Dec. 7, 1937. W. MEINERT 2,101,443

AIR BRAKE FOR AEROPLANES

Filed March 23, 1937

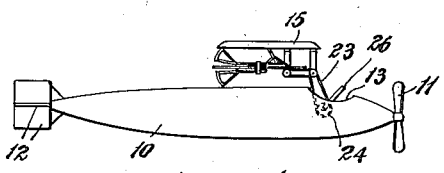


Fig. 1

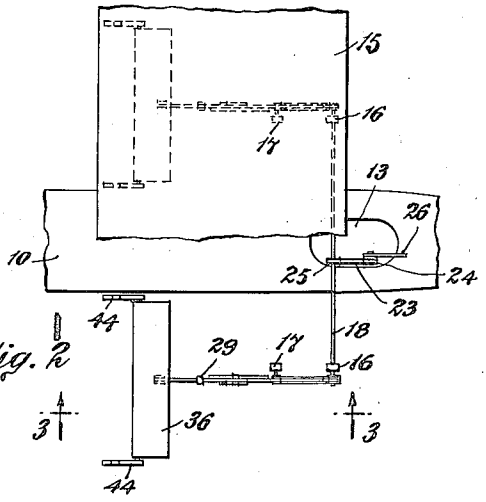
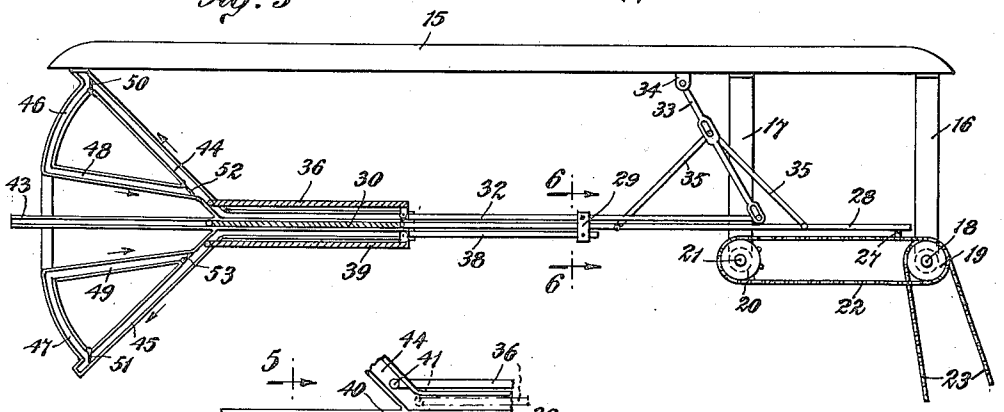


Fig. 2

Fig. 3



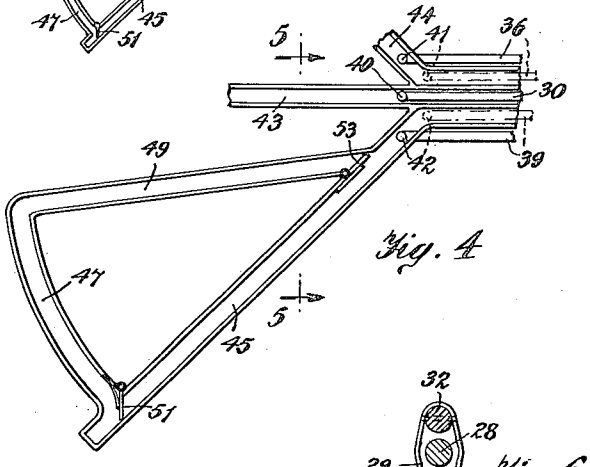


Fig. 4

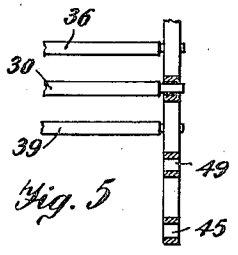


Fig. 5

Fig. 6

INVENTOR.
WILLY MEINERT

BY Marvin Allsup

ATTORNEY.

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AIR BRAKE FOR AEROPLANES

Willy Meinert, Brooklyn, N. Y.

Application March 23, 1937, Serial No. 132,459

1 Claim. (Cl. 244—113)

This invention relates to devices for decreasing speed of aeroplanes whereby a landing may be safely effected, and other like purposes attained.

An object of the invention is to provide an effective braking device by which an operator can rapidly reduce the speed of a plane while in the air.

Another object is in the provision of a braking attachment that can be applied to planes when originally built, or installed on existing structures.

A further purpose is to provide a device for the purpose, light in weight, of adequate strength and easily operated from the cockpit.

These valuable objects are attained by the novel construction of parts hereinafter described and shown in the annexed drawing, forming a material part of this disclosure, and in which:—

Figure 1 is a side elevational view of a conventional aeroplane having an embodiment of the invention attached.

Figure 2 is an enlarged fragmentary top plan view of the same, parts being broken away to disclose the construction.

Figure 3 is a further enlarged sectional view taken on line 3—3 of Fig. 2.

Figure 4 is a partial plan view of the same shown to a further enlargement.

Figure 5 is a partial transverse sectional view taken on line 5—5 of Fig. 4.

Figure 6 is a transverse sectional view taken on line 6—6 of Fig. 3.

Referring in more detail to the drawing, the numeral 10 designates in general a common type of aeroplane having a propeller 11, rudders 12 and cockpit 13.

Mounted to extend above the body or fuselage 10 is a frame supporting a hood 15 of considerable area having two pairs of spaced downreaching brackets 16 and 17, respectively front and rear, at its forward portion, equidistant from the center.

Journalled in the lower ends of the front brackets 16 is a shaft 18 carrying sheaves 19, similar sheaves 20 being mounted on studs 21 set in the brackets 17, and trained over these sheaves are chains 22.

Another chain 23 is trained over a sheave 24, in the cockpit, and a sheave 25 midway of the shaft 18, a handle 26 being provided to actuate the sheave 24.

Fixed on one of the links of the chains 22 is a lug 27 set in the front end of a bar 28 slidable centrally through a clip 29, its rear end being pivotally attached to the front edge of a flat plate or leaf 30.

Another bar 32 is firmly secured in the clip 29, and is actuated by a slotted link 33, pivoted in a bracket 34 attached to the under side of the hood 15 and operated by connecting rods 35 fixed at their lower ends to the bar 28, their upper converging ends engaging another of the slots in the link 33.

The rear end of the bar 32 is pivotally coupled to a plate wing 36.

A third bar 33, fixed in the link 29, is similarly pivotally connected to a third plate wing 39.

All of the plate wings, 30, 36 and 39 are provided at their opposite edges, at their rear extremities with fixed studs 40, 41 and 42, respectively, engaged in track ways formed in fan shaped structures, below and at the rear of the hood 15.

The straight, central trackways 43 guide the studs 40 of the central wing, while the upper, angularly divergent trackways 44 guide the studs 41 of the upper wing, and, correspondingly, the lowermost divergent trackways 45 guide the studs 42 of the lowermost wing.

At the outer ends of the trackways 44 and 45 are connecting, arcuate guideways, respectively 46 and 47, leading to return guides 48 and 49, of lesser obliquity, which intersect the trackways 44 and 45.

Gates or switches 50 and 51 at the ends of the trackways 44 and 45, are spring pressed into normal closed position, preventing the studs from returning over the outgoing path, as indicated by the arrows in Figure 3, while similar gates 52 and 53 guide the studs as the plate wings are moved outwardly into position to exert force against the air when the plane is advancing.

From the foregoing it will be seen that a simple but effective braking device for aeroplanes has been disclosed in the best known form.

Having thus described the invention, what is claimed as new and sought to secure by Letters Patent, is:—

An aeroplane brake comprising upper, lower and intermediate plates having studs at their rear end edges, guide ways for said studs, said guide ways being disposed at divergent angles whereby said plates are caused to impinge against the air when extended, other guide ways for the return of said studs, gates controlling the path of said studs, and means accessible to an operator to advance or retract said plates.

WILLY MEINERT.