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2,343,710

GLIDER

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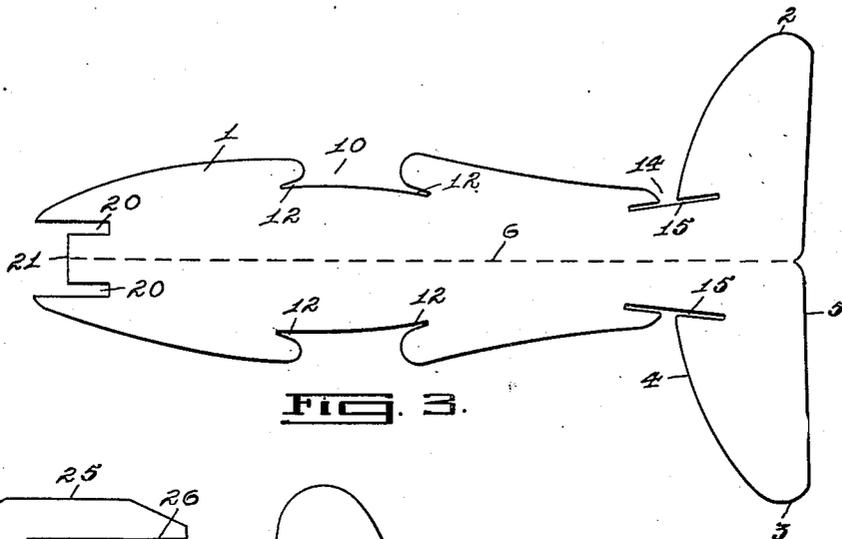


FIG. 3.

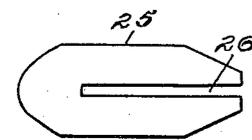


FIG. 5.

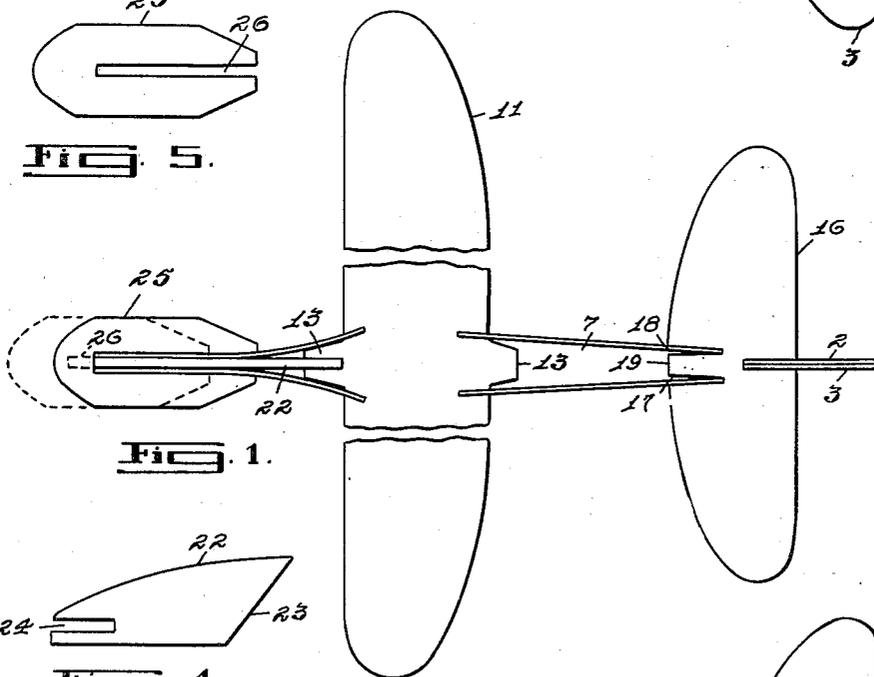


FIG. 1.

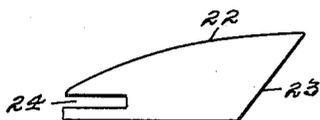


FIG. 4.

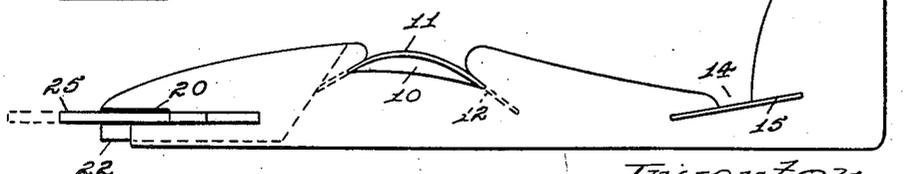


FIG. 2.

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UNITED STATES PATENT OFFICE

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GLIDER

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9 Claims. (Cl. 46—79)

The invention relates to improvements in gliders as described in the present specification and shown in the accompanying drawing that forms a part of the same.

The main objects of the invention are to provide a simple, inexpensive and instructive toy which can be made entirely of cardboard or other material readily obtainable under war conditions; which can be prepared and sold in knock-down condition, thus facilitating packing and transportation and also providing interesting and instructive occupation for the person assembling same, and in which is incorporated adjustable means for varying the angle and distance of flight to meet different conditions.

The invention consists in the novel features of construction, arrangements and combinations of parts described in the present specification and more particularly pointed out in the claims for novelty following.

In describing the invention reference will be made to the accompanying drawing, in which:

Figure 1 is a plan view of my improved glider, with an alternate position of the adjustable nose clip shown in dotted lines.

Figure 2 is a side elevation of the glider.

Figure 3 is a plan view of the blank from which the body of the glider is formed.

Figure 4 is a plan detail of the adjustable clip.

Figure 5 is a side elevation of the weighting member.

Like numerals of reference indicate corresponding parts in the various figures.

Referring to the drawing the body of the glider is formed from a single piece of cardboard, or other suitable material, shaped to provide an elongated main body portion 1 having at one end thereof opposed laterally extending parts 2 and 3 curved along their inner edges, as at 4, and cut away square at their ends, as at 5.

The blank just described is scored longitudinally in its transverse centre, as shown at 6, and is adapted to be folded along this score line and when thus folded provides an elongated trough-like member 7 from which extend upwardly the projecting parts 2 and 3 to provide the tail member.

The blank before being folded is substantially ovate in plan from the front end to the lateral projections 2 and 3 so that when folded the depth of the body of the glider will be greatest at a point substantially midway between the front end and the tail member and will decrease forwardly to its nose and rearwardly to the tail.

The blank is cut away at each side midway of

the length of the body to provide opposed recesses 10, which in the folded condition of the blank register with each other and provide a cross opening adapted to permit of counter-sinking the wing 11.

The wing 11 is of considerably greater width than the cross opening in the body and to provide proper interlocking engagement between the said wing and the body of the glider the material at each end of each of the recesses 10 is undercut, as at 12, for the reception of the opposing side edges of said wing and said wing is provided with opposed lateral projections 13 adapted to fit between the opposing side walls of the glider at opposite ends of the wing opening for the purpose of preventing longitudinal displacement of the wing and for the further purpose of spreading the side walls of the glider apart to give the desired shape to the body.

If desired the wing 11 may be given a slightly arcuate shape in cross section by making the total distance between the extreme ends of the longitudinally opposed undercuts 12 less than the width of the wing so that the said wing will be held curved.

The blank of which the body is formed is cut away at each side in advance of the tail member, as at 14, and the recesses thus formed register with cross slots 15 which extend into the material at each side of the respective recesses. These slots register when the body is formed by folding the blank and are adapted to receive the tail wing 16, which latter is slotted from its rear edge inwardly to receive the tail member and hold the sections thereof tightly together, and at its forward edge is provided with substantially parallel slots 17 and 18 adapted to receive the opposing side walls of the body, with the portion 19 between said slots 17 and 18 lying between said walls and preferably turned down slightly to prevent longitudinal movement of the wing 16.

The body blank is cut away centrally at its forward end and is provided with spaced rearwardly extending parallel slots 20 whereby to provide a tongue 21 terminating short of the nose of the glider so that when the blank is folded to form the glider the lower portions of the side walls will be somewhat shorter than the upper portions of said walls and the slots 20 will extend rearwardly in aligned relation to one another.

22 is a weighting member consisting of a sheet of heavy cardboard, or other suitable material, adapted to be inserted between the side walls of the body and extending from the nose to sub-

stantially the front edge of the wing 11 and being movable forwardly and rearwardly to the position necessary to give the proper balance to the glider, the weighting member being shaped to fit the contour of the side walls and being inclined at its inner end, as at 23, to extend upwardly over the front projection 13 of the said wing to hold said projection, or flap, down. The member 22 is also provided with a slot 24 extending inwardly from its front end and adapted to register with the aligned slots 20 in the body of the glider.

25 is a clip preferably consisting of a flat piece of relatively thick and heavy cardboard having a central elongated slot 25 extending inwardly from one end thereof whereby it can be slipped inwardly over the nose of the glider, in register with the slots 20 in the body and the slot 24 in the weighting member and thus hold the side walls and said weighting member firmly locked together in any of their relatively adjusted positions.

The nose clip 25 is preferably reduced in width towards each of its ends for streamlining purposes.

The slot 25 in the clip 25 is of such length as to permit of adjustment of the clip longitudinally of the glider whereby to transfer the weight forwardly or rearwardly as may be required to give proper balance under different conditions. When the glider is being assembled the clip, and the weighting member 22, can be adjusted to the proper positions that when the glider is held by the wing tips it will be in true balance, preferably with the nose pointing downwardly slightly. Under certain conditions, however, it may be desirable to alter the point of lift rearwardly or forwardly. For instance, when the glider is being flown in a restricted area, such as in a room, and it is desired to restrict the distance of flight the clip can be moved backwardly to transfer the weight to a point nearer the main wing and thus put the glider out of balance to the extent that it will "stall" and drop to the ground within a shorter distance than it would were the weight further forward.

While I have illustrated and described the present preferred form of construction for carrying out my invention, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

What I claim is:

1. A glider comprising a body and tail formed of a single piece of sheet material folded to provide upstanding side walls closed along the bottom, a main wing interlocking with said walls and holding same spaced apart midway of the length of the body, a rear wing interlocking with said walls and holding same locked together, a weighting member inserted between the walls in advance of the main wing and movable longitudinally of the glider whereby to effect the balance of the glider, and a clip extending over

the forward end of the body and locking the side walls and the weighting member together, said clip being adjustable longitudinally of the body.

2. A glider according to claim 1, in which the side walls are recessed in opposition for the reception of the main wing and in which the end walls of the respective recesses are slotted for the reception of the edges of said wing.

3. A glider according to claim 1, in which the main wing is provided with opposed lateral projections adapted to lie between the side walls at opposite sides of the wing.

4. A glider according to claim 1, in which said clip comprises a member having an elongated central slot extending from one end thereof adapted to receive the forward end of the body.

5. A glider according to claim 1, in which the said weighting member consists of a flat piece of heavy sheet material shaped to the contour of the side walls and fitting therebetween.

6. A glider according to claim 1, in which the weighting member and the walls of the body are slotted longitudinally from the front end in alignment for the reception of the portion of the slotted clip beyond the slot in the latter.

7. A glider comprising a body and tail formed of a single piece of sheet material folded to provide upstanding side walls closed along the bottom, a main wing interlocking with said walls and holding said walls spaced apart midway of the length of the body, a rear wing interlocking with said walls and holding same locked together, a weighting member inserted between the walls in advance of the main wing and movable longitudinally of the glider, and bifurcate means frictionally embracing the nose of the glider and adjustable longitudinally thereof for locking said weighting member to its adjusted position between the side walls.

8. A glider according to claim 7, in which said adjustable means comprises a rigid piece of relatively heavy sheet material slotted longitudinally from one end to span the nose of the glider and permit of adjustment along said nose, said sheet lying at right angles to the walls of the nose and extending laterally therefrom at each side and at the front of the nose to provide a relatively large underside air contacting area.

9. A glider comprising a body and tail formed of a single piece of sheet material folded to provide upstanding side walls closed along the bottom, said walls being provided with aligned slots from the forward ends thereof, wing means connected to said walls, a weighting member inserted between said walls at the forward ends thereof and adjustable longitudinally of the glider, said weighting member being slotted from the forward end in alignment with the slots in said walls, and a plate extending beyond the forward end of the glider and adjustable longitudinally within the aligned slots in said walls and said weighting member, said plate having a bifurcate portion frictionally embracing the walls of the glider rearward of said slots and locking said weighting member to its adjusted position between said walls.

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