April 5, 1932. J. M. H. JACOBS 1,852,307

TOY AIRPLANE OR THE LIKE

Filed May 31, 1928

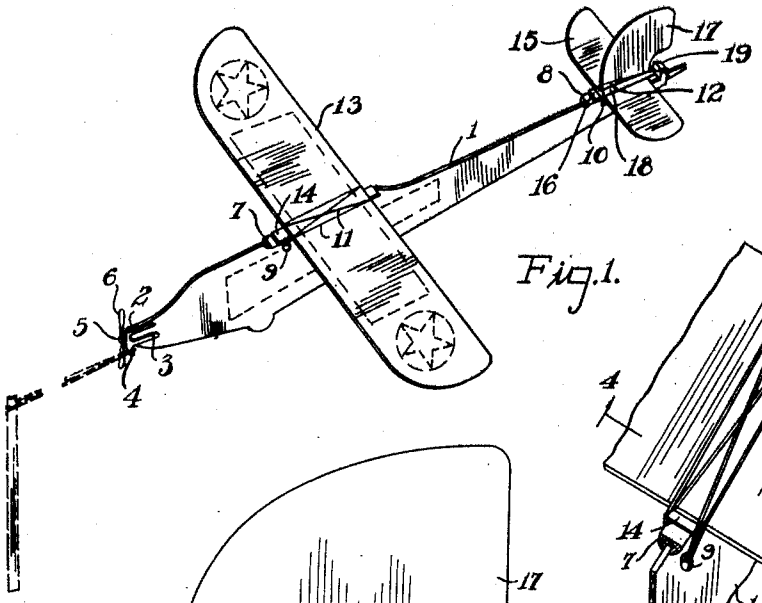


Fig. 1.

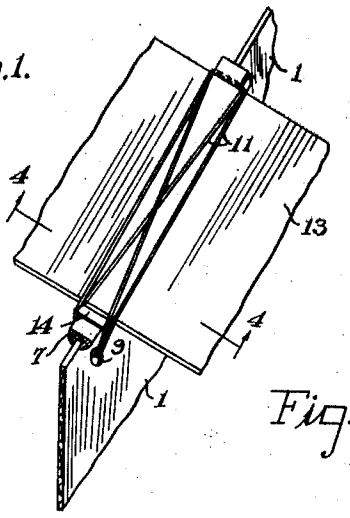


Fig. 2.

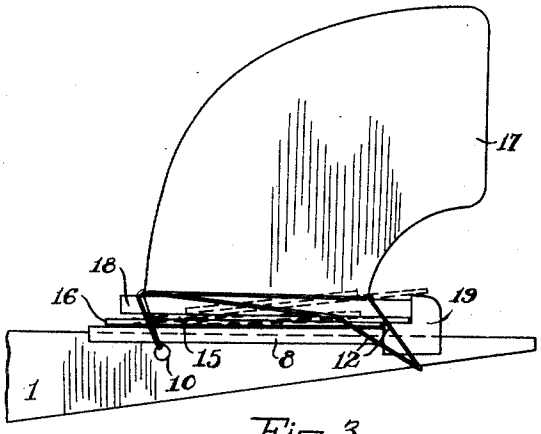


Fig. 3.

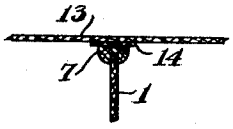


Fig. 4.

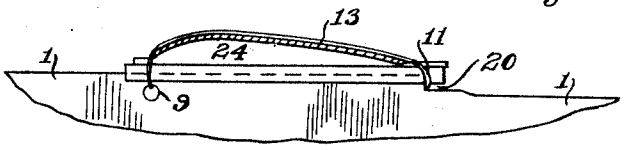


Fig. 5.

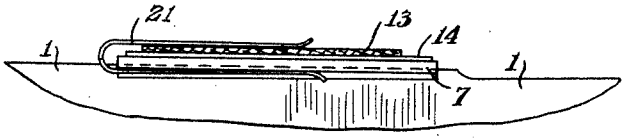


Fig. 6.

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UNITED STATES PATENT OFFICE

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TOY AIRPLANE OR THE LIKE

Application filed May 31, 1928. Serial No. 281,648.

This invention relates to improvements in toy airplanes.

In the accompanying drawings which serve for illustrating the invention:

Fig. 1 is a perspective view of the toy.

Fig. 2 is a detail view illustrating the assembly of the main plane with the fuselage.

Fig. 3 is a detail view illustrating the assembly of the elevating plane, rudder and fuselage.

Fig. 4 is a sectional view on line 4—4 of Fig. 2.

Fig. 5 is a detail view illustrating a modification.

Fig. 6 is a detail view illustrating a further modification.

The objects attained in the invention consist in a toy airplane of the monoplane type designed in accordance with well known principles of airplane construction with respect to plane area, in proportion to weight, inclination of the main plane to the fuselage and adjustability of the elevating plane to vary the character of performance of the toy.

A feature of the invention consists in a novel method of assembling both planes and the rudder on the fuselage for effecting stabilization of the toy as it is projected into the air, and for minimizing the possibilities of breakage of the toy in landing.

The airplane toy as prepared for distribution is enclosed knocked-down in an envelope, or other suitable container, with printed instructions for assembling the several parts. To this end the parts are simply constructed and the means employed for assembling the toy are of such character that children can readily follow the instructions for putting the toy together, and for reassembling them from time to time incident to their use.

The means employed for assembling the toy in a preferred form, as herein shown and described, consist in rubber bands of suitable weight and length for holding the parts together with the firmness required for proper performance of the toy, and with the required yieldability to minimize breakage in the impact of landing. The rubber bands can be renewed from time to time so that the toy with ordinary use can be preserved indefinitely.

A feature of the invention consists in a novel nose cap for the plane which serves the fourfold purpose of a support for an ornamental propeller, a reinforcement for the front end of the fuselage to prevent breakage when the nose of the toy strikes in landing, a connection for the rubber band for projecting the toy, and a stabilizing weight for the toy when in flight.

A special feature of the toy consists in the provision of a plurality of adjustments of the elevating plane and rudder for varying the character of performance of the toy. Thus adjustments can be made for having the plane glide in a direct forward direction, for having it traverse a generally circular course, and for having it perform variably in stunt flying.

Provision is made on both sides of the fuselage, both planes and the rudder for ornamental decorative effects and for displaying advertisements, the latter provision being made in consideration of the suitability and effectiveness of the toy as an advertising medium.

To this end the improved airplane toy as here shown is constructed of wood, consisting of a flat, relatively thin, fuselage—1, the thickness of the fuselage being reduced to the practical limits for minimizing the weight. The nose cap 2 which, as here shown, consists of a metal punching formed to fit the nose of the toy snugly, and presenting extensions 3 on opposite sides thereof slightly imbedded in the wood for securing the cap firmly in place. The lower portion of the cap is designed to form a hook 4 for engaging the rubber band for projecting the toy into the air, the upper portion at the front end of the cap being apertured for receiving a pin shaft 5 for supporting the ornamental propeller 6. The fuselage is further provided with a main plane base 7 and an elevating plane base 8 which are applied thereto, as illustrated in Fig. 4, in the manner of a tongue and groove, the parts being glued to join them firmly together. Adjacent the forward ends of parts 7—8 are

apertures 9—10 for receiving the rubber bands 11—12 for holding the planes and rudder yieldingly on bases 7—8.

The main plane 13 is provided, as here shown, with a fore and aft supporting member 14 which extends at both the front and rear edges of the plane, being approximately equal in length to the base member 7, and serving for locating and aligning the plane relative to the fuselage, parts 7—14 being axially aligned in superposed relation one with the other as the toy is assembled.

The elevating plane 15 is also provided with a fore and aft supporting member 16 similar in arrangement and function relative to part 8 as parts 7—14. The rudder 17 is secured by a tongue and groove arrangement in a base member 18 which is aligned with parts 7—16 in the assembly of the elevating plane and rudder on the fuselage. Adjacent parts 8—16—18 at the rear is a notched block 19 which serves for supporting the elevating plane at different angles for varying the performance of the toy.

The elastic band 11 is inserted in aperture 9, the opposite ends of the band are drawn back over the main plane and are slipped under the rear end of part 7. clearance being provided as indicated at 20 between the rear end of part 7 and the fuselage for receiving the ends of the bands. The plane is thus held in its aligned position by the band, but yieldable easily to pressure exerted thereon in the impact of landing to prevent breakage.

The elevating plane and the rudder are assembled one with the other by an elastic band 12*a* and are held in aligned position, similar to the main plane, by the elastic band 12 which is inserted in aperture 10, the opposite ends being drawn upward across the elevating plane on opposite sides of the rudder and looped over the tail of the fuselage for securing the ends. Thus the assembly of the elevating plane and rudder is also yieldable to stresses exerted thereon incident to using the toy.

A substitute for the elastic band 11 is illustrated in Fig. 6, the means for supporting the main plane on the fuselage consisting in a friction clip 21 adapted to be applied under the plane base 7, and over the rear edge of the plane and acting to hold the same yieldingly in position on the fuselage.

The modified construction illustrated in Fig. 5, consists in a slightly arched main plane base 24 which has the effect of giving a cambered formation to the main plane, conforming to common practice in airplane construction.

The airplane is adapted to be projected in the air in the usual manner by means of an elastic band fastened on a stem, as illustrated in dotted outline in Fig. 1, the band being connected to the hook 4 of nose cap 2, and the stick held in one hand as the toy is drawn rearward for energizing the band for projecting it.

For stunt flying the elevating plane is adjustable variably relative to the block 19, as illustrated in Fig. 3, and the rudder is also adjustable axially relative to the fuselage for further varying the performance, thus the toy can readily be adjusted for gliding in a direct forward direction, for traversing a generally circular course, and for stunt flying, as looping-the-loop, nose dive, tail spin, etc.

I claim as my invention:

1. A toy airplane including a fuselage and a main plane, a base secured to the fuselage toward the rear end thereof, an elevating plane having a member extended transversely intermediate the ends thereof for aligning the plane on said base, a rudder supported on a base adapted to be aligned with the said plane base, and means for supporting the elevating plane and rudder yieldingly one relative to the other and the fuselage.

2. A toy airplane including a fuselage and a main plane, a base secured to the fuselage toward the rear end thereof, an elevating plane aligned on said base, a rudder aligned on the elevating plane and a member secured to the fuselage rearwardly of the elevating plane for adjusting said plane and rudder variably and means for supporting the plane and rudder yieldingly as adjusted.

3. A toy airplane including a fuselage and a main plane, an elevating plane aligned on the fuselage toward the rear end thereof, a rudder aligned on the elevating plane, a part secured to the fuselage rearwardly of the elevating plane for adjusting said plane and rudder variably and an elastic band for supporting the plane and rudder yieldingly as adjusted.

4. An airplane toy comprising a fuselage, a base member secured to the fuselage with clearance under the rear end thereof, an aperture in the fuselage adjacent the front end of the base, a plane aligned on said base, and an elastic band connected at its intermediate portion in said aperture, extended upward and rearward over the plane and secured in said clearance at the rear end of the base.

5. An airplane toy comprising a fuselage, base members fixed on intermediate and rear portions of the fuselage and extended laterally on opposite sides along the upper edges thereof, main and elevating planes each having a member extended fore and aft and fixed on the under side intermediate the ends thereof for aligning the planes respectively on said bases, and elastic means coacting with said bases and aligning members for supporting the planes yieldingly on the fuselage.

6. An airplane toy comprising a fuselage, a base member fixed on the fuselage and ex-

tended laterally on opposite sides along the upper edge thereof, and a plane having a member extended fore and aft and fixed on the under side intermediate the ends of the plane for aligning said plane on said base, and an elastic band coacting with said base and aligning member for supporting the plane yieldingly on said base.

7. An airplane toy comprising a relatively thin fuselage, a base member fixed on the fuselage, extended laterally on opposite sides along the upper edge thereof, and presenting a flat face upward, and a plane having a member extended fore and aft and fixed on the under side intermediate the ends thereof, and presenting a flat face upon and in register with the face of said base for aligning said plane relative to the fuselage, and means coacting with said base and aligning member for supporting the plane yieldingly on the fuselage.

8. An airplane toy comprising a fuselage, a base member fixed on the fuselage, extended laterally on opposite sides along the upper edge thereof, a plane having a member extended fore and aft of said plane and fixed on the under side intermediate the ends thereof and terminating within the ends of said base for aligning the plane thereon, an aperture in the fuselage adjacent the front end of said base, and an elastic band connected at its intermediate portion in said aperture and extended at its opposite looped ends rearward over said plane and secured at the rear of said base for supporting said plane yieldingly thereon.

9. An airplane toy comprising a flat, relatively thin fuselage, a longitudinally extended base grooved on its under side to fit the upper edge of the fuselage and fixed thereon for presenting a flat face upward, a plane having a member extended fore and aft of the plane and secured to its under side intermediate the ends thereof for presenting a flat face aligned longitudinally with the face of said base for locating the plane thereon, and means for supporting the plane yieldingly on said base.

10. An airplane toy comprising a flat, relatively thin fuselage, a base secured to the fuselage and presenting a longitudinally extended face along the upper edge thereof, a plane supporting member aligned longitudinally with said base and presenting a convex face upward, and a plane cambered over said member and supported yieldingly on said base.

In testimony whereof, I affix my signature.

JAMES M. H. JACOBS.