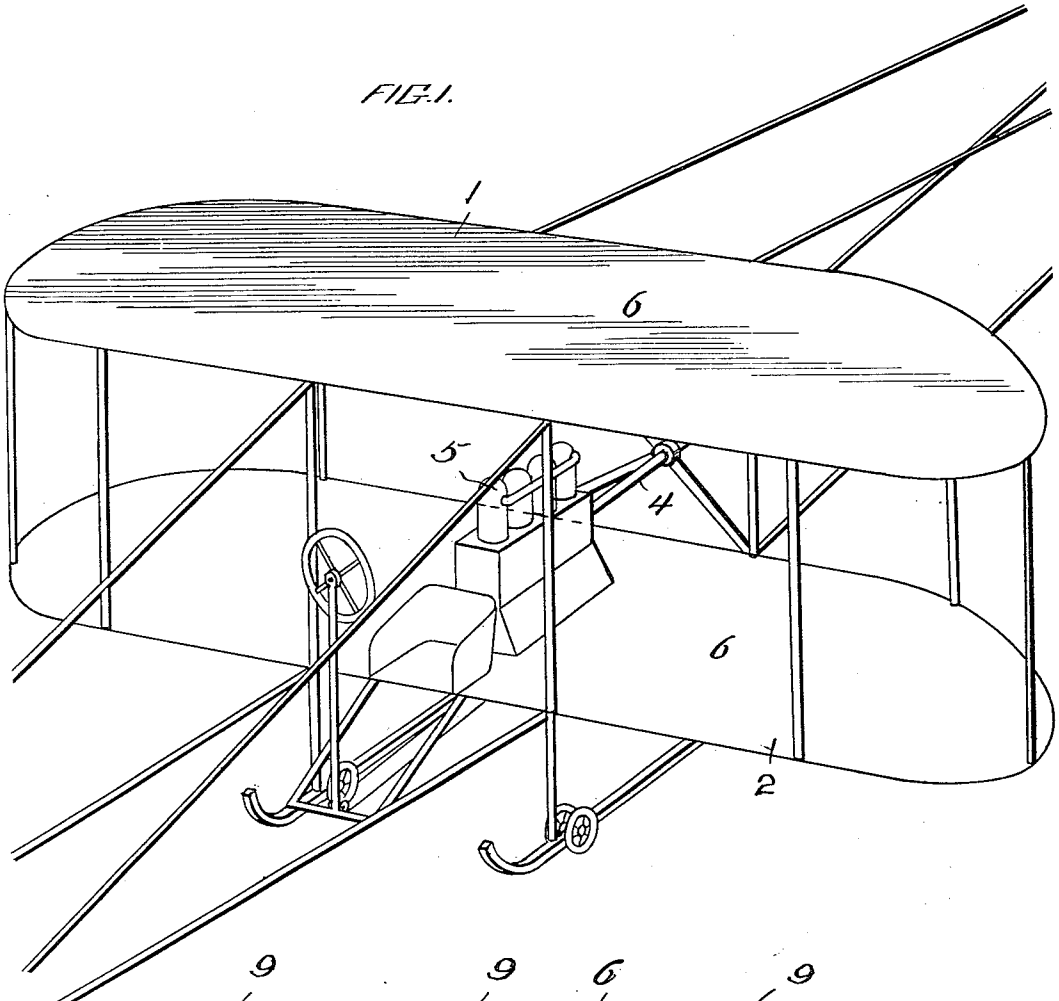
N. CLARK & A. E. PLANK.

AEROPLANE.

APPLICATION FILED OCT. 23, 1912.

1,067,466. Patented July 15, 1913.

FIG. 1.



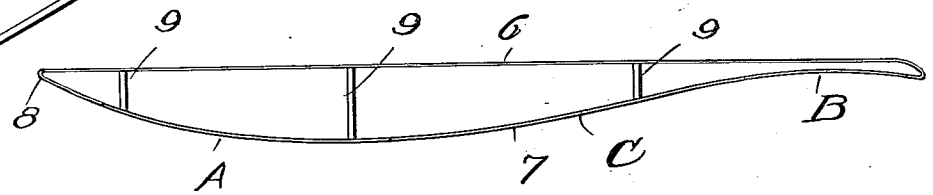




FIG. 2.

WITNESSES

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# UNITED STATES PATENT OFFICE.

NORMAN CLARK AND ALBERT E. PLANK, OF QUINCY, ILLINOIS.

## AEROPLANE.

1,067,466. Specification of Letters Patent. Patented July 15, 1913.

Application filed October 23, 1912. Serial No. 727,370.

*To all whom it may concern:*

Be it known that we, NORMAN CLARK and ALBERT E. PLANK, citizens of the United States, residing at Quincy, in the county of Adams, in the State of Illinois, have invented new and useful Improvements in Aeroplanes, of which the following is a specification.

Our invention relates to aeroplanes.

One object of our invention is to produce an aeroplane in which the head atmospheric resistance is minimized.

Another object thereof is to produce in an aeroplane means for automatically maintaining the stability and equilibrium thereof in accord with varying degrees of speed and atmospheric density and to avoid head or forward diving.

A further object of our invention is to produce an aeroplane in which the lower surface is formed of a series of curves from front to rear by which the frictional resistance of the atmosphere is neutralized and the horizontal equilibrium of the plane maintained, and a still further object thereof is to provide a more simple and efficient aeroplane than has heretofore been produced.

To these ends, our invention includes the combination and arrangement of component parts to be hereinafter described and more particularly pointed out in the claim.

In the accompanying drawings in which like reference characters indicate similar parts, Figure 1 is a perspective view of an aeroplane of our invention, and Fig. 2 is a sectional view of one of the supporting planes.

In said drawings, our invention has been illustrated in a biplane, in which 1 indicates the upper plane and 2 the lower plane, which are provided with a propeller shaft 4 driving motor 5, and controlling mechanism of conventional form. As the special design or construction of said driving and controlling mechanism forms no part of our invention they will not be described with particularity.

The upper and lower planes or either of them as preferred are formed of two surfaces, the top 6 which is flat and unbroken, and the bottom 7, which as shown is formed of a series of curves from front to rear. The lower faces 7, form an acute angle with front edge 8 of the top face, and thence form a curve arc A approximately two-thirds the length of the plane from front to rear, when the surface dips into a concave arc B of greater radius than that of the arc A to the edge of the plane. The top and bottom faces are supported in relative positions by the braces or studs 9.

The top surfaces of the planes being flat offer no resistance, while in flight but the convex curve A of the lower faces when driven against the air, forces the air downward along the convex face, and tends to hold the nose of the plane elevated. After passing the lower edge of the convex arc, the air rushes into the vacuum within the concave curve B, of the lower faces of the curved surface thus pressing against the reverse arc C and imparting a forward impulse and neutralizing the head resistance of the plane.

The planes thus described may be counter balanced by weights to overcome the tendency to throw the head up, and it will be appreciated that the cushion or billow of air formed by the convex arc of the plane resists and prevents the dipping of the planes in flight, and the counter-balancing agencies force the plane forward and create an automatic equilibrium making volplaning or gliding in a horizontal direction possible with established and natural stability.

Having thus described our invention, what we claim as new and desire to be secured by Letters Patent, is—

An aeroplane having a plane flat top surface and a convex-curved lower surface adjacent to the front edge and extending back beyond the middle of the body of the plane almost to its rear, and reversing into a concave surface adjacent to the rear, substantially as described.

NORMAN CLARK.
ALBERT E. PLANK.

Witnesses:
M. A. HUTMACHER,
H. M. SWOPE.