

UNITED STATES PATENT OFFICE.

KARL HIPSSICH, OF BREMEN, GERMANY.

FLYING-MACHINE.

986,002.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, KARL HIPSSICH, a citizen of the free town of Bremen, German Empire, and residing at Bremen, German Empire, have invented new and useful Improvements in Flying-Machines, of which the following is a specification.

The present invention refers to a flying machine in which by the special shape and arrangement of the planes the stability of the machine is insured under all circumstances.

The object of the invention is shown in the accompanying drawing in Figures 1 and 2 by two examples of construction Fig. 1 being a perspective view, while Fig. 2 is a diagrammatic side view of the flying machine.

The machine has a horizontal plane *a* and at each side of this upward inclined subsidiary planes *b*. These subsidiary planes effect the side balancing and bring the center plane *a* automatically into correct position. These three planes which form together the main plane are not as hitherto firmly connected to the car *c* but are rotatably fitted on a horizontal axis *d* lying perpendicular to the direction of flight, the axis *d* being in or just in front of the central line or point of pressure. By means of this arrangement the main plane always tends to automatically adjust itself corresponding to the existing speed. The inclination of the planes *a* and *b* is adjusted from the car *c* by means of a spring rod *e*, these planes consequently acting as height rudders, the flying machine ascending or descending according to the inclination at which they are adjusted. The car *c* is suspended from the same axis *d* about which the planes *a* and *b* swing, but independent of the more or less inclined position of the planes *a* and *b*. This suspension is effected by means of bearings which are mounted turnable on the axis *d*. These bearings are partly above and partly under the plane *a*. Below the plane *a* two rods extend vertically toward the foremost end of the car *c* and the car is suspended from these rods. Two horizontal rods extending backward are rigidly fixed on said bearings and lying partly over the plane *a* connect the plane *g* with said bearings. Rigidly connected to the car *c* is a tail plane *g* the object of which is to prevent any oscillating movement of the car *c*. Below this plane *g* is arranged

a suitable vertical rudder *f* for purpose of steering to either side. As the inclination of the planes *a* and *b* is adjusted from the car *c* the latter would also be inclined according to the greater or less inclination of the planes. In order to prevent this a weight displacement is effected in the car in the direction shown more clearly in Fig. 2. From the driver's stand, by means of suitable lever arrangement *z*, simultaneously with the adjustment of the planes *a* and *b* the motor or fuel or water reservoir is displaced by the under arm of the double armed lever *z* and the under arm of the angle lever *x* from which levers the motor or water reservoir is suspended. In the same time the upper horizontal arm of the angle lever *x* by means of the spring rod *e* effects the more or less inclination of the planes *a* and *b*, in such a manner that the car *c* is brought back to its original position on any adjustment of the planes *a* and *b*. The bearing of the propeller shaft is connected to the car and not to the planes. The shaft acts near the axis *d*. An adjustment of the position of the car effects an alteration of the position of the propeller *h*.

The propeller *h* which rotates through an opening in the plane *a* is pivoted on an axis which is rigidly connected with the car frame on the one end of its axis and the other end of the axis is supported on a bearing which is pivoted on the axis *d*. The plane *g* can be rigidly connected with the car frame and the rudder *f* is governed by means of wires or the like. This alteration of the inclination or position of the propeller causes, in addition to the horizontal flight the rise or descent of the flying machine.

I claim:

In a flying machine the combination: a horizontal plane (*a*) pivoted on an axis (*d*) lying in the direction of the largest extension of said plane (*a*) and being situated near the center of the pressure of the air on the plane, a car (*c*) being suspended on said axis (*d*), a propelling device being rigidly connected with said car and said propelling device acting near said axis (*d*) and near said center of the pressure of the air on the plane, the propelling device being arranged in a hole of the plane and being partly over and partly under the said horizontal plane (*a*), a tail plane (*g*) rigidly connected with said suspended swinging car

(c), a vertical rudder with bearings rigidly connected with said tail plane, subsidiary planes (b) rigidly connected with the both ends of said horizontal plane (a), a rod and
5 lever arrangement with a spring rod (e) adapted to allow adjustment of the inclination of the horizontal plane (a) and subsidiary planes (b) by the engine driver, means for simultaneously moving together with the movement of said lever arrangement the 10 center of gravity of the driving devices in order to compensate the inclination caused on adjusting the said planes (a and b).

KARL HIPSSICH.

Witnesses:

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