M. H. WHALEN.

FLYING MACHINE.

APPLICATION FILED DEC. 30, 1911.

1,021,496.

Patented Mar. 26, 1912.

2 SHEETS—SHEET 1.

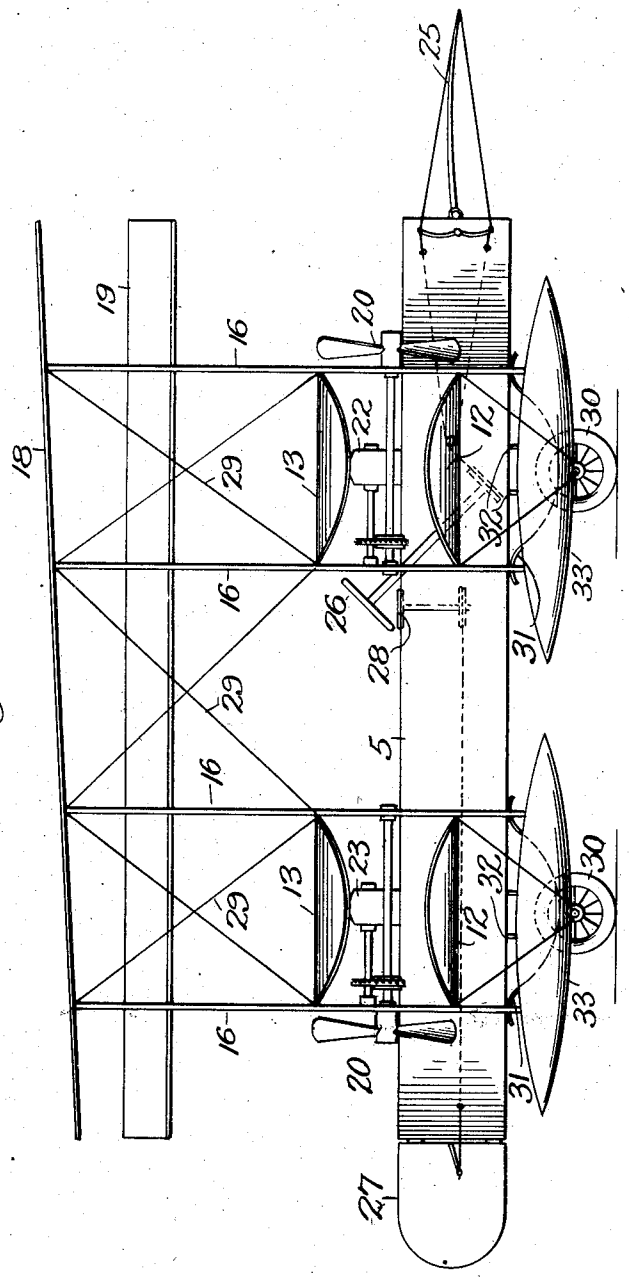

Fig. 1.

WITNESSES

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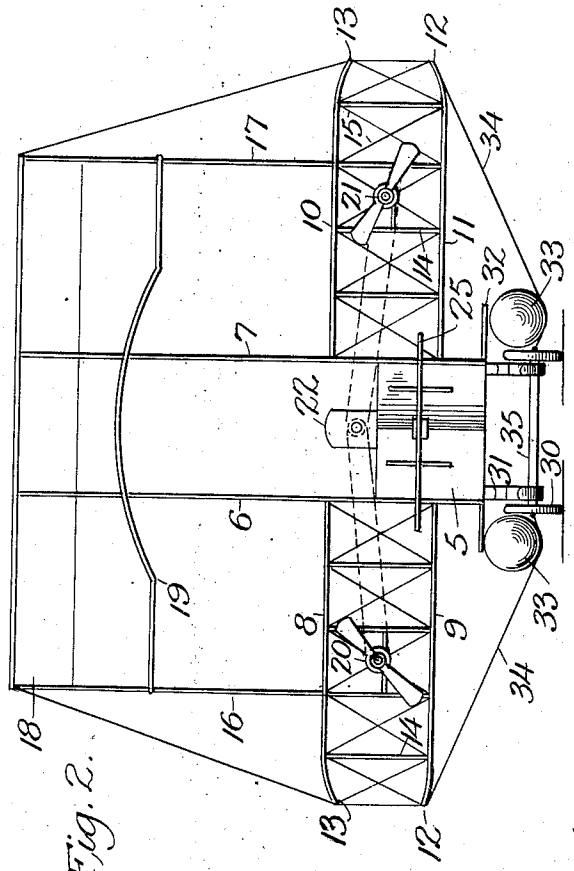

Fig. 2.

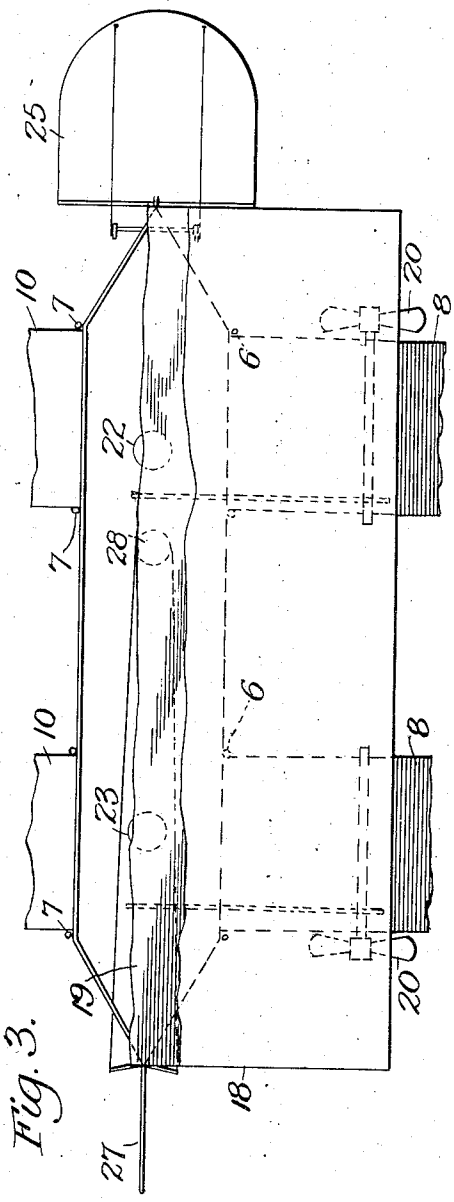

Fig. 3.

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UNITED STATES PATENT OFFICE.

MICHAEL H. WHALEN, OF NEW YORK, N. Y.

FLYING-MACHINE.

1,021,496. Specification of Letters Patent. Patented Mar. 26, 1912.

Application filed December 30, 1911. Serial No. 668,603.

To all whom it may concern:

Be it known that I, MICHAEL H. WHALEN, a citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Flying-Machines, of which the following is a specification.

This invention relates to flying machines and more especially to biplanes carrying beneath them a body or frame for the operator and motors. The device is moreover equipped with side planes or ailerons as a safeguard against accidents and as a means for establishing equilibrium and maintaining same, and it is also provided with pontoons at its lower side in order to move on the water if it should be desired to alight on same.

These and other objects and details of the invention will be more fully described in the following specification, set forth in the claims and illustrated in the drawings, wherein,—

Figure 1 is a side elevation of the device. Fig. 2 is a front view of same. Fig. 3 is a sectional plan view of the device.

This device practically provides for the ordinary biplane with a space at a central point in which is located the body 5, which comprises a frame of light material preferably covered with canvas or it may be of open work in order to lighten the structure and to prevent resistance which the fabric itself might offer to the wind.

The divided planes which are separated by the body 5 are of the usual structure such as commonly employed in devices of this nature, and are secured to uprights 6 and 7 arranged along different sides of the body and extending above and below same. There are two upper planes, 8 projecting from the left hand side of the machine and two lower planes, 9 on the same side, each set of planes near the ends of the body and similar planes 10 and 11 extending from the opposite side. These divided planes are provided with upturned and downturned ends 12 and 13 and they are provided with proper braces 14 and guy-wires 15, which make a solid and substantial structure, not liable to sustain damage but strong enough to fulfil the functions for which they are intended. Near the outer ends of these planes are additional uprights 16 and 17 at each side of the machine and these uprights with uprights 6 and 7 carry at their upper ends the inclined plane 18 and a concave plane 19, the latter being located below the inclined plane.

Carried by suitable cross pieces in the frame work of the divided planes are propellers 20 and 21, making four in all which are used to drive the machine through the air while it is being operated for aeronautical navigation. For the purpose of driving these propellers, two engines 22 and 23, are provided and may be so connected as to work in unison or if desired, but one set of propellers may be used at a time, that is, the forward propellers or the rear propellers may be put in motion in order to drive the machine in order to elevate and move it forward.

At the front of the body 5 is arranged the deflector 25 which is used to elevate or lower the device, and which is controlled by means of the hand wheel 26 in front of the operator's seat in the middle of the body 5.

At the rear of the body is a rudder 27 which may be operated by means of a wheel, but it is obvious that both of the operating wheels may be mounted on the same shaft so as to turn independently to direct its respective deflector or rudder.

Suitably guy-wires 29 are provided at the sides of the machine and which connect the upper plane with the divided planes so as to brace and strengthen the whole device.

The body 5 is mounted on wheels 30 for use, while the machine is steering or alighting, and springs 31 are interposed in order to provide sufficient resiliency for alighting. At the outside of the wheels and carried by cross bars 32 on the lower side of the body, are pontoons 33 consisting of cigar shaped structures of light metal made air tight and further braces by means of guy-wires 34, connecting the planes 12 and 13 with the axle 35 of the wheels. When it is desired therefore to alight upon water, the pontoons readily float the machine and the arrangement of same is sufficient to eventually sustain the machine on the water until it is desired to ascend, when, by operating the engines and properly turning the deflector 25, the machine will leave the water or ground and gradually ascend.

This device is provided with more than

usual floating means while in the air on account of the many planes which are so economical and conveniently disposed, and the weight is wholly below the surface of the larger planes and partly below the smaller planes so that there is no danger of overturning, and thorough stability is secured by this arrangement.

This device provides for little work by the operator. It is only necessary for him to start the engine then operate the deflector and propeller, but no unnecessary work such as deflecting of the planes is required of him.

It is obvious that the parts may be modified or otherwise arranged without departing from the essential features above described.

What I claim as new and desire to secure by Letters Patent is,—

1. In a flying machine, the combination with a body portion of divided planes extending from each side of the body portion, a convex plane above the body, an inclined plane above the convex plane, deflecting means, steering means, and propellers operated by motors.

2. In a flying machine, the combination with a body, of planes extending from the sides of the body, propellers carried by the said planes, uprights extending from the planes and body, an inclined plane at the upper end of the uprights, a convex plane beneath the inclined plane, a deflector, a rudder, and motors for the propellers.

3. In a flying machine, the combination with a body mounted on wheels, lateral planes at each side of the body, propellers journaled in the planes, uprights attached to the body, uprights carried by the lateral planes, an inclined plane at the top of the uprights, a convex plane beneath same, a deflector, a rudder, means for operating the rudder and the deflector, and engines for driving the propellers.

4. In a flying machine, the combination with a body extending the length of same, lateral planes on each side of the body, braces connecting the same, propellers carried by the planes, uprights carried by the body and by the planes, an inclined plane extending the length of the machine and carried by the uprights, a convex plane beneath same, motors for the propellers, a deflector, a rudder, wheels and springs for the body, cross bars beneath the body, pontoons beneath the cross bars and guys connecting the axles of the wheels with the outer ends of the lower planes to support the pontoons.

Signed at New York in the county of New York and State of New York this 26th day of December A. D. 1911.

MICHAEL H. WHALEN.

Witnesses:

ISIDORE R. LIPPITZ,

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