July 21, 1925. 1,546,443

C. E. GLESSNER

FLYING MACHINE

Filed Oct. 7, 1924

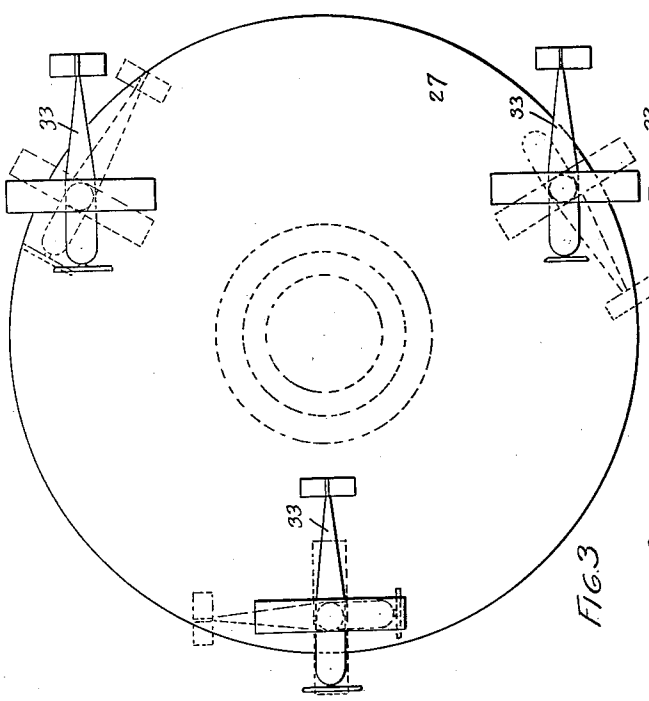

FIG. 3

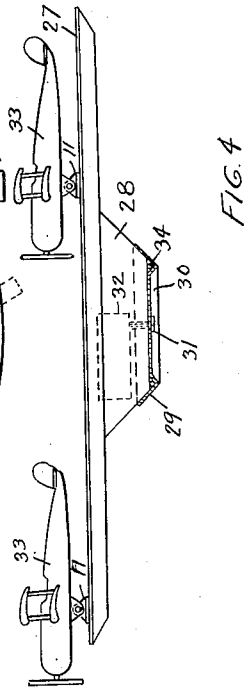

FIG. 4

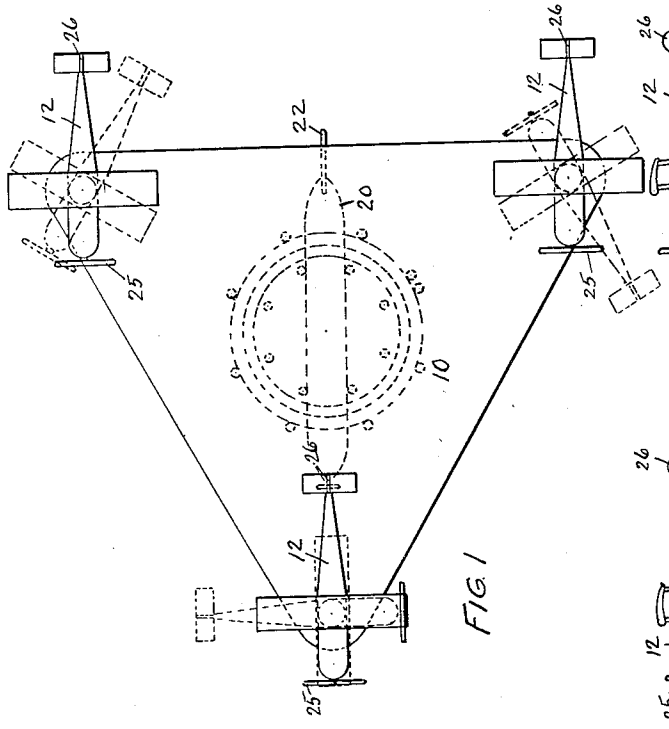

FIG. 1

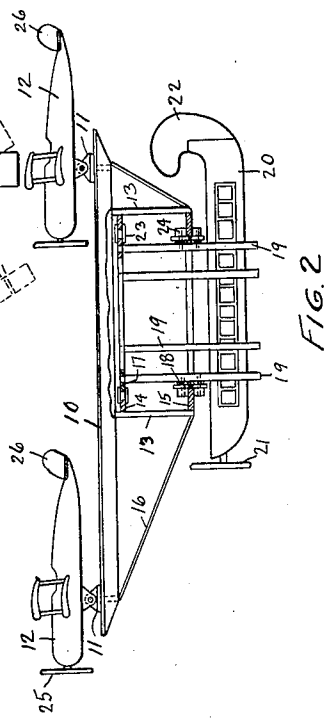

FIG. 2

INVENTOR

Charles E. Glessner

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UNITED STATES PATENT OFFICE.

CHARLES E. GLESSNER, OF PORTLAND, OREGON.

FLYING MACHINE.

Application filed October 7, 1924. Serial No. 742,210.

To all whom it may concern:

Be it hereby known that I, CHARLES E. GLESSNER, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Improvement in a Flying Machine, of which the following is a specification.

This invention relates generally to the art of aviation, and more particularly to that branch of the art, in which so called "heavier than air" machines are involved. Attention is directed to my co-pending application No. 717,027, dated May 31, 1924, over which the device herein described is an improvement.

An object of my invention, is to provide an exceedingly stable flying machine, capable of rising vertically from the ground or water, and then flying laterally.

A second object is to so construct the machine that it may either alight upon the ground or upon the water without serious inconvenience and to permit it to remain afloat as long as desired and to provide special means for reducing the friction between the ship and water when rising. Still another object is to render the individual airplane units capable of horizontal rotation, under the control of the operator, without depending upon the usual rudder.

Another object is to so design the ship that its underslung car will be thoroughly braced from the ship itself and the said bracing will tend to stiffen the body of the ship at its extreme points.

Another object is to provide propeller means on the car itself, so that the device would be capable of flight even after all of its airplane unit motors had ceased to function.

I accomplish these results in the manner set forth in the following specification as illustrated in the accompanying drawing, in which:—

Figure 1 is a plan of my device shown somewhat diagrammatically.

Figure 2 is a side elevation of same with parts broken away to disclose the construction.

Figure 3 is a plan of a modified form of the device, of which Figure 4 is a side elevation, with its accompanying landing platform broken away in section to disclose the air pocket.

Owing to the smallness of the scale, no attempt has been made to show minute details. The drawings, therefore, are to be understood, to be largely diagrammatic from which many variations can be made without departing from the spirit of my invention.

Similar numbers of reference refer to the same parts throughout the views.

Referring in detail to the drawing, I have illustrated in Figures 1 and 2, a triangular frame member 10, on whose deck have been mounted the turrets 11, on which are hinged the airplanes 12, which are capable of rotation with relation to the frame 10, as well as forward and aft inclination. Rigidly mounted on the underside of the frame 10, are the vertical struts 13, joined at their upper and lower ends by the rings 14 and 15. The ring 15 is united by means of cables 16 to the underside of the frame 10, along its outer portion.

Inside of the rings 14 and 15, I have placed the rings 17 and 18 to which are secured the vertical struts 19, to whose lower end I have attached a car 20, provided with a propeller 21, and a balanced rudder 22. Rollers 23 and 24 permit the car 20 to rotate freely with relation to the frame 10. Whereas only a few of these rollers are shown, it is of course understood that enough of these are placed around the rings 17 and 18 to properly support the car 20, below the frame 10 or to support the frame 10 over the car 20, during which time the parts must be free to rotate as above suggested.

The planes 12 are provided with propellers 25, and rudders 26, and as above suggested, the planes 12 can be rotated on the turrets 11, mechanically either by means of a steering wheel or by power without the use of the rudder. Owing to the smallness of the scale I have not undertaken to show a mechanical means for accomplishing this purpose, but it would be accomplished very much in the same manner as any turret is rotated.

It will be further understood that the lower ends of the struts 19 act as feet which rest upon the ground, and the frame 10 is preferably made buoyant.

Turning now to Figures 3 and 4, it will be observed that the frame 27 is circular in form and that the cargo carrying hold 28 is not rotatable, but it is provided on

its underside with a rotatable base 29, having a recessed bottom 30, supported by a central pivot 31, through which air may be forced from the tank 32.

The planes 33 on this modified form of the device, are the same as the planes 12, as shown in the Figures 1 and 2.

The operation of my device is as follows:

When resting on the ground, or on the water, it is desired to rise, the planes 12 or 33, are rotated into the position shown in dotted lines, and the propellers 25 started, causing the frames 10 or 27 to rotate. When sufficient speed has been attained, the vertical angle of all of the planes is changed under the control of the elevators, causing the entire device to rise vertically. As the desired altitude is approached, the planes are gradually maneuvered into the position shown in full lines, either under control of the rudder or in other cases, necessarily under the control of the mechanical steering mechanism above mentioned, causing the ship to fly in circles of increasing diameter, or rather in a large spiral, and finally flying off at a tangent.

In the case of the form shown in Figures 3 and 4, when the ship is riding on the water and it is desired to rise, it is only necessary to force a quantity of air through the pivot 31, sufficient to displace the water under the recessed bottom 30, thereby permitting the device to rotate with much less friction than is otherwise possible. It will be understood that the sides of member 29 may be carried up as high as is deemed necessary.

It will be understood that wherever possible, where metal is employed in the construction of my device that this be in the form of a duralumin, which lends itself to the requirements of aviation.

In order to permit the hull 28, to rotate more freely on a base 29, I have provided a plurality of balls 34, which ride in the race formed around the rim of said base.

I am aware that many forms of flying machine, have been constructed in the past, I therefore do not claim such devices broadly, but I do intend to cover all such forms and modifications as fall fairly within the appended claims.

I claim:

1. In a flying machine, a combination of a flat frame; a plurality of turrets circumferentially mounted on said frame about its gyratory axis; an airplane unit hinged on each of said turrets adapted to permit said planes to change their angles of flight and a hull on the underside of said frame.

2. In a flying machine, a combination of a flat frame; a plurality of turrets circumferentially mounted on said frame about its gyratory axis; an airplane unit hinged on each of said turrets adapted to permit said planes to change their angles of flight; a hull on the underside of said frame and a base rotatably placed on the underside of said hull.

3. In a flying machine, a combination of a flat frame; a plurality of turrets circumferentially mounted on said frame about its gyratory axis; an airplane unit hinged on each of said turrets adapted to permit said planes to change their angles of flight; a hull on the underside of said frame and a base rotatably placed on the underside of said hull, said base having a recessed bottom rotatably supporting said hull and means for displacing water from said recessed bottom.

4. In a flying machine, the combination of a flat frame; a plurality of turrets circumferentially mounted on said frame about its gyratory axis; an airplane hinged on each of said turrets; means for rotating each of said planes on its turret and an underslung cargo carrying hold, supported by said frame.

5. In a flying machine, the combination of a flat frame; a plurality of turrets circumferentially mounted on said frame about its gyratory axis; an airplane hinged on each of said turrets; means for rotating each of said planes on its turret; a buoyant hull on the underside of said frame and a turntable attached to the underside of said hull.

CHARLES E. GLESSNER.