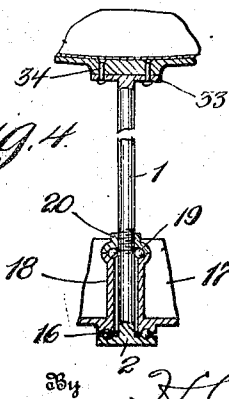
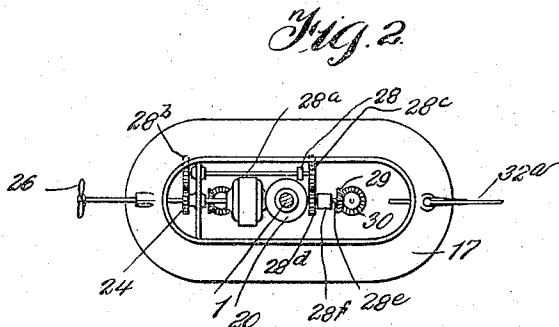
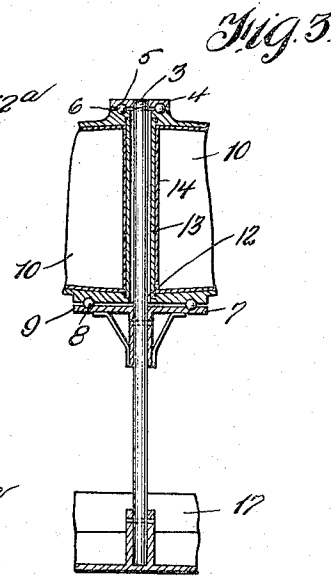
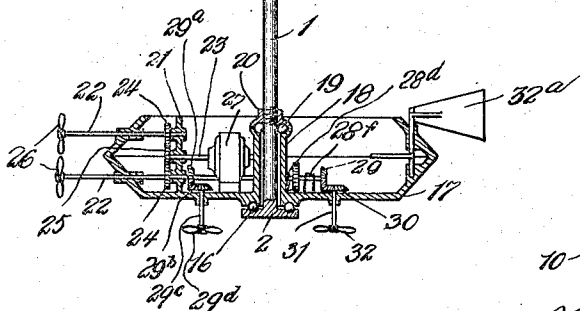
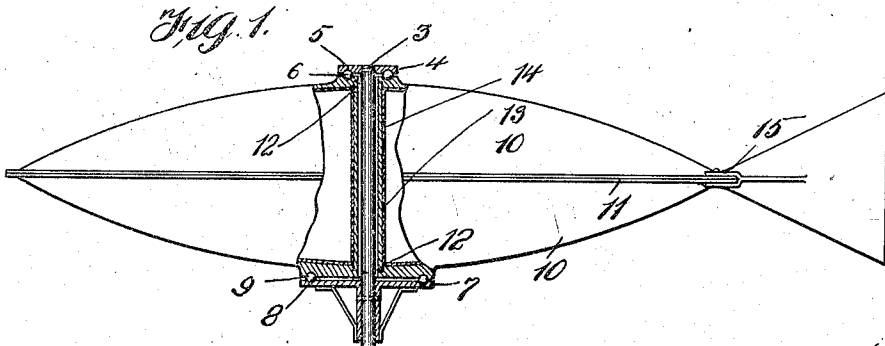


J. M. PARK.  
AIR SHIP.

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924,495.

Patented June 8, 1909.



Witnesses

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# UNITED STATES PATENT OFFICE.

JAMES M. PARK, OF PITTSBURG, PENNSYLVANIA.

## AIR-SHIP.

No. 924,495.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed October 16, 1908. Serial No. 458,013.

*To all whom it may concern:*

Be it known that I, JAMES M. PARK, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Air-Ships, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to air ships, and the primary object of my invention is the provision of positive and reliable means in connection with an air ship for freely supporting a gas or air bag relative to the steering and propelling mechanism, whereby the gas or air bag will be free to revolve in a horizontal plane irrespective of the direction or strata of an air current.

A further object of my invention is to provide an air ship that will be equally balanced, rigid and safe for traveling or observation purposes.

A further object of this invention is to utilize a revoluble, rigid or flexible body for adding stability to an air ship irrespective of carriage planes and propellers.

With the above and other objects in view which will more readily appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts to be presently described and then specifically claimed.

In the drawings:—Figure 1 is an elevation of the air ship constructed in accordance with my invention, partly broken away and partly in section, Fig. 2 is a plan of the carriage or basket thereof, Fig. 3 is a vertical cross sectional view of a portion of the air ship, and Fig. 4 is a sectional view of a modified form of construction.

As heretofore stated, the present invention relates to that type of aeronautical crafts, known as air ships either lighter or heavier than air, which depends upon the construction and use of the same.

In carrying my invention into effect, I use a vertical stem 1 having the lower end thereof provided with a head 2, while the opposite or upper end 3 is threaded for a detachable head 4. The head 3 is provided with an annular race 5 for anti-friction balls 6.

The stem 1 intermediate the ends thereof is provided with a fixed platform 7 having an annular ball race 8 for anti-friction balls 9. Between the balls 6 and 9 is supported a rigid or flexible structure that is preferably circular in plan and elliptical in elevation. As

shown in the drawings, this structure comprises two disk-shaped members 10 having peripheral flanges 11. The members 10 are provided with central openings 12 connected by a vertical sleeve 13, which surrounds the stem 1. The interior of the members 10 and the exterior of the sleeve 13 are lined or coated, as at 14, to provide a non-leakable structure. The members 10 in some instances can be made of a rigid, light and durable material, while in other instances, the entire structure can conform to a gas or air bag. In either instance, the peripheral flanges 11 are provided with a fixed fan-tail rudder 15, this rudder keeping the direction of an air current by reason of the structure being mounted upon ball bearings between the platform 7 and the head 4.

The head 2 is provided with an annular race for anti-friction balls 16, and revolubly mounted upon these balls is a carriage or basket 17, preferably oblong in plan. The carriage or basket 17 is provided with a central vertical sleeve 18 surrounding the lower part of the stem 1, and the upper end of this sleeve is cupped to accommodate anti-friction balls 19. These balls are adapted to bear against the stem 1 and are retained in place by a cap 20 threaded upon said stem. It will of course be understood that this cap is placed upon the stem 1 prior to securing the platform 7 and the head 4 in position.

In the carriage or basket 17 is arranged a bearing 21 for propeller shafts 22 and a drive shaft 23, said propeller shafts being provided with gear wheels 24 adapted to mesh with a gear wheel 25 carried by the shaft 23. The shafts 22 protrude from the end of the carriage or basket 17 and are provided with propellers 26.

The drive shaft 23 is driven by a motor 27 or similar source of power located in the carriage or basket 17.

The carriage or basket 17 is provided with a bearing 28 and journaled in this bearing and the bearing 21 is a shaft 28<sup>a</sup> having a gear wheel 28<sup>b</sup> adapted to mesh with the lowermost gear wheel 24. Upon the shaft 28<sup>a</sup> is mounted a gear wheel 28<sup>c</sup> meshing with a gear wheel 28<sup>d</sup> mounted upon a shaft 28<sup>e</sup>, journaled in a bearing 28<sup>f</sup>, carried by the carriage or basket. The shaft 28<sup>e</sup> is provided with a beveled gear wheel 29 meshing with a similar wheel 30 mounted upon a shaft 31 journaled in the carriage or basket 17. The

lower end of the shaft 31 is provided with a propeller wheel 32 for lifting and elevating an air ship irrespective of the overhead structure.

- 5 The lowermost propeller shaft 22 is prolonged and provided with a beveled gear wheel 29<sup>a</sup> meshing with a beveled gear wheel 29<sup>b</sup> mounted upon the upper end of a vertical shaft 29<sup>c</sup> journaled in the carriage or basket  
10 17. The lower end of the shaft 29<sup>c</sup> is provided with a propeller 29<sup>a</sup> adapted to co-operate with the propeller wheel 32.

In Fig. 4 of the drawings, I have illustrated a modification of my invention wherein the  
15 upper end of the stem 1 is provided with a fixed head 33 adapted to be secured, as by rivets 34, to the bottom of a rigid or flexible structure. In this instance, the carriage or basket 17 will be free to rotate in a horizontal  
20 plane relative to the overhead structure.

While in the drawings forming a part of this application there are illustrated the preferred embodiments of my invention, it is obvious that the same can be varied or  
25 changed as to shape, proportion and manner of assemblage without departing from the spirit of the invention, which is that the lifting power of either a gas bag, or aeroplane, is free to revolve in an opposite direction from  
30 the basket or car, arranged on lower end of shaft.

Having now described my invention what I claim as new, is:—

- 35 1. An air ship embodying a vertical stem, heads carried by the ends thereof, a platform secured to said stem intermediate said heads, a circular rigid overhead structure revolubly mounted between said platform and the head

carried by the upper end of said stem, said overhead structure comprising two disk-  
40 shaped members having adjoining peripheral flanges, a rudder secured to the flanges of said structure, a carriage revolubly mounted upon the head on the lower end of said stem, propellers journaled in said carriage, means  
45 for imparting a rotary movement to said propellers, and a manually operated rudder carried by said carriage, substantially as described.

2. An air ship embodying a vertical stem, 50 an overhead structure revolubly mounted at the upper end of said stem, said overhead structure comprising two rigid disks having peripheral adjoining edges, a rudder carried  
55 by said structure, a carriage revolubly mounted upon the lower end of said stem, propellers revolubly supported by said carriage, a rudder carried by said carriage, and means located in said carriage for imparting a rotary  
60 movement to said propellers.

3. In an air ship, a vertical stem, an overhead structure revolubly-mounted on the upper portion of the stem, and comprising two disk-shaped members having adjoining  
65 peripheral flanges, a rudder secured thereto, a carriage revolubly-mounted on the lower portion of the stem, propellers carried by said carriage, means in the carriage for driving said propellers, and a manually-operable rudder carried by the carriage. 70

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

JAMES M. PARK.

Witnesses:

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K. H. BUTLER.