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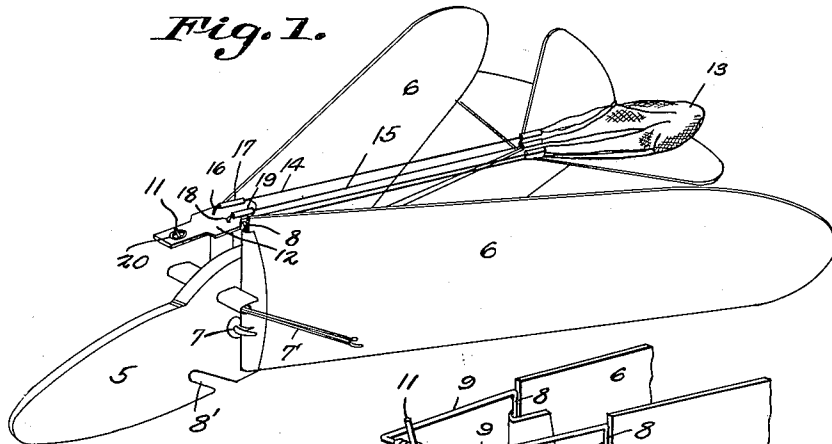
W. J. COTTER

2,587,699

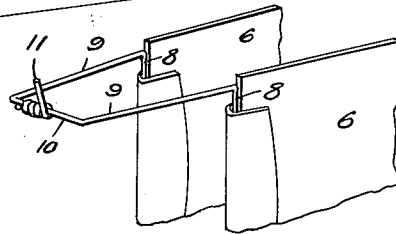
PARACHUTE ATTACHMENT FOR MODEL GLIDERS

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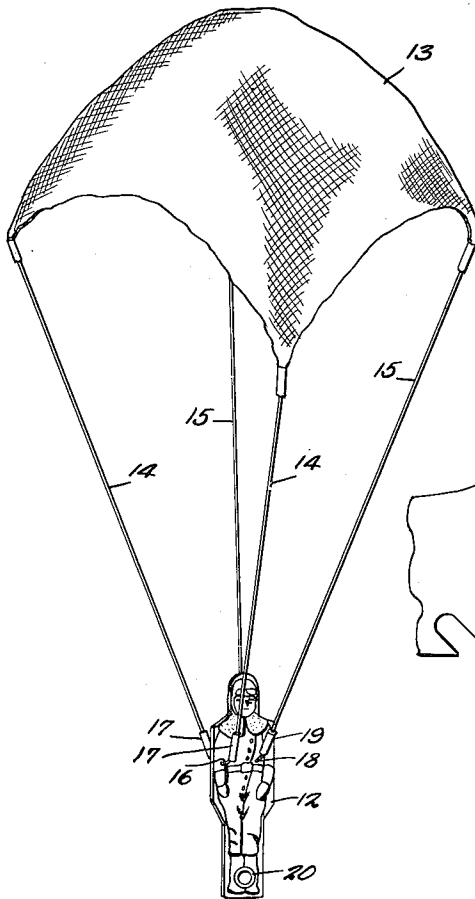
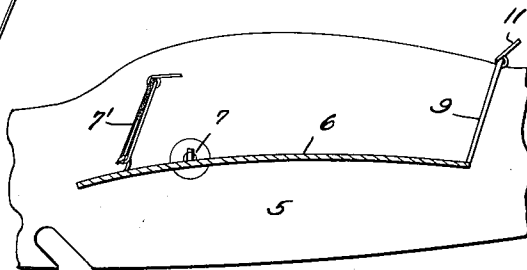
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*

*W. J. Cotter*

INVENTOR

BY *Calnow & Co.*  
ATTORNEYS.

## UNITED STATES PATENT OFFICE

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## PARACHUTE ATTACHMENT FOR MODEL GLIDERS

William J. Cotter, Washington, D. C.

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1 Claim. (Cl. 46—80)

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This invention relates to toys, and more particularly, has reference to a parachute attachment for a toy glider.

Parachute attachments for gliders used as toys are not in themselves broadly new. However, so far as I am aware, all such attachments as have heretofore been devised have been such as require expensive construction, rather complicated mechanisms, and otherwise have defeated their very purposes of providing an efficient parachute attachment for a toy glider that yet will be commercially practicable.

It is an important object of the present invention to provide an attachment of the character described that will not require any modification to the glider that carries the parachute to an extent as would affect fully efficient normal performance of the glider.

Another important object is to provide a parachute attachment as described that can be constructed at low cost, is simple in operation, and is adapted to be discharged free of the glider at a certain point in the glider's flight, without possibility of the parachute fouling in portions of the glider.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combination of parts, hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawings:

Figure 1 is a perspective view of a glider equipped with a parachute attachment constructed in accordance with the invention.

Fig. 2 is an enlarged fragmentary perspective view of that portion of the glider to which the parachute attachment is secured.

Fig. 3 is a view partly in side elevation and partly in section of the glider body, showing the position of the parts after the parachute attachment has been released.

Fig. 4 is a perspective view of the parachute and figure suspended therefrom.

Referring to the drawings in detail, the reference numeral 5 designates the body of a glider. At this point, it should be mentioned that the glider to which the parachute attachment is secured is not in itself new, and is not claimed as part of the present invention.

The glider as mentioned embodies foldable wings 6, the wings 6 being illustrated in Fig. 1

in an intermediate folded position. These wings are swivelled at 7 to the body, and are adapted to be brought to their unfolded or extended position by the contraction of rubber band 7' secured to both of the wings. In other words, the wings 6 are adapted to be folded flat against both sides of the body, so that they will present no resistance to air. Then, after the wings have been folded flat in this manner, the glider is catapulted into the air, by means of a rubber band or the like (not shown) adapted to engage in the notch 8' of the body. After the glider reaches a point at which the rubber band 7' overcomes the air resistance which has been holding the wings 6 flattened, the rubber band 7' contracts, and the wings are snapped to the position illustrated in Fig. 3, whereupon the glider can descend in a long glide.

When the wings 6 snap to the position illustrated in Fig. 3, stop means are embodied in the glider to prevent movement past the desired extended position. This stop means embodies a yoke that includes the pins 8 pivotally mounted in the respective wings, arms 9, and cross member 10 connecting the arms.

All the parts so far described constitute portions of the glider as presently constructed, and no claim is made to said glider or to any of said portions in and of themselves.

In accordance with the invention, I secure rigidly to the above mentioned yoke, or form integrally therewith, a finger 11. This can be secured in any desired manner, as for example, finger 11 can be a length of spring wire bent around the connecting or cross member 10, and soldered so as to be rigid with the cross member. In the folded position of the wings 6, the finger 11 extends upwardly and forwardly as illustrated in Figs. 1 and 2. However, when the wings 6 are snapped to unfolded position, the finger 11 will extend rearwardly, but still upwardly, as illustrated in Fig. 3.

The parachute attachment used with the glider is fashioned to include a depending figure 12, that can be formed from a piece of cardboard material or the like cut to shape to simulate an airman. The parachute is designated 13, and can be a square of thin paper or silk material.

Shrouds 14 and 15 connect the parachute to the figure 12, there being two pairs of shrouds illustrated in the present instance. These are rigid members, and can be fashioned from bamboo strips. Preferably, the figure 12 is secured to the shrouds by providing a small string 16 that extends through the figure, this being secured to the lower ends of the bamboo strips or

shrouds 14 by means of adhesive sleeves 17. Another string 18 is secured by sleeves 19 to the shrouds 15, in the same manner.

At its lower end, the figure is formed with an opening 20, which can be reinforced by a grommet or the like.

In use of the parachute attachment, when the wings 6 are folded rearwardly, the figure is positioned upon the yoke in the manner illustrated in Fig. 1, with the foot end of the figure positioned forward, and with finger 11 received in the opening 20. The shrouds 14 and 15 are extended between the folded wings 6, with the parachute 13 being disposed alongside the rudder or tail portion of the glider. Thus, when the wings 6 are fully folded, the shrouds and parachute are fully enclosed therebetween, and it has been found that they offer no resistance to air when the glider is impelled upwardly with its wings folded. Similarly, the figure 12 has been found to offer no resistance to air, because of its flat formation and its particular arrangement relative to the glider proper.

When the glider has reached its highest point, and has lost momentum to an extent where the strength of the rubber band 7' will overcome the pressure of the air against the wings 6, the wings 6 will snap to their unfolded position. The result is that the finger 11 will be caused to describe, at high speed, an arc in moving from the position illustrated in Fig. 1 to the position illustrated in Fig. 3. As the finger 11 comes against the upper edge of the body 5, the figure 12 which has been carried rearward with the finger, is jarred or snapped off the finger 11, and the parachute attachment is released to float free of the glider, at the same time that the glider begins its descent.

It is to be noted that the bamboo shrouds 15 are incapable of contraction in the direction of their length, and as a result, when the body of the parachute attachment swings rearwardly through the aforementioned arc with the yoke on which it is supported, the bamboo shrouds are shifted endwise thereof, so as to bodily shift the parachute 13 rearwardly jointly with shifting of the body on the yoke supporting said body, thus to cause the parachute 13 to clear the tail portion of the plane or glider concurrently with release of the parachute body from the yoke.

What is claimed is:

In an aerial toy of the type having an elongated body, wings swivelly carried by the body which fold adjacent opposite sides thereof during the launching of the toy, means carried by the body and connected to the wings for moving said wings into extended position when the pressure of the air against the wings falls below a predetermined value, and a yoke carried by the wings and engageable with the body for arresting movement of the wings relative to the body when they have attained extended position, means for releasably holding a miniature parachute and figure on the toy and launching said parachute and figure when the wings attain extended position, said means comprising a finger carried by the yoke and movable therewith from an upwardly and forwardly extending position relative to the body of the toy to an upwardly and rearwardly extending position relative to the body of the toy, a miniature figure adapted to lie prone adjacent the body near the front end thereof, said figure having an opening extending therethrough for the reception of said finger, a miniature parachute adapted to lie in folded position adjacent the rear end of the body, and rigid shrouds connected to the parachute and to the figure and adapted to be engaged by the folded wings, whereby when the wings move to extended position the shrouds will be released to permit opening of the parachute and the finger will move to its rearwardly inclined position to free the toy figure and permit it to float on the parachute free from the body.

WILLIAM J. COTTER.

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