O. HELSING.

AEROPLANE.

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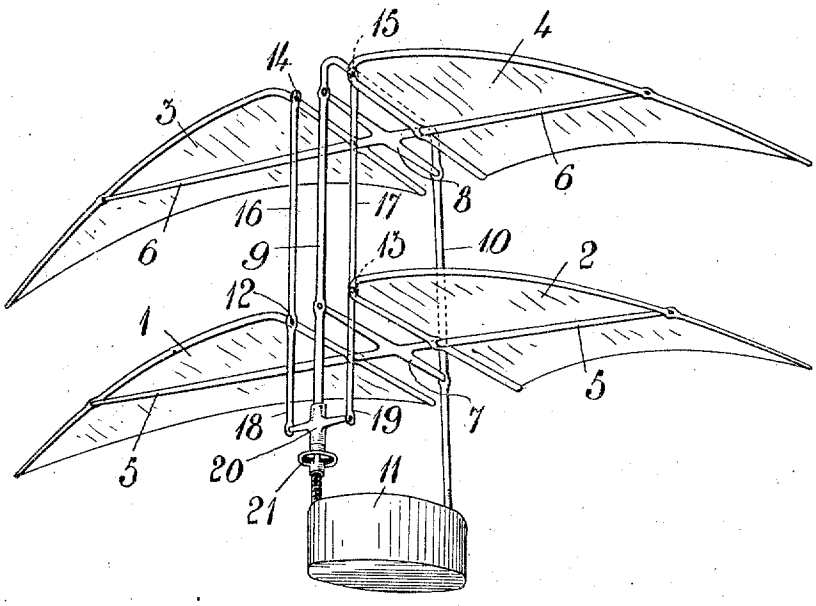
1,018,190.

Patented Feb. 20, 1912.



WITNESSES

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AEROPLANE.

1,018,190. Specification of Letters Patent. Patented Feb. 20, 1912.

Application filed August 30, 1910. Serial No. 579,636.

To all whom it may concern:

Be it known that I, OLOF HELSING, a subject of the King of Sweden, residing at Sandhem, Sweden, have invented certain new and useful Improvements in Aeroplanes, of which the following is a specification, reference being had therein to the accompanying drawing.

The present invention relates to improvements in aeroplanes.

The accompanying drawing illustrates a flying-machine looked at obliquely from below.

The machine consists of four bearing planes 1, 2, 3 and 4, resembling wings, arranged on two balancing rods 5 and 6 in pairs and rotatable. These rods are supported in the middle by shafts 7 and 8 fixed to the same at right angles, the ends of these shafts being journaled in two supporting rods 9 and 10 rising from the gondola 11. These supporting rods are at the top formed into an arch. The front edges of the bearing planes are at the points 12, 13, 14 and 15 movably connected with two vertical rods 16 and 17 whose lower ends are by means of rods 18 and 19 movably coupled together with a crosspiece 20. This crosspiece, which is fitted to the bearing rod 9 or some other suitable fastening device in the gondola, can be raised or lowered by means of a steering wheel 21 whereby a corresponding elevation or depression is communicated to the front edges of the bearing planes. The front edges of bearing planes 1 and 2 consequently take up an equal height in points 12 and 13, while the same planes may otherwise occupy different dips, in such a manner that one end of balancing rod 5 is raised, whereas the other end together with the rear of said bearing plane is depressed.

When the arms of balancing rod 5 are in a horizontal position, the bearing planes 1 and 2 occupy an equal inclination in the direction of flight, but if one end of the balancing rod is lowered the inclination of one of the said bearing planes is increased. This latter is by this means more powerfully influenced from below during the forward motion of the flying machine than the other bearing plane, and restores the balancing rod 5 to its horizontal position. The same condition applies to bearing planes 3 and 4. The number of bearing planes can be one, two or several pairs of equal or different sizes. The flying machine is fitted with a propeller and steering device in the usual manner.

I claim:

1. In an aeroplane, in combination, a gondola, bearing rods rigidly fixed thereto and extending upward to form a vertical frame, bearings in each of said bearing rods, arms pivotally mounted in said bearings, bearing planes pivotally supported by said arms, a regulating device adjustably carried upon said gondola and rods of equal length coupling said regulating device to said bearing planes at the front edges of the latter, whereby said bearing planes are adapted to be feathered or tilted reversely fore and aft automatically in accordance with their tilting laterally whereby the equilibrium of the aeroplane will be automatically controlled.

2. In an aeroplane, in combination, a gondola, bearing rods rigidly fixed thereto and extending upward to form a vertical frame, bearings in each of said bearing rods, arms pivotally mounted in said bearings, two pairs of bearing planes located one above the other, said planes being pivotally supported by said arms, a regulating device adjustably carried upon said gondola and rods of equal length coupling said regulating device to said bearing planes at the front edges of the latter, whereby said bearing planes are adapted to be feathered or tilted reversely fore and aft automatically in accordance with their tilting laterally whereby the equilibrium of the aeroplane will be automatically controlled.

In testimony whereof I have signed this specification in presence of two witnesses.

OLOF HELSING.

Witnesses:

J. G. JOHANSSON,

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