

J. DARCHE.
AIRSHIP.

APPLICATION FILED MAY 22, 1912.

Patented Jan. 21, 1913.

2 SHEETS—SHEET 1.

1,050,921.

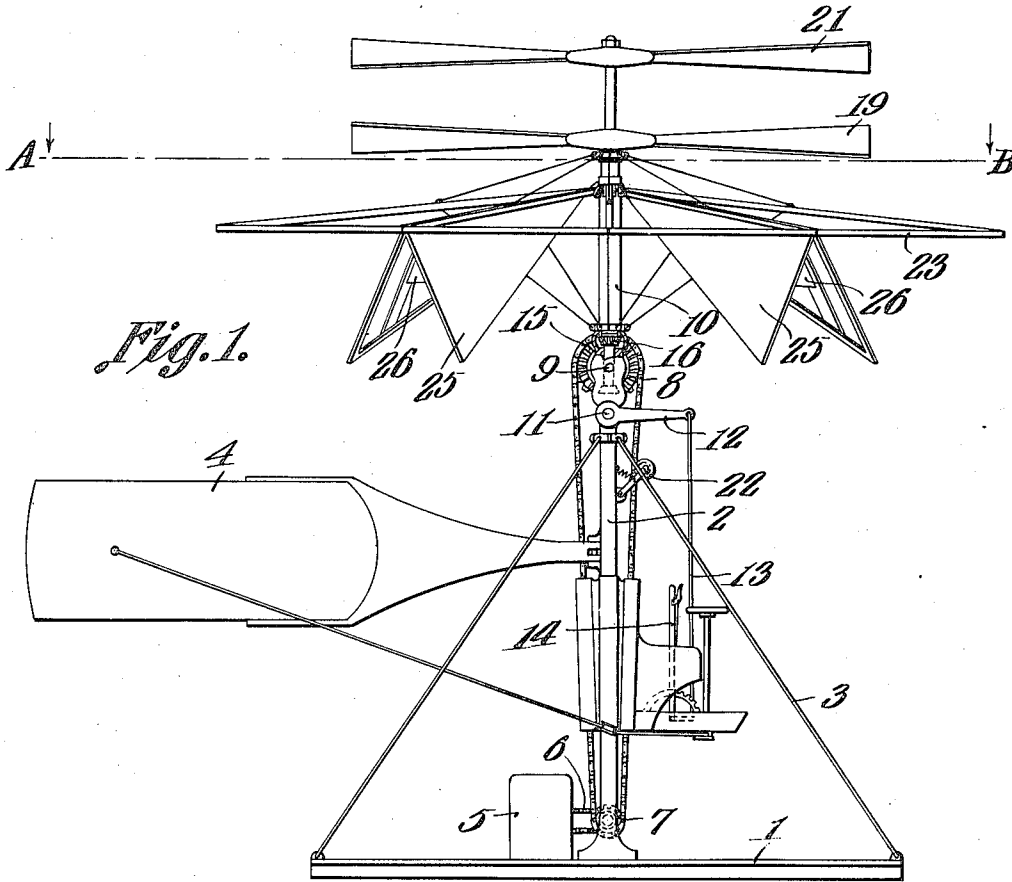


Fig. 1.

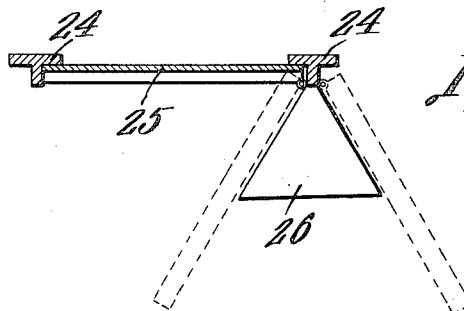


Fig. 4.

Witnesses

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Fig. 2.

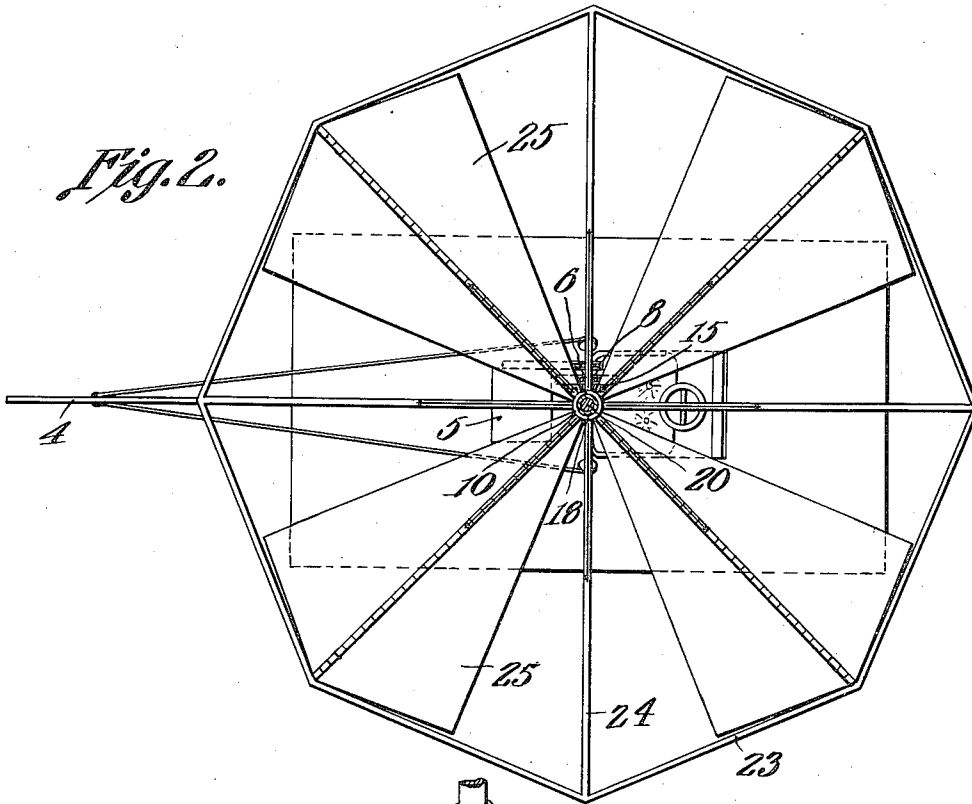
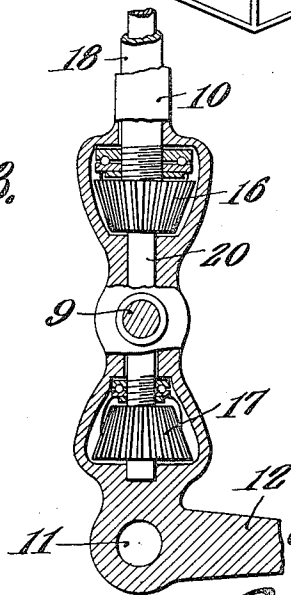


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES DARCHE, OF CORPUS CHRISTI, TEXAS.

AIRSHIP.

1,050,921.

Specification of Letters Patent.

Patented Jan. 21, 1913.

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To all whom it may concern:

Be it known that I, JAMES DARCHE, a citizen of the United States, residing at Corpus Christi, in the county of Nueces and State of Texas, have invented a new and useful Airship, of which the following is a specification.

This invention relates to airships of the heavier than air type, its principal object being to provide a helicopter the elevating wheels of which constitute means not only for lifting the machine but also for propelling it in any direction desired.

A further object is to provide a safety attachment in the form of a combined parachute and sustaining plane which can be used for maintaining the machine in an elevated position while gliding and which also constitutes means for retarding the downward movement of the machine should the elevating wheels fail to work.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides 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 the 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 side elevation of the elevating and sustaining apparatus constituting the present invention. Fig. 2 is a section on line A—B Fig. 1. Fig. 3 is an enlarged longitudinal section through the means provided for transmitting motion to the elevating wheels. Fig. 4 is a vertical section through a portion of the sustaining plane with the valves or flaps closed.

Referring to the figures by characters of reference 1 designates a portion of the car of an airship, the same having a standard 2 erected therein and suitably braced, as by means of rods 3. A rudder such as shown at 4 may be connected to the standard and may be provided with any suitable mechanism for shifting it. A motor 5 is adapted to transmit motion through chains 6 and a sprocket 7 to a sprocket 8 secured to a shaft 9 which is journaled in a tubular casing

10 pivotally connected, as at 11, to the upper end of the standard 2. An arm 12 extends from the pivot end of the tubular casing 10 and is connected, by means of a rod 13 or the like, to an adjusting lever 14 whereby the said tubular casing 10 can be adjusted angularly relative to the standard 2. Shaft 9 does not extend through the casing 10 but is merely a stub extending radially therefrom. This shaft has a gear 15 journaled thereon and rotating with the sprocket 8. Said gear meshes with oppositely disposed bevel gears 16 and 17 housed within the tubular casing 10. Gear 16 is secured to the lower end of a tubular shaft 18 extending upwardly through the casing 10 and provided, at its upper end, with an elevating wheel 19. The gear 17 is secured to the lower end of a shaft 20 which extends through the tubular shaft 18 and to a point above the upper end thereof, the upper end of said shaft 20 being provided with an elevating wheel 21 similar to the wheel 19 but having its blades pitched oppositely thereto. By arranging the gears in the manner shown it will be seen that, when gear 15 is rotated, the two shafts 18 and 20 will be simultaneously rotated in opposite directions so that wheels 19 and 21 will operate to elevate the machine without, however, causing the machine to rotate about the axis of the wheels. It is to be understood that when the casing 10 is in alignment with the standard 2 the wheels 19 and 21, while rotating, will lift the machine vertically. By shifting the casing 10 relative to the standard 2 by means of lever 14, said casing will cause the wheels 21 and 19 to tilt relative to the car 1 and said wheels will not only elevate the machine but will propel it forwardly.

In order to hold taut the chain 6 which engages sprocket 8, a tightener 22 engages said chain and is mounted on the standard 2. Thus it will be seen that casing 10 can be adjusted angularly and the chain will be maintained taut.

For the purpose of retarding the downward movement of the machine and for the further purpose of sustaining the machine while gliding, a plane is mounted upon the casing 10. This plane consists of a rim 23 which can be octagonal or of any other shape desired and which is connected to the upper end of the casing 10 by means of spokes 24. Triangular spaces are thus

formed between the spokes and hingedly connected to every other spoke are oppositely disposed triangular flaps or wings 25 which normally diverge downwardly and are supported in such position by triangular stops 26 suspended from the spokes to which the flaps are connected. With the flaps 25 in their normal positions, as shown in Figs. 1 and 2, it will be apparent that the upward movement of the machine will not be retarded. When, however, the machine is descending these flaps 25 will be closed against the adjacent spokes 24 by pressure of air between the diverging flaps and, as soon as said flaps are moved to closed position, they will prevent air from passing between the spokes and said air will thus be displaced downwardly and the descent of the machine retarded. Should it be desired to use the flaps for sustaining the machine while gliding, the casing 10 can be adjusted angularly so as to incline the sustaining plane upwardly and forwardly. This is of course to be done after the wheels 19 and 21 have ceased to rotate. After the parts have thus been adjusted it will be apparent that the pressure of air upon the lower and upwardly and forwardly inclined surface of the plane will cause the flaps 25 to swing upwardly against the spokes 24 and thus form a continuous sustaining surface.

It is to be understood that the mechanism herein described can be applied to any form of car and the showing in the drawings is merely intended to designate the car diagrammatically.

What is claimed is:—

1. The combination with a helicopter, of sustaining means interposed between the elevating wheel and the car thereof and including a rim concentric with the axis of rota-

tion of the elevating wheel, spokes radiating to the rim and substantially T-shaped in cross section, angular flaps hingedly connected to alternate spokes and adapted, when swung to active positions, to bear upwardly against the lower faces of the side portions of said T-shaped spokes, and a triangular spacing device interposed between the flaps of each pair for holding said flaps normally spaced apart at their lower edges, said spacing devices being fixed relative to the spokes carrying the flaps.

2. The combination with a helicopter, of sustaining means interposed between the elevating wheel and the car thereof and including a rim concentric with the axis of rotation of the elevating wheel, spokes radiating to the rim and substantially T-shaped in cross section, angular flaps hingedly connected to alternate spokes and adapted, when swung to active positions, to bear upwardly against the lower faces of the side portions of said T-shaped spokes, a triangular spacing device interposed between the flaps of each pair for holding said flaps normally spaced apart at their lower edges, said spacing devices being fixed relative to the spokes carrying the flaps, each flap, when in closed or active position, contacting throughout its length with the adjacent spokes, and means for adjusting the rim and the parts connected thereto angularly relative to the car.

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

JAMES DARCHE.

Witnesses:

FRANK C. ALLEN,
ROY SAVAGE.