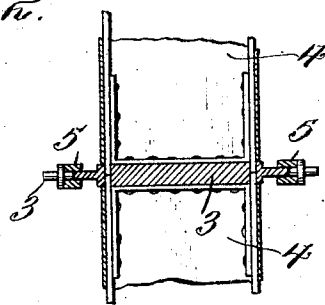
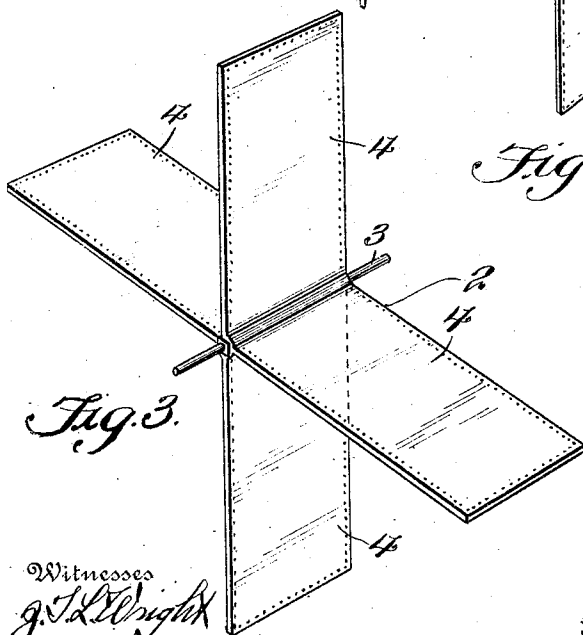
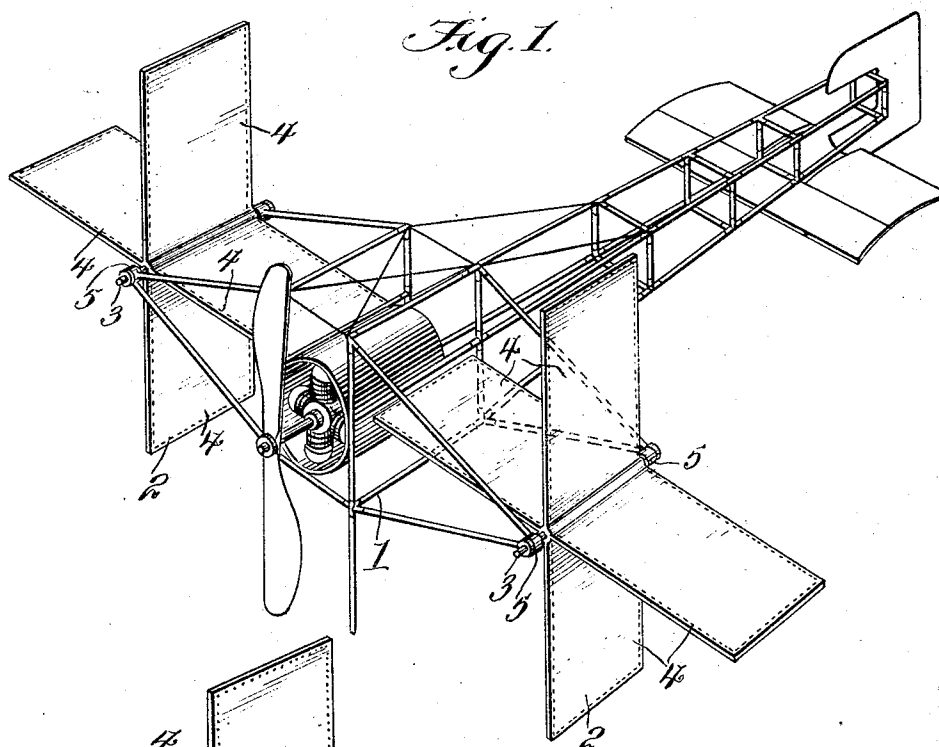


O. HILL.
FLYING MACHINE.

APPLICATION FILED MAR. 16, 1912. RENEWED APR. 11, 1913.

1,062,007.

Patented May 20, 1913.



Witnesses
J. L. Wright
C. C. Hines.

Inventor
Oren Hill,
By Victor J. Evans,
Attorney

UNITED STATES PATENT OFFICE.

OREN HILL, OF NORTH CONWAY, NEW HAMPSHIRE.

FLYING-MACHINE.

1,062,007.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed March 16, 1912; Serial No. 684,243. Renewed April 11, 1913. Serial No. 760,568.

To all whom it may concern:

Be it known that I, OREN HILL, a citizen of the United States, residing at North Conway, in the county of Carroll and State of New Hampshire, have invented new and useful Improvements in Flying-Machines, of which the following is a specification.

This invention relates to flying machines of the heavier-than-air class, and particularly to a novel construction and mode of mounting the supporting surfaces of such machines, whereby side drift or skidding and undue lateral tilting of the machine will be prevented.

15 The essential object of the invention is to provide a supporting surface composed of wings arranged on the right and left hand sides of the machine and each mounted for free revoluble motion on a horizontal longitudinal axis, and each constructed to present a series of planes disposed to operate as stability fins and so relatively arranged that when any supporting plane of the series is subjected to excess pressure it will move and allow the pressure to escape without materially effecting the stability of the machine, while another plane is automatically moved into position to take its place.

30 A further object of the invention is to provide a revoluble supporting wing or surface which has its planes or vanes so arranged as to constantly present horizontal and vertical surfaces to the action of the wind to secure the desired results.

35 The invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

40 Figure 1 is a perspective view showing the application of the invention to a monoplane in which the supporting surface is made up of a pair of independently revoluble wings. Fig. 2 is a sectional view showing the mode of mounting the wing. Fig. 3 is a perspective view of the wing detached.

45 In the practical use of the invention, a single supporting surface composed of one or more revoluble wings may be employed, which may be duplicated in the adaptation of the invention to a multiplane structure, provided with two or more superposed surfaces, each composed of one or more revoluble wings.

55 In the present instance, I have shown the application of the invention to a machine

of the monoplane type in which the supporting surface is made up of right and left hand revoluble wings, 1 designating the main frame or body of the machine, and 2 the revoluble wings thereof. The wings 2 are arranged on opposite sides of the longitudinal center of the machine, each wing comprising a shaft or axis 3 and a plurality or annular series of angularly related blades or vanes 4. The shaft 3 is arranged horizontally and extends parallel with the line of flight and is journaled in suitable bearings 5 on the body 1. The vanes 4 are coextensive in size and made of suitable material and are preferably fixed to the shaft, so that the shaft and vanes will revolve as a unit in unison, but any suitable equivalent construction, as, for instance the mounting of the vanes to revolve on a stationary shaft or axis, may be employed.

The vanes are preferably four in number, and arranged equidistantly at angles of 90° about the shaft, so that normally two of the vanes will stand vertically to operate as stability fins to prevent the machine from making lateral leeway, drifting or skidding, while the remaining vanes extend horizontally to act as sustaining surfaces.

85 If during the flight of the machine, either vane of either wing should be subjected to excess air pressure tending to tilt the machine laterally on its longitudinal axis, such pressure will cause the vanes of the wing to turn as a unit and thus oppose a resistance to such tilting motion, while at the same time, the displacement of the sustaining vanes from their normal position will result simply in the adjustment of the stability vanes to take their place, the vanes simple 95 interchanging positions, so as to constantly maintain an anti-skidding surface formed by two vertical vanes and a sustaining surface composed of the remaining vanes. By this means, the pressure of sudden gusts or volumes of air tending to disturb the lateral stability of the machine will be dissipated through the revolution of the wings without to any material extent affecting the body of the machine, which through its weight will maintain a normally balanced position. 100

It will of course be understood that while the construction shown is preferred, the surface or surfaces employed may be provided with any suitable number of vanes, and also mounted for revoluble movement in any suitable or preferred manner. 110

Having thus described the invention, what I claim as new is:—

A flying machine including a main frame, upper and lower lateral extensions from the
5 sides of the main frame, the extensions at each side being arranged in converging relation, horizontal longitudinal shafts at the opposite sides of the main frame and carried by said extensions, and supporting sur-
10 faces carried by the respective shafts, said surfaces being freely revoluble in planes at

right angles to the line of flight, and each surface embodying a plurality of angularly related vanes.

In testimony whereof I affix my signature 15 in presence of witnesses.

OREN HILL.

Witnesses:

NATHAN HILL,
MELVIN CLASAN,
WALTER D. H. HILL,
JAMES G. HILL.