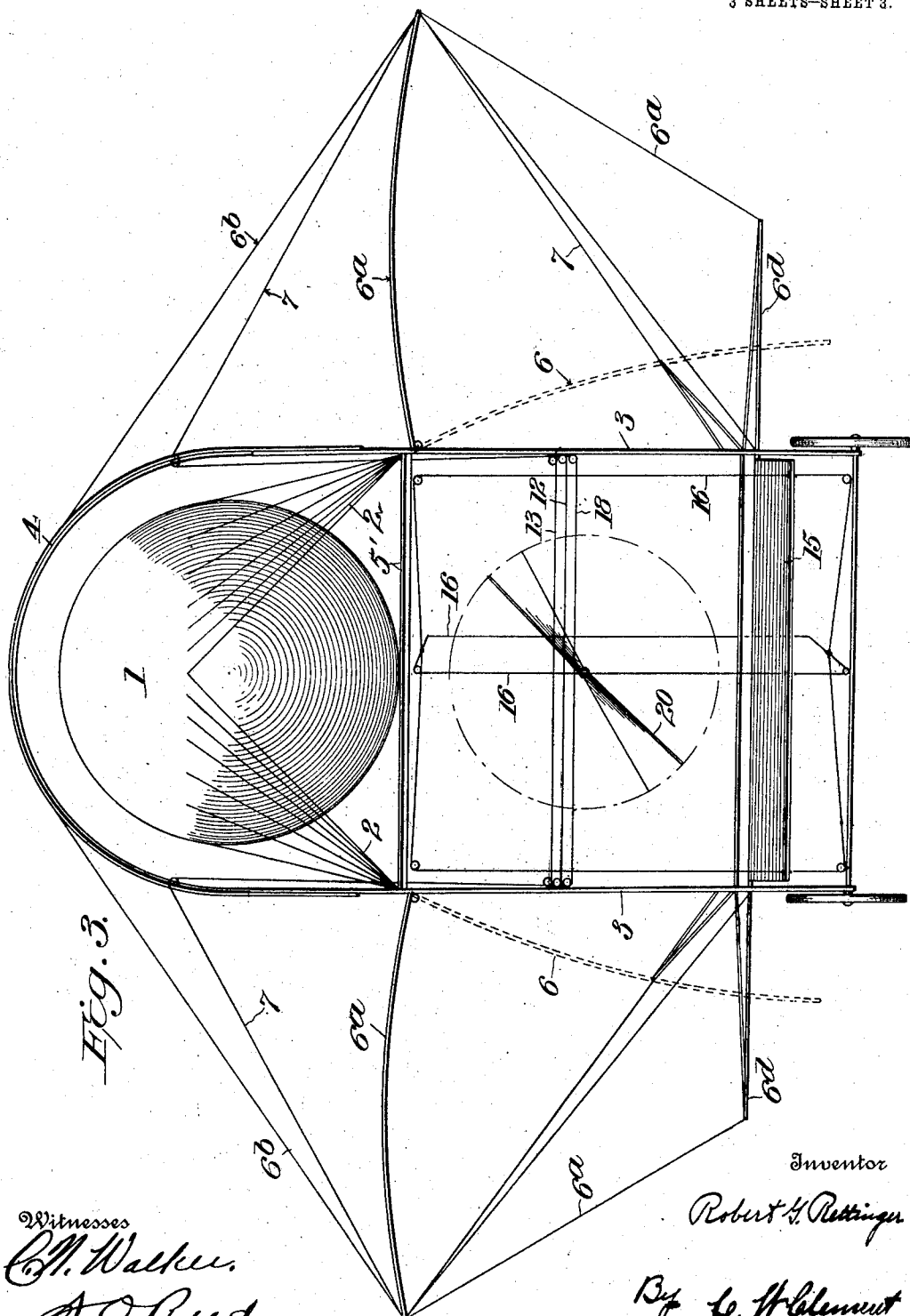
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J. O. Reed.

UNITED STATES PATENT OFFICE.

ROBERT G. RETTINGER, OF SUNBURY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO
WILLIAM H. GREENOUGH, OF SUNBURY, PENNSYLVANIA.

AIRSHIP.

983,459.

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Patented Feb. 7, 1911.

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To all whom it may concern:

Be it known that I, ROBERT G. RETTINGER, a citizen of the United States, residing at Sunbury, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Airships, of which the following is a specification.

This invention relates to air ships, and to that type of air ships in which there is a combination of a balloon, car and planes. It is styled a safety or controllable air ship for the reason that in case of accident to the balloon the car can be easily controlled and safely landed due to the construction and arrangement of the different planes in conjunction with the steering devices for guiding the movements of the ship. The car is adapted for the carrying of passengers and freight, and is provided with propellers operated by means of suitable motors within the car.

The various features of the invention will be hereinafter more fully described in connection with the accompanying drawings, in which:

Figure 1 is a perspective view of the airship. Fig. 2 is a side elevation, and Fig. 3 is a rear elevation of the same.

Referring to the drawings, 1 indicates the gas bag or balloon which may be of any desired construction and is preferably of the shape shown to present the least resistance to the air. The balloon is covered with a netting and to the netting are attached a number of ropes or cords 2 which support the car 3, the frame work of which may be made of wood, aluminum piping or any other light metal. The pipes of the frame work of the car may be flattened if desired and the whole filled with gas which helps to lift the airship. The frame work of the car 3 at 3^a and 3^b is extended upward forming the frame work of the semi-circular air plane 4 which may be made of canvas or aluminum. This plane 4 is but a short distance above the balloon 1 and partly surrounds it. The top of the car 3 is flat and forms a horizontal air plane 5 which may be made of canvas or aluminum. Depending from each side of the car 3 at the top are a plurality of planes or wings 6 which aid in lifting the car and keeping it suspended in the air, and also to help steer the same in

case of accident. All the planes or wings 6 except the rear pair 6^a are adjustable vertically by means of springs not shown, and of ropes or cords 7 which pass beneath the car and down each side to the operator. Each pair of planes or wings 6 can be adjusted independently and can be clamped in any position desired. The planes or wings 6^a are held in permanent position by ropes 6^b passing over top of semi-circular plane 4 and by ropes 6^c attached to arms 6^a (Fig. 3).

8 indicates a horizontal plane hinged to the front of the car 3 at 8^a and aids in the ascent and descent of the car as the case may be. It is adjustable vertically by means of cords or ropes 9 which pass along the top and bottom of the car to drum 9^a. Two pairs of vertical planes or rudders 10 and 11 are hinged to the front of the car 3 at 10^a and 11^a and are adjustable laterally by means of cords or ropes 12 and 13 passing through pulleys in the ends of the arms 14, the former running along the bottom of the car and the latter along the top of the car to a position near operator. By grasping both cords the planes can be operated in unison, and they can be operated independently by grasping their respective cords.

At the rear of the car 3 is a horizontal plane 15 hinged at the point 15^a and which may be adjustable vertically by means of cords or ropes 16. The ropes are attached to the center and each side of the free end of the plane and unite to form the main rope 16, this arrangement is the same above and below the plane (Fig. 3), the ropes 16 lead to point near the operator within the car. A pair of vertical planes 17 for steering the car is hinged to the car at 17^a and they are operated in unison by the ropes or cords 18 which lead to the operator's station and cross the car at that point where the cords 12 and 13 also cross. The vertical planes 10, 11 and 17 used for steering can be operated in unison by grasping the cords 12, 13 and 18 (Fig. 3) or independently as may be desired by grasping their respective cords.

Any number of propellers necessary may be employed, but only two are shown 20 and 21, the latter elevated above the former. These propellers are operated by suitable motors within the car. Under ordinary conditions the balloon will have a tendency to lift the front end of the car upward by

reason of its resistance to the air while in its passage, and by having the front propeller in position shown, the upward pulling by the balloon will be counterbalanced by the forward propeller pulling the top of the car downward and the car will move along in a horizontal position. This may be further facilitated by the horizontal plane 8 which may be adjusted vertically as occasion may demand.

The car can be equipped with a number of boxes filled with sand so that in case of accident a too rapid descent can be prevented by throwing sand overboard. The balloon is adapted to carry the greater part of the weight of the air ship and by the adjusting of the movable planes it can be made to ascend or descend as desired.

The operation of the air ship is as follows;—The car rests on wheels as shown upon the ground, propellers are started, the planes 8 and 15 are in position for ascent on an even keel, the force of the air against the said planes while moving forward will make the car ascend. To ascend on an incline which is quicker than the method described, the rear plane 15 will be pulled upward.

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

1. In an air ship, the combination of a balloon, of a semi-circular plane partly surrounding it, an air space between said plane and balloon, of a horizontal plane beneath the balloon, a car depending from the balloon, a plurality of planes or wings extending from each side of the car at the top,

means for propelling the car, means at front and rear for controlling the flight of the car.

2. In an air ship, the combination of a balloon, of a semi-circular plane partly surrounding it, a main horizontal plane beneath the same, a car depending from the balloon, a plurality of planes or wings extending from each side of the car at the top, means for adjusting the wings, means for propelling the car, means at front and rear for controlling the flight of the car.

3. In an air ship, the combination with a balloon, of a semi-circular plane above the balloon, a main horizontal plane beneath the same, a car depending from the balloon, a plurality of planes or wings hinged at each side of the car at the top, means for adjusting said wings vertically, horizontal and vertical planes at front and rear of said car for controlling the flight of the same.

4. In an air ship, the combination of a balloon, a semi-circular plane above the same, an air space between said balloon and plane, a horizontal plane beneath the balloon, a car depending from the balloon, wings or planes extending from each side of the car at the top, vertical pennant shaped planes in front and vertical planes in the rear for steering the ship, horizontal lifting planes at the front and rear adjustable vertically.

In testimony whereof I affix my signature, in presence of two witnesses.

ROBERT G. RETTINGER.

Witnesses:

C. W. CLEMENT,
C. F. SHIPMAN.