ABOPLANE WITH SUPPORTING SURFACE SUBDIVIDED BY GAPS

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This invention relates to an aeroplane with supporting surfaces subdivided by gaps. In aircraft of this type the raising force \((ca)\) is small and the resistance \((cw)\) of the supporting surface is great, when the gaps are produced with small adjusting angles.

Experiments have shown that the raising force and resistance are more similar to those of a normal supporting surface, when some of the gaps start, in a manner known per se, from the rear portion and the others from the front portion of the lower side of the supporting surface and these gaps end all at the rear in a common gap.

In order to reduce the possibility of the formation of air eddies above the supporting surface it is advisable, to make the common gap in which all the other gaps join extend only to above the front portion of the rearmost portion of the supporting surface, the so-called flap.

By tapering towards the open rear end the common gap into which the other gaps merge the raising force is still further increased.

An embodiment of the invention is illustrated, by way of example, in the accompanying drawing in which the only figure shows diagrammatically a form of construction of the supporting elements for an aeroplane according to the invention.

\(a, b, c\) designate the several portions of the supporting surface separated from each other by gaps \(d, e\). The portion \(c\), the so-called flap, is adapted to be oscillated around an axle \(f\) into the position indicated in dash lines.

The two gaps \(d, e\) end each in a common gap \(g\) which extends only to above the front portion of flap \(c\) in rearward direction and tapers from the point \(A\), at which the gaps \(d, e\) merge into it, towards the rear and open end \(x\).

I claim:

In supporting faces for aeroplanes the combination with a narrowing nozzle-like gap in the airfoil, rising from the front part of the under side of the airfoil to the upper side of said airfoil at an incline towards the rear, of a narrowing nozzle-like gap between the rearward end of the airfoil and the forward end of the rear flap, which gap rises to the upper side of said flap at an incline towards the rear, both gaps converging above the head of the rear flap to a further narrowing common outlet gap.

In testimony whereof I affix my signature.

JOSEPH KSOLL.