M. R. McINNIS.

TOY AEROPLANE OR GLIDER.

APPLICATION FILED NOV. 7, 1919.

1,400,224. Patented Dec. 13, 1921.

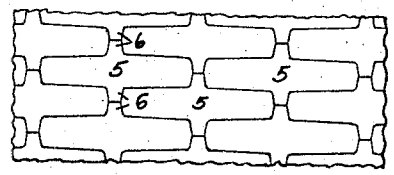


FIG. 5.

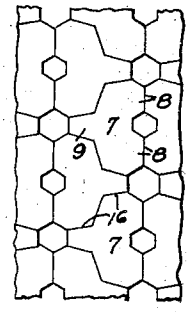


FIG. 6.

FIG. 1.

FIG. 7.

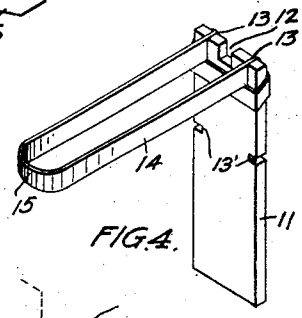


FIG. 4.

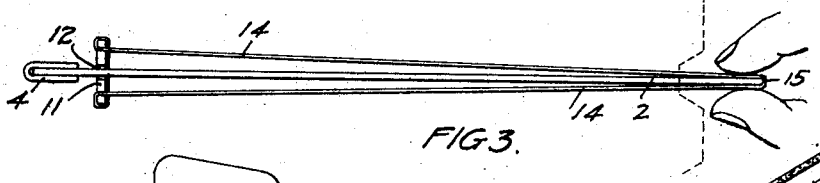


FIG. 3.

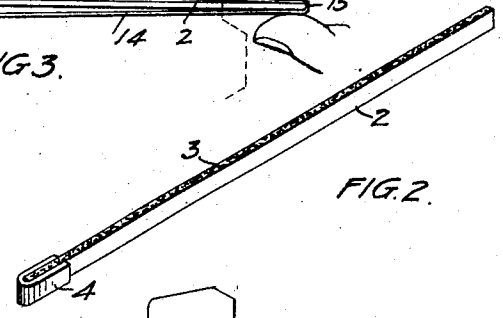


FIG. 2.

FIG. 8.

FIG. 9.

WITNESSES

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TOY AEROPLANE OR GLIDER.

1,400,224. Specification of Letters Patent. Patented Dec. 13, 1921.

Application filed November 7, 1919. Serial No. 336,241.

To all whom it may concern:

Be it known that I, MATHEW R. McINNIS, a citizen of the United States, resident of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Toy Aeroplanes or Gliders, of which the following is a specification.

The object of the invention is to provide a novel and attractive toy plane, which may be sent through the air for a long distance, or may be made to loop the loop and gracefully glide to the ground.

A further object is to provide a toy composed of very few parts and of durable construction; a toy that will last a long time regardless of rough usage and which will not fall apart when landing.

A further object is to provide a plane which may be assembled by the user, thus saving in cost of marketing and also allowing the article to be compactly folded for shipment and reducing the size of the package.

A further object is to make the body of a stick of wood of rectangular form in cross section and with weighted end resembling an arrow, to which the planes are secured, said planes being of such shape as to cause least possible waste of material from which they are cut.

Another object in view is to provide therewith an inexpensive means of sending said plane through air.

The invention consists generally in the arrangements and combinations, all of which will be hereinafter described and particularly pointed out in the claims.

The accompanying drawing forming part of this specification,

Figure 1 is a plan view of the plane in its assembled form,

Fig. 2 is a perspective view of the weighted stick or body of the plane,

Fig. 3 shows how same is sent aflying, planes omitted for clearness,

Fig. 4 is a perspective view of means for propelling the plane,

Figs. 5, 6 and 7 are detail constructive views,

Fig. 8 shows a plane of slightly modified form,

Fig. 9 is a detail view of one of the propellers.

In the drawings, 2 represents a stick of very light wood, rectangular in shape and of suitable length, provided on its edge with a coating 3 of glue or other adhesive material. Pressed securely to the end of said stick is a U shaped metal band 4. I find that a stick made of wood will give best results.

5 represents the larger wing or supporting plane made of suitable grade of paper or other light but flexible material. Said wing is provided with projecting flaps 6, providing in appearance a body to the plane extending forward and to the rear of the plane. The forward flap comes close to the band 4 which is of sufficient weight to bring the center of gravity under said plane as usual in all aeroplanes. This particular construction as shown in Fig. 5 can be cut out with very small waste of material. See Fig. 5.

The rear wing or tail plane 7 is made of similar material and is provided with stabilizers 8 and an extension 9. This construction shown in Fig. 6 can likewise be cut out with very little waste of material.

Between said front and rear planes 5 and 7 mounted on the stick 2, I provide a strip 10 of same material as the planes and the ends of said strip join the edge of the flaps 6 and 9 of said planes, thus giving the toy plane the appearance of a large aeroplane. The flaps 6, the strip 10 and flap 9 make up the body or the fuselage.

The stick 2 projects beyond the rear plane 7, (see Fig. 3) and the object is twofold and will be described hereinafter. By moistening the glued surface 3 of the stick 2 the planes 5 and 7 and strip 10 can be secured thereto, thus making a permanent toy, one that will not fall apart or have parts dislodged every time it hits the ground. I find this of great advantage in a toy of this kind.

The plane can be sailed simply by gripping the stick 2 underneath the plane 5 and throwing it into the air, but to get best results, I provide with each plane a sling composed of a thin flat plate 11 provided at one end with slots 12 and 13. The former acts as a guide and support for the front end of said plane, while the latter being very narrow and slightly deeper serves the purpose of holding a rubber band 14, which passes through these slots as shown in Fig. 4.

The user can very quickly apply the band 14 to the plate. The construction is very

simple and inexpensive for there are no ends of the band to be tied to the sling like those of ordinary construction.

The six pieces can be easily put into an envelop with directions inclosed for assembling; cutting down the expense of manufacture to minimum and thus making it an advertising novelty or a toy sold for a low price. It is, therefore, within reach of any child.

I prefer to have the wings straight and in a plane parallel substantially to the stick flight, thus making the plane sail farther than if curved planes were used like those of large machines. As the stick gradually loses speed the planes will cause it to glide through the air, or by slightly bending upward the projecting parts 8, the plane can be made to loop the loop, but as it gradually loses its momentum the resistance of air on the parts 8 will be lessened and the plane will glide horizontally for a considerable distance. To sail it in a circle bend one or the other of the parts 16 on the rear plane.

The plane can be sent into air by inserting the rear projecting end of the stick 2 into the loop 15 of the band 14 secured to strip 11 as shown in Fig. 4. Said strip is securely held in one hand, while the band and the stick are gripped between thumb and finger of the other hand. See Fig. 3. The plane is pulled back, the band put under tension and when released, motion will be given to the weighted stick which rests in and is guided by the slot 12.

The end projecting beyond the tail plane 7 provides a finger grip, see Fig. 3, also requires a longer stick giving more tension to the band 14.

In Fig. 7 I have shown a modification of the strip 10, having the glued surfaces 17 to which the projections 6 and 9 are fastened.

In Fig. 8 I have shown a modified form of the fuselage or body made in one piece and glued to the stick 2 at 18, 19 and 20 over the wings 5 and 7 which are already secured to the stick.

I may apply a propeller at each side of the body, composed of a block of wood 21 having a glued surface 22. By moistening said surface it can be stuck to the underside of the plane of wing 5. A hole in said block is provided for a pin 23 and upon said pin, I mount a bead 24 in front of which is mounted a propeller 25 made of very light and flexible material. The resistance of air against said propeller will cause it to revolve at a rapid rate causing a whirling sound and as the speed of the plane gradually slackens the propellers will likewise be checked giving the plane an appearance of the large machine coming to a stop.

I may provide additional slots 13 in the strip 11 for convenience of adjusting the rubber band 14 if necessary.

In various ways the details of construction herein shown and described may be slightly modified and still be within the scope of my invention.

I claim as my invention:

1. A toy aeroplane comprising a stick having a weighted forward end and a gummed longitudinal surface, wings of light flexible material having their middle portions mounted on said gummed surface in the rear of said weight, said stick having a rear end projecting beyond the rear wing to form a finger grip, a hand grip having a slot therein wherein said stick is adapted to slide, and a propelling band mounted on said hand grip and forming a loop to receive the rear end of said stick, said band being put under tension when the stick is retracted in said slot and projecting said stick through said slot when the band is released.

2. A toy aeroplane comprising a comparatively long wooden member having a gummed upper edge and a weighted forward end, forward and rear paper wings centrally mounted on said gummed edge and projecting laterally on each side of said member, the rear end of said member forming a finger grip and a hand grip device having a guide for said member therein, and a propelling elastic band attached to its ends to said grip upon each side of said guide and forming a loop to engage the end of said member to project it through the guide in said grip when said band is put under tension and released.

3. A toy aeroplane comprising a comparatively long stick in flattened form and having a gummed longitudinal edge and a weight at one end, paper wings mounted on the gummed edge of said stick and projecting laterally upon each side thereof, the rear end of said stick forming a finger grip, a hand grip having a slot in one end to receive the lower edge of said stick and form a guide therefor, and a propelling device comprising an elastic band connected to said hand grip on each side of the slot therein and having a loop to receive the rear end of the stick, said band being put under tension when the stick is drawn backward in said slot.

In witness whereof, I have hereunto set my hand this 5th day of November, 1919.

MATHEW R. McINNIS.