J. S. LANG.

PLANE FOR AEROPLANES.

APPLICATION FILED FEB. 2, 1912.

1,096,256.

Patented May 12, 1914.

Fig. 1.

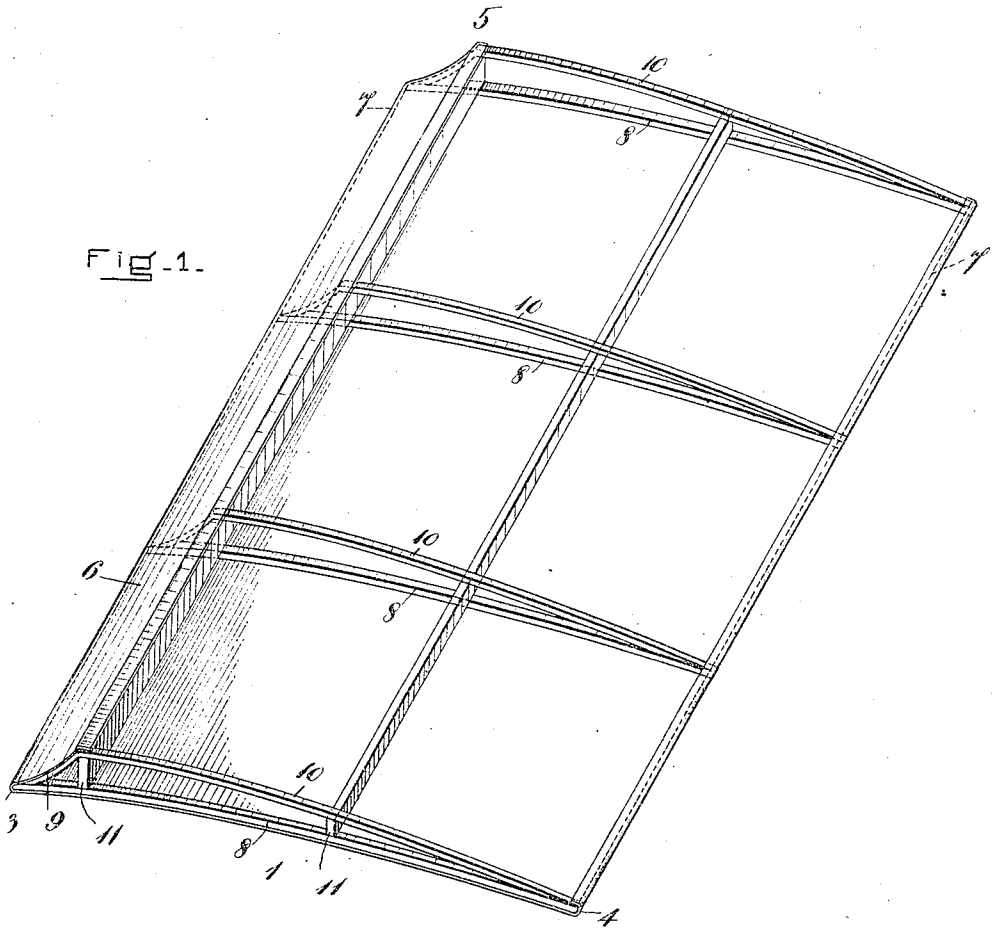
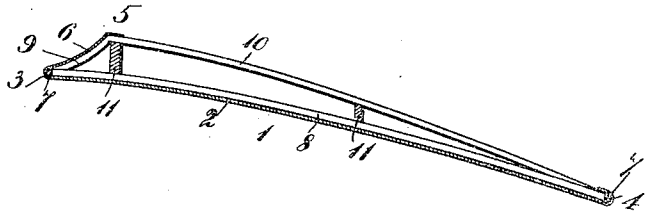


Fig. 2.



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PLANE FOR AEROPLANES.

1,096,256. Specification of Letters Patent. Patented May 12, 1914.

Application filed February 2, 1912. Serial No. 674,988.

To all whom it may concern:

Be it known that I, JAMES S. LANG, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Planes for Aeroplanes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

My invention relates to an improvement in planes for aeroplanes.

The object of my invention is to increase the lifting efficiency of the plane.

A plane embodying my invention can best be seen and understood by reference to the drawing, in which—

Figure 1 shows the plane in perspective. Fig. 2 is a section on the line 2—2 of Fig. 1.

Referring to the drawings:—1 represents the body of the plane presenting a bottom lifting surface 2.

3 is the front or entering edge of the plane and 4 the rear edge thereof.

The plane in the fore part of the body 1 thereof is provided with a raised portion 5 presenting a concave top surface 6 having a general upward and backward inclination with relation to the entering edge 3 of the plane and from which it preferably extends. The disposition and arrangement of the surface 6 is, in other words, such that air striking this surface during the operation of the plane will be impelled upwardly to produce a rarefication of air above the body of the plane lying back of said surface.

In so far as the construction of a plane embodying my invention is concerned, it may be constructed in a variety of ways and accordingly may be applied to any type of plane. According to the construction shown the body of the plane is constructed of ribs 7 and 8, respectively, 7 representing the laterally-extending ribs which make the front and rear edges of the plane and 8 the cross-connecting ribs which form the sides and intermediate reinforcing portions of the body thereof. Over the frame thus formed there may be stretched or laid a covering of any suitable material the face of which makes the bottom surface 2 of the plane.

The concave surface 6 of the plane is made according to the construction shown by sets of combined ribs 9 and 10, respectively, each set of ribs meeting in an apex above the body of the plane and just back of the ribs 7 forming the front entering edge thereof. From the points of their apex the ribs extend in the manner of trusses to connect respectively with the ribs 7 at the front and rear edges of the plane. The ribs 9 and 10 are supported and braced by laterally-extending bars 11 interposed between them and the ribs 8 of the body of the plane. The ribs 9 are preferably concave presenting a center or centers of curvature lying above the body of the plane. Over the ribs 9 of the raised portion 5 of the frame thus formed there may be stretched or laid a covering of any suitable material the face of which provides the top surface 6 of the plane and which extends from the front edge of the plane to the apex of the raised portion thereof.

The operation of the plane is as follows: As the plane is propelled or drawn through the air, the air will strike the concave surface 6 of the plane and become impelled upwardly over the body of the plane lying back of said surface. This tends to form a partial vacuum above the plane back of the surface 6 which will increase the lifting efficiency of the plane by reason of the lifting influence of the air beneath the body of the plane seeking to fill the partial vacuum thus formed.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States:—

1. A plane for aeroplanes having a concave top surface located in the forward part of the body of the plane and presenting a general upward and backward inclination with relation to the entering edge of the plane whereby air striking said surface during the operation of the plane will be im-

pelled upwardly to produce a rarefication of air above the body of said plane lying back of said surface.

2. A plane for aeroplanes having a concave top surface located in the forward part of the body of the plane and presenting a general upward and backward inclination from the entering edge of the plane whereby air striking said surface during the operation of the plane will be impelled upwardly to produce a rarefication of air above the body of said plane lying back of said surface.

JAMES S. LANG.

Witnesses:
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