

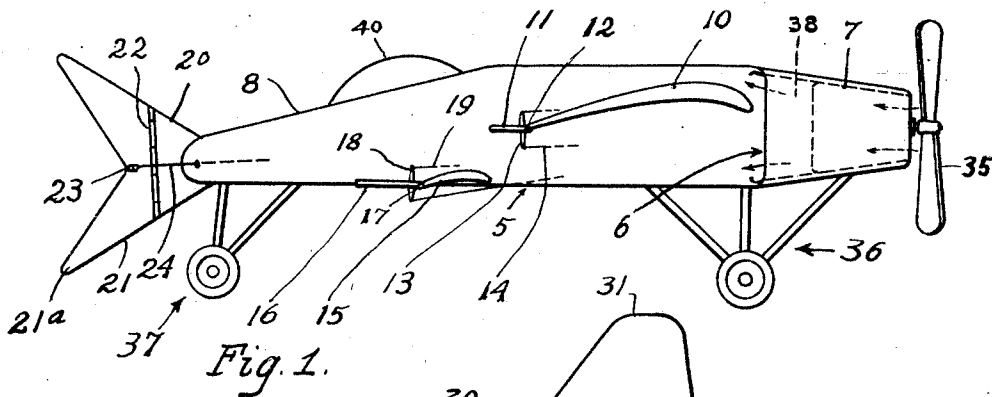
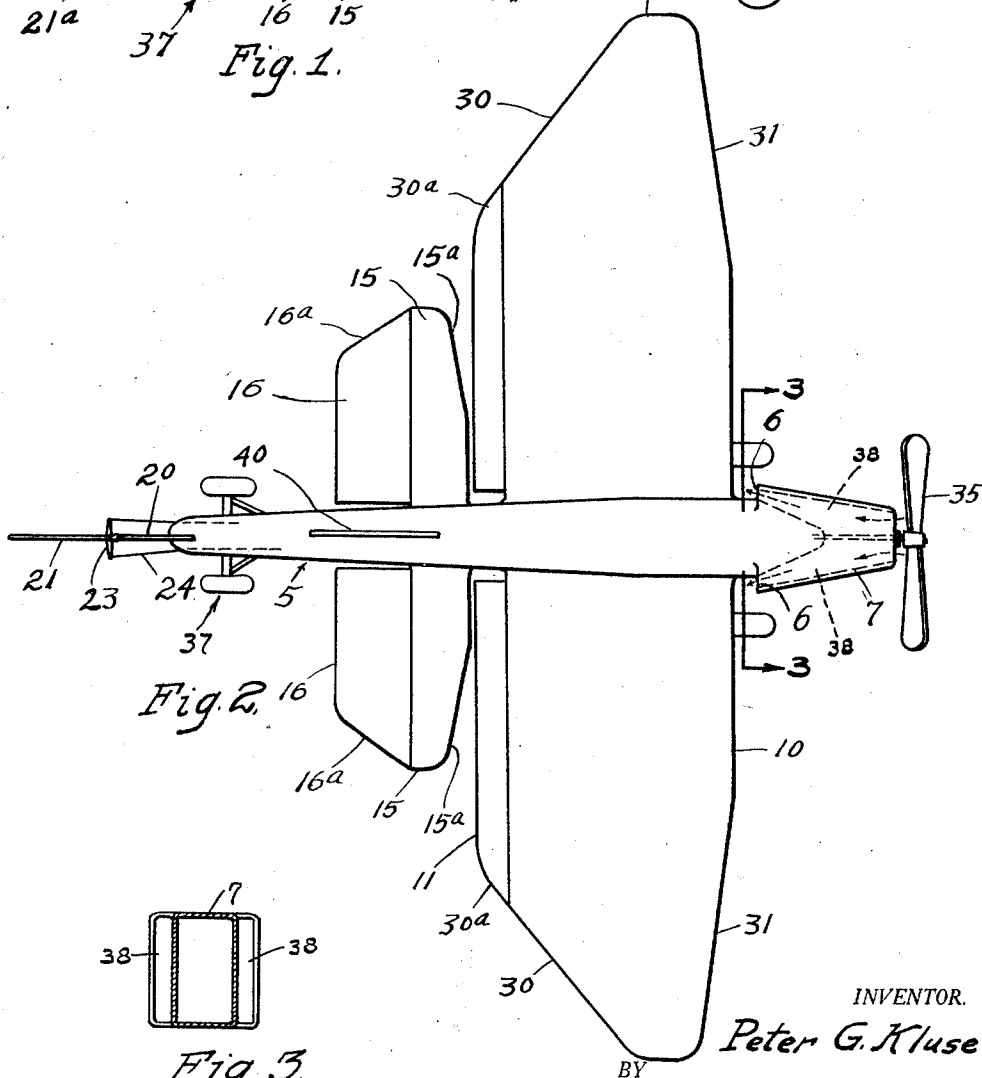
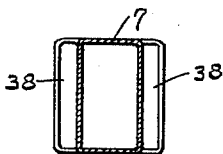
May 14, 1929.

P. G. KLUSE

1,712,705

AEROPLANE CONSTRUCTION

Filed Feb. 29, 1928



INVENTOR.

Peter G. Kluse

BY

Robt. W. Pearson
ATTORNEY.

UNITED STATES PATENT OFFICE.

PETER G. KLUSE, OF LOS ANGELES, CALIFORNIA.

AEROPLANE CONSTRUCTION.

Application filed February 29, 1928. Serial No. 258,116.

This invention relates to a construction and arrangement of casing wings, rudders and fins for aeroplane.

Among the objects of the invention are to provide for aeroplanes a wing and rudder equipment which will be an improvement over prior devices of its class with respect to simplicity and durability of construction and facility and precision of control.

Other objects are the provision of a casing adapted to glide through the atmosphere in an improved manner and to direct the air against the wings more effectively; to improve the stability and safety of air craft, and to render control thereof more efficient.

With these and other objects in view as will more fully hereinafter appear, the invention consists in the various parts, combinations of parts, and details of construction hereinafter described and then more particularly pointed out in the claims.

Referring to the accompanying drawings which illustrate a preferred embodiment of the invention,

Figure 1 is a side elevation of the complete machine.

Figure 2 is a top plan view thereof.

Figure 3 is a cross section of the casing on line 3—3 of Figure 2.

Referring in detail to the drawings, the casing or hull 5 as illustrated in the drawings is approximately rectangular in cross section, but it is to be understood that it may be more or less rounded at the corners, as may be desired. Viewed in top plan said casing tapers considerably toward the sternal end throughout its rear three-fourths, and tapers somewhat more abruptly at the front end for a relatively short distance. Viewed in side elevation the taper at the front end is uniform but as seen in plan a shoulder 6 is provided at each side, back of the enlarged front end portion 7. Viewed in side elevation the rear portion of the bottom is straight but the rear portion of the top is provided with a decidedly inclined wall 8.

At each side of the hull is provided a main lifting wing 10 which has at its trailing edge an altitude control extension 11 pivoted to the wing at 12 and provided with control arms 13 and operating wires 14 whereby said extension 11 is manipulated and maintained at the desired inclination.

At the bottom of the hull, just rearwardly of wing 10 at each side is an auxiliary wing 15 provided also with an extension 16, hav-

ing a pivot 17, control arms 18 and operating wires 19.

At the stern of the ship is provided a triangular rudder shank 20 to the rear edge of which is attached an upright bifurcated rudder 21 by means of a hinge 22. Said rudder 21 is controlled by means of the short arms 23 and operating means 24. The relatively long narrow tip portions 21^a of rudder 21 give increased steering efficiency.

Referring in detail to the main wings 10, the outer portion of each of said wings has a bevel 30 which joins the slightly rounded tip 31 at one end. Opposite to the bevel 31 wing 10 has at its leading edge a less steeply beveled portion 31. The extension 11 of each main wing 10 has at its outer end a bevel 30^a which forms a continuation of the bevel 30 of the main wing.

The extension 16 of each auxiliary wing 15 has an end bevel 16^a, and on the opposite edge of wing 15 is a bevel 15^a preferably similar to the bevel 31 of the main wing.

35 designates the usual propeller, 36 the front under carriage and 37 the rear under carriage which supports the rear end of the ship at a sufficient height to protect the rudder 21 when landing and starting.

Referring again to the enlargement 7 at the front end of the casing, from end to end of this portion 7 extends at each side thereof an open ended air passage 38 which is adapted to deliver air currents against the leading edge of the main lifting planes 10 thus augmenting the lifting power of these planes.

At a short distance in advance of the stern and a short distance behind the beginning of the slope 8, an upright fin 40 is fixed to the casing to aid in stabilizing the machine.

I am aware that it is not new in the art of aeronautics to place a narrow altitude control extension at the rear end of the machine, but in my relatively large, wide altitude control extension 16 being spaced at a considerable distance from the rear end and forming part of a wing which is approximately directly under the trailing edge of the main wing, no appreciable air brake or clearance is seen when the machine is viewed from above. This construction gives more stability and a better control. It distributes the lifting power more uniformly from fore to aft.

I claim:

1. In a device of the class described, an

elongated hull or body having a vertical triangular blade forming a rudder shank, a vertical bifurcated rudder hinged to the rear edge of said shank, and means for manually adjusting said rudder upon the pivotal mounting formed by said hinge, the inner end of the bifurcation of said rudder being spaced away from the hinge thereof, and said adjusting means being secured to said inner end of said bifurcation.

2. In a device of the class described, an elongated tapered hull having at its front

end a portion which is expanded horizontally to produce shoulders which project laterally only from each side of the hull and lifting planes the leading edges of which are located behind spaced away from said shoulders and near thereto, air discharge openings being provided to deliver air currents from said shoulders against the leading edges of said planes.

In testimony whereof I affix my signature.

PETER G. KLUSE.