J. W. WILSON.

FLYING MACHINE.

APPLICATION FILED SEPT. 6, 1910.

1,028,981. Patented June 11, 1912.

Fig. 1.

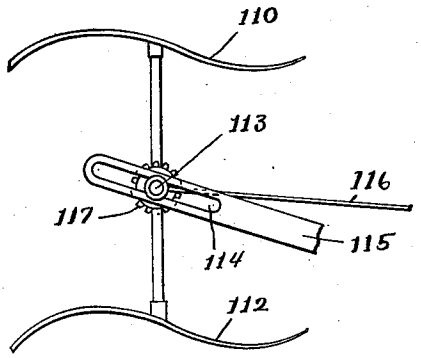
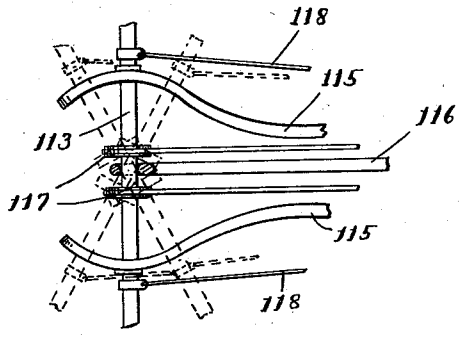


Fig. 2.



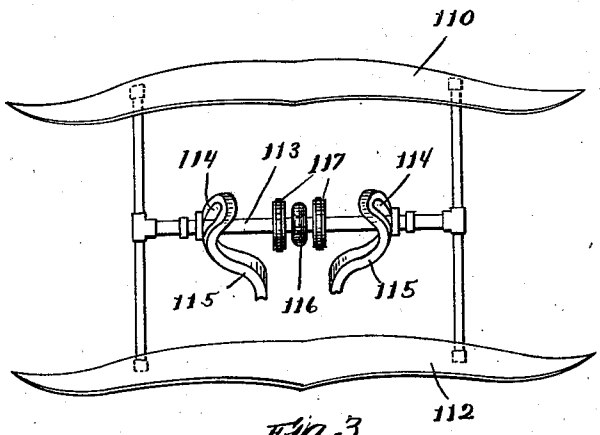


Fig. 3.

Witnesses:

H. B. Davis.

J. J. Bonner

Inventor:

John W. Wilson

By Wright & Harriman.

Attys.

UNITED STATES PATENT OFFICE.

JOHN W. WILSON, OF BOSTON, MASSACHUSETTS.

FLYING-MACHINE.

1,028,981. Specification of Letters Patent. Patented June 11, 1912.

Original application filed April 23, 1910, Serial No. 557,135. Divided and this application filed September 6, 1910. Serial No. 580,695.

To all whom it may concern:

Be it known that I, JOHN W. WILSON, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Flying-Machines, of which the following is a specification.

This invention relates to flying-machines, and is a division of my application for Letters Patent, Serial #557,135 filed April 23, 1910.

The invention has for its object the construction of a plane and improved means for moving it, whereby it is adapted to serve as a means for controlling or balancing the machine, or assisting in performing any one or more of these functions. The plane, (or it may be a pair of planes) is horizontally arranged, and is provided with means adapting it to be moved about a vertical axis and also about a horizontal axis, and is provided with inclined directing means whereby its position relative to a horizontal plane becomes more and more oblique as it is moved about a vertical axis, said directing means being such as to permit the plane to be moved about a horizontal axis in any position it may occupy.

Figure 1 is a side view of a plane having means embodying this invention for supporting it and for moving it. Fig. 2 is a plan view of the supporting-frame and inclined directing means for the plane and means for moving the plane. Fig. 3 is a front elevation of the plane and operating-means shown in Fig. 1.

110—112 represent two planes, here shown as made alike, which may be of any suitable construction and also of any dimensions according to the use to which they will be put, although my invention comprehends the employment of a single plane. Said planes are secured to a suitable frame, here shown as arms extended at right angles or thereabout from a horizontal shaft 113, the planes being secured to the extremities of the arms. The horizontal shaft 113 extends through a hole in a fixed middle bar 116, and said hole is made large enough to permit said shaft to swing in said hole into the dotted line positions shown in Fig. 2, thereby moving about a vertical axis and also to turn in said hole about a horizontal axis. Side bars 115—115 are arranged one at each side of the middle bar 116, which have slots 114 extended longitudinally, and the ends of the horizontal shaft 113 extend through said slots, so that, said slots may serve as guides to direct the movements of the shaft. Said slots 114, or the bars 115 in which they are formed, are inclined to the horizontal. As the horizontal shaft is moved about a vertical axis, its ends will be moved along in the inclined guide slots 114, in opposite ways, and, as a result, one end of the plane is moved in an upward forward direction and the other end in a downward rearward direction, the whole plane structure swinging on the middle bar 116 as a center, and the position of the plane relative to the horizontal thus becomes more and more oblique as it is moved. For the purpose of thus moving the plane or planes about a vertical axis, cords or rods, as 118, may be attached to its opposite ends, adapted to be operated by any suitable means so far as my present invention is concerned. The shaft 113 may be turned about a horizontal axis in any position it may occupy, and to thus rock the shaft and move the plane borne by it, as here shown, sprocket-wheels 117—117 are secured to it over which sprocket-chains pass, adapted to be operated by any suitable means so far as my invention is concerned.

By my present invention it will be observed that the plane or planes, any number of which may be employed, may be moved from a horizontal position to positions oblique to the horizontal about a vertical axis, and also may be turned or tilted about a horizontal axis in any position it may occupy. It is thus well adapted for use as a controlling or balancing plane or for the purpose of assisting in controlling and balancing the machine.

I claim:—

1. In a flying-machine, a plane, a horizontal shaft supporting it, a pair of bars having slots inclined to the horizontal through which the ends of said shaft extend, a bar arranged between the aforesaid bars through which said horizontal shaft also extends, and means for moving said shaft in opposite directions in said slots about the middle bar as a center, substantially as described.

2. In a flying-machine, a plane, a horizontal shaft supporting it, a pair of bars having slots inclined to the horizontal through which the ends of said shaft extend, a bar arranged between the aforesaid

bars through which said shaft extends, and means for moving said shaft in opposite directions in said slots about the middle bar as a center and means for rocking said shaft, substantially as described.

3. In a flying-machine, a horizontally arranged plane movable about a vertical axis, combined with inclined directing means engaging the support of said plane, to move said plane so that its position relative to the horizontal becomes more and more oblique as it is moved about the vertical axis and means for moving said plane in opposite directions about the vertical axis, substantially as described.

4. In a flying-machine, a horizontally arranged plane movable about a vertical axis and also movable about a horizontal axis, combined with inclined directing means for said plane whereby its position relative to the horizontal becomes more and more oblique as it is moved about the vertical axis, means for moving said plane about the vertical axis in opposite directions and means for moving said plane about the horizontal axis in opposite directions, substantially as described.

5. In a flying-machine, a horizontally arranged plane, a frame supporting it movable about a vertical axis and inclined guides for the end portions of said frame located at opposite sides of the vertical axis about which the frame is movable, which direct its movements when it is rotated about its vertical axis and means for moving said frame, substantially as described.

6. In a flying-machine, a horizontally arranged plane, a frame supporting it movable about a vertical axis and also movable about a horizontal axis, inclined guides for directing the movement of said frame about the vertical axis which permit movement of said frame about the horizontal axis in any position it may occupy, means for moving said frame about a vertical axis and means for moving said frame about a horizontal axis, substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOHN W. WILSON.

Witnesses:
B. J. NOYES,
H. B. DAVIS.