Sept. 7, 1926. 1,599,280

C. A. LEWIS

AIRPLANE TOY

Filed Sept. 19, 1925

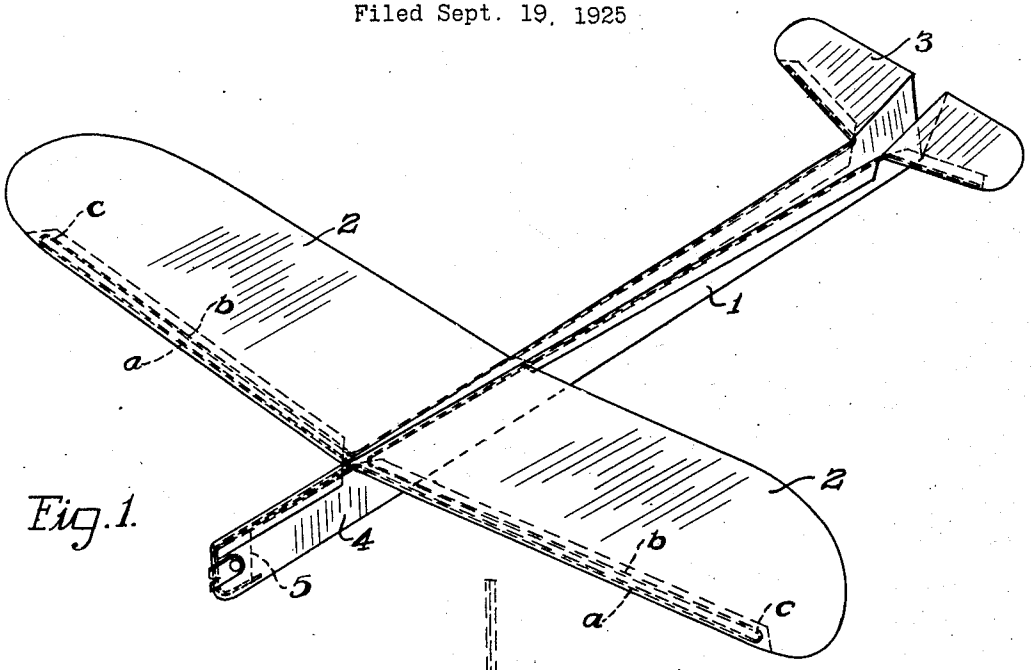


Fig. 1.

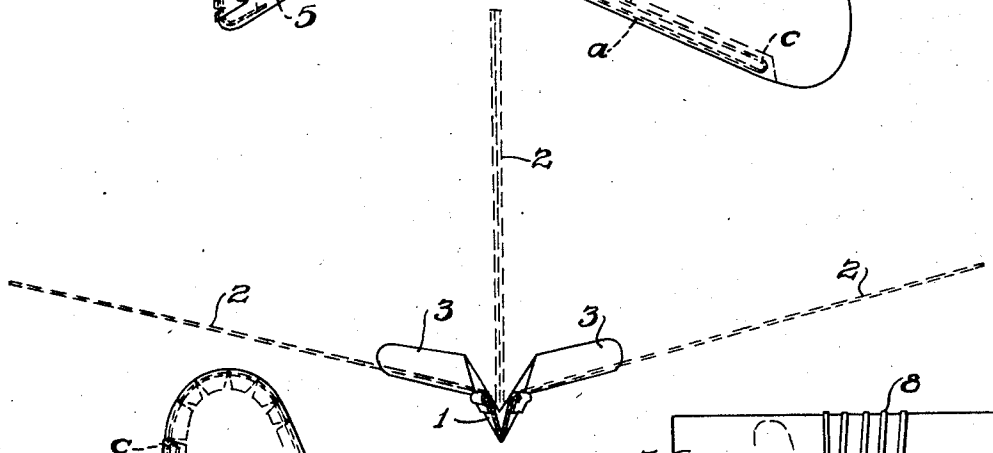


Fig. 3.

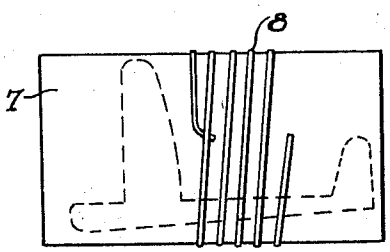


Fig. 4.

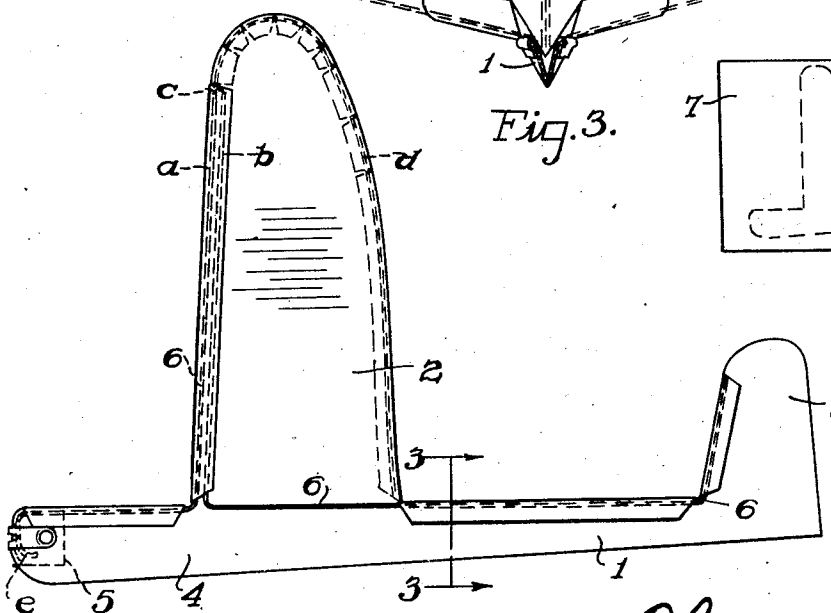


Fig. 2.

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UNITED STATES PATENT OFFICE.

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AIRPLANE TOY.

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This invention relates to toy airplanes.

The main object attained in the invention is a foldable toy airplane, or any similar gliding toy, which is adapted to be folded longitudinally of its body with one plane superposed upon the other and projected into or released in the air at an elevation, a particular feature of novelty of the toy consisting in tension means applied to the planes to cause the same to be self-opening when the toy is released, thus to insure the gliding movement as the toy gradually descends to the ground.

The toys in view of their small bulk when folded flat and packed in quantities and their self-opening feature are especially adaptable for broadcast advertising by means of airplane distribution, as the same can be printed with an advertisement, taken aloft in large quantities and distributed over a city or over crowds with unusual advertising effect, as the descending planes in varied colors never fail to attract attention and they are picked up and retained by those who recover them.

As individual toys for children, and in no small degree for adults, the airplanes have a fascinating attraction, similar to that of kites, for outdoor recreation, the planes being furnished in sets of varied colors with means to project and release all in the air at the same time, the individual planes gliding to the ground in different directions and at varied distances. Thus the sport lends itself readily to games or contests in seeing which planes can be caused to glide the greatest distance or land nearest a goal, etc., their performance being of such varied character that the greatest interest results in the games.

Toys and advertising devices of this character must be very cheap. It is also desirable that they should be reasonably durable so that the same can be projected for flight an indefinite number of times. To this end the means provided to tension the planes serve the double purpose of making the planes foldable and self-opening and also of making the toys more substantial.

In the accompanying drawings my improved toy is shown in the form of a gliding airplane, this being for the purpose of illustrating the principle of the invention, it being apparent from the nature of the invention that the same is readily adaptable to varied modifications, such as gliding toys shaped and colored like different kinds of birds, or any fancied designs of structure and color.

In the drawings:

Fig. 1 is a perspective view of the toy, viewed from above;

Fig. 2 is a side view of the toy folded;

Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 1;

Fig. 4 is a view illustrating means for projecting the airplanes in the air.

The toy as shown represents the usual features of airplane construction consisting of the body or fuselage 1, main planes 2, tail planes 3, cowl 4, the body, as shown in Fig. 3, being V-shaped in cross section. As here shown the forward end of the body is provided with a weight element 5 to balance the plane when the same is in gliding movement.

The tension element applied to the main planes and also to the tail planes to adapt the same to be foldable and self-opening to normal position, consists of a wire 6 arranged along the upper edge of the fuselage on both sides, along on or both edges of the main planes and the forward edges of the tail planes, the normal extension of the wire being in planes coinciding with those of the main and tail planes when the same are in open or unfolded relation. Thus when the planes are folded as illustrated in Figs. 2 and 3, sufficient tension is given to the wire to cause the same to react to normal position upon releasing of the toys when the same are cast into the air, the opening of the plane being positive and snappy, thus causing the toys to appear animated as the same open to the gliding movement.

Any suitable means may be employed for casting the toys in the air when the same are projected from the ground. Such means are here shown as consisting of two opposite pieces of paper board 7 adapted to be superposed one upon the other with the toys between the boards. A rubber band 8, fastened at one end to one of the boards 7 and wound around the boards with its opposite end free, as illustrated in Fig. 4, being employed to hold the boards 7 yieldingly together as the same are cast upward into the air, the rubber band unwinding in the required time to permit the boards 7 to sepa-

rate one from the other and thus to release the toys therebetween which are then free to glide to the ground.

It will be apparent that the wires for giving tension to the wings of the toy can be in one or more pieces and variously arranged. In Figs. 1 and 2 two forms of arrangement are shown to illustrate such modifications, the dotted lines *a*—*b* indicating the wire extended upwardly along the forward edge of the main planes, looped as at *c* and returned along the same edges and then extended along the upper edges of the body back to the tail planes,—*d* indicating the wire returned along the rear edges of the main planes and then extended back to the tail planes. It will be apparent, of course, that the wire can also be extended along both front and rear edges of the tail planes instead of along the front edges only as shown. At the front end of the body the wire loop is preferably turned down as indicated at *e* to strengthen the nose of the plane.

Having described my invention, I claim:

1. A toy, as an airplane, including in combination a body, opposite planes foldable as extended in a vertical plane on lines parallel to said body and a tension element applied to said planes acting to open the same when the folded toy is released in the air.

2. A toy, as an airplane, including in combination, a foldable body, opposite planes foldable vertically parallel to said body and a tension element applied to said body and planes acting to open the body and planes when the folded toy is released in the air.

3. A toy, as an airplane, including in combination a body, opposite planes including tail planes foldable parallel to said body and a tension element applied to said planes acting to open the same when the folded toy is released in the air.

4. A toy, as an airplane, including in combination a body, opposite planes open normally in a horizontal plane and foldable as extended in a vertical plane and a tension element applied to and acting on said folded planes to open the same when said toy is released in the air.

5. A toy, as an airplane, including in combination, a body, opposite planes and an element applied along the edges of the planes acting to strengthen and fold the same one plane extended parallel with the other and to exert tension thereon to open the planes when the toy is released in the air.

6. A toy, as an airplane, including in combination, a body, opposite planes foldable on a line parallel to said body and extended one plane facing the other and spring wire applied to said planes in a manner to effect tension thereon to open the planes as the toy is released in the air.

7. A toy, as an airplane, including in combination a foldable body, opposite planes foldable on a line parallel to the folding line of said body and spring wire applied to the edges of said body and planes to strengthen the same and to give tension to the planes as the same are folded and to open the planes as the folded toy is released in the air.

8. A toy, as an airplane, including in combination a body portion, V-shaped in cross-section and open upward, opposite main planes and tail planes extended laterally from the opposite upper edges of said body and foldable relative thereto, a wire extended along edges of said body and of said planes, adapted to be tensioned by the folding thereof an acting to open the planes as the toy is released in the air.

9. A toy, as an airplane, including in combination, a body portion, open upward and foldable longitudinally, opposite main planes and tail planes extended laterally from the opposite upper edges of said body substantially at right angles and foldable relative thereto, a wire extended along the upper free edges of said body and along the edges of said planes, adapted to be tensioned by the folding thereof and acting to open the planes as the folded toy is released in the air.

10. A toy, as an airplane, including in combination, a body portion, open upward and foldable longitudinally, opposite planes extended laterally from the opposite upper edges of said body substantially at right angles and foldable relative thereto, a wire extending along the nose and the upper free edges of said body and along the edges of said planes, adapted to be tensioned by the folding thereof and acting to open the planes as the folded toy is released in the air.

In testimony whereof, I affix my signature.

CHARLES A. LEWIS.