P. O. ROTH.

TOY AIRPLANE.

APPLICATION FILED OCT. 11, 1919.

1,344,520. **Patented June 22, 1920.**

Fig. 1.

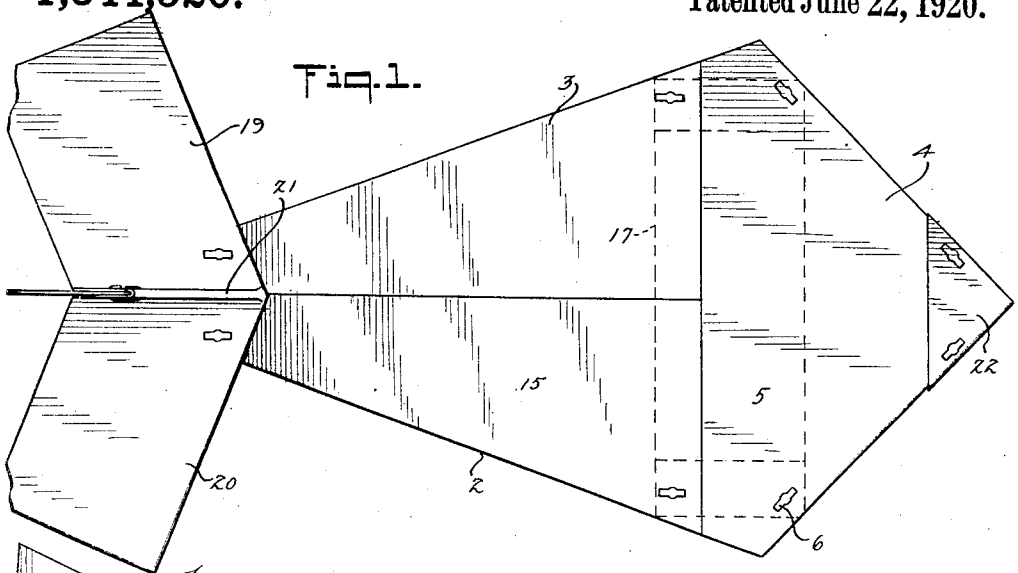


Fig. 2.

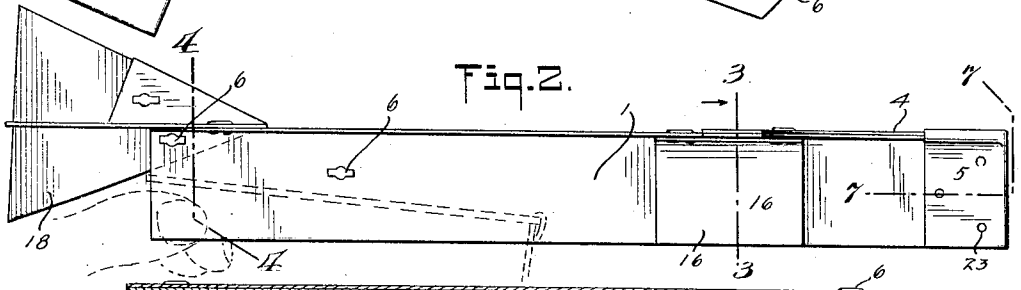


Fig. 3.

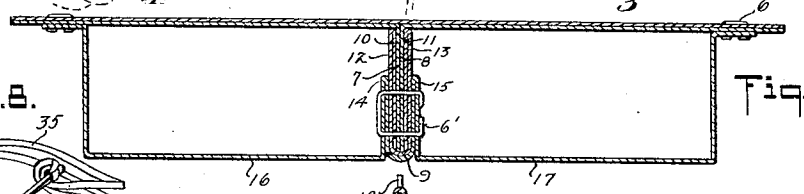
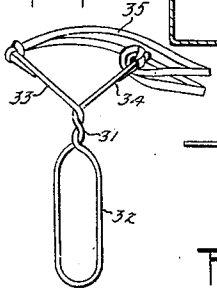


Fig. 8.



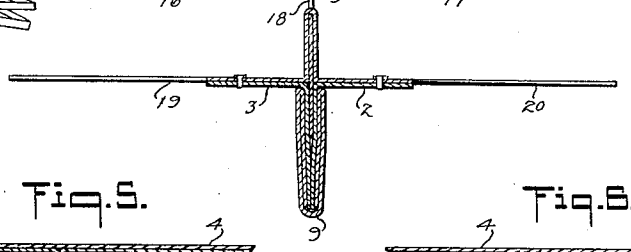


Fig. 9.

Fig. 5.

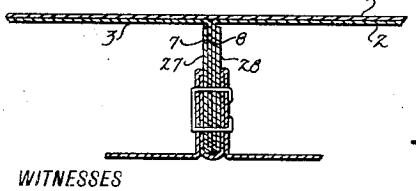


Fig. 6.

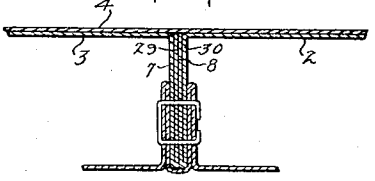
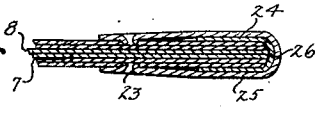


Fig. 7.



WITNESSES

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TOY AIRPLANE.

1,344,520. Specification of Letters Patent. Patented June 22, 1920.

Application filed October 11, 1919. Serial No. 329,986.

To all whom it may concern:

Be it known that I, PETER O. ROTH, a citizen of the United States, and a resident of the city of New York, Middle Village, borough of Queens, in the county of Queens and State of New York, have invented a new and useful Toy Airplane, of which the following is a full, clear, and exact description.

This invention relates to toy airplanes, and has for an object to provide an improved airplane which is intended to fly a short distance through the air under the action of pressure from the rear and momentum.

Another object of the invention is to provide an improved construction wherein a projected toy plane will maintain a substantially straight course and also a substantially even keel as it passes through the air.

A further object, more specifically, is to provide a toy airplane which may be made comparatively cheaply and yet sufficiently strong to be self sustaining when thrown or projected through the air.

In the accompanying drawing:

Figure 1 is a top plan view of a toy airplane disclosing an embodiment of the invention.

Fig. 2 is an edge view of the airplane shown in Fig. 1.

Fig. 3 is a section through Fig. 2 on line 3—3.

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

Fig. 5 is a fragmentary sectional view similar to the central part of Fig. 3, but disclosing a slightly modified form of the invention.

Fig. 6 is a sectional view similar to Fig. 5 showing a slightly modified construction.

Fig. 7 is a fragmentary sectional view through Fig. 2 on line 7—7, the same being on an enlarged scale.

Fig. 8 is a detail elevation of a projecting device used for projecting the airplane through the air, the same being shown in operation in Fig. 2.

Referring to the accompanying drawing by numerals, 1 indicates the fuselage or guiding web and 2 and 3 the lifting planes, which are reinforced at the front by a sheet 4 extending from one side of the plane to the other as shown in Fig. 1. The entire airplane is made from any desired material, preferably paper, as it is intended as a comparatively cheap toy. In addition to paper a clamping head 5 is provided, preferably of metal, which acts as clamping means and as a weight to assist in causing the airplane to keep a straight course. In addition the various separate parts are secured together by suitable metallic clips 6. The planes 2 and 3 are provided with depending central webs 7 and 8, which are inclosed by a strip of material bent upon itself at 9 and then with the edges bent inwardly for forming inner layers 10 and 11, said inner layers and also the outer layers 12 and 13 are the full width and length of the depending webs 7 and 8. These members act as weights and reinforcing means to produce a body or fuselage to give a downward pull to the planes 2 and 3 when the plane is in action. The strip forming members 10 to 13 are clamped in position and to the webs 7 and 8 by any desired number of metal clips 6, some of which also pass through the folded central sections 14 and 15 of the balancing planes 16 and 17. These planes have their outer ends secured in place by the proper positioning of certain of the clips 6 as shown in Fig. 3. Preferably the stabilizing planes 16 and 17 and the members 14 and 15 are one piece and are held in place by a single clip 6′ as indicated in Fig. 3, said clip passing through the members 14 and 15, members 10 to 13 and the flanges 7 and 8.

In forming the elevators and the rudder a separate piece 18 is provided, same being of any desired shape, as for instance substantially a triangle with the point fitted between the upper rear part of the fuselage 1 so that one of the clips 6 may connect the rudder to the fuselage. In providing the elevators 19 and 20 a single piece of material is provided bent to form the socket portion 21 substantially U-shaped in cross-section, said socket portion fitting over the upper part of the rudder 18 to which it is secured by one of the clips 6. At the front end of the airplane a reinforcing nose piece 22 is provided which is held in place by suitable clips, said nose piece being bent so as to extend across the top as shown in Fig. 1, after which it is bent to fit beneath the top section and then again bent to produce depending flanges gripped by the pressed out spurs 23 of the clamping head 5. It will be noted from Fig. 7 that

the downwardly extending flanges 24 and 25 of member 22 are connected together at 26 whereby the forward end of the airplane is stiffened and reinforced so as to hold its shape against considerable rough use. The clamping head 5 is preferably made from metal so as to act as a weighted head and in addition to act as a buffer for preventing injury to the remaining part of the airplane. The spurs 23 may extend inwardly any desired distance, preferably through the various layers as shown in Fig. 7 and the depending flanges 7 and 8. It will, of course, be evident that extra securing means could be provided for holding this metal member in place, but usually the spurs 23 will be sufficient, and may be formed in a desirable manner very cheaply, so that the entire device may be marketed at a minimum price.

In Figs. 5 and 6 will be seen modified forms of fuselages. For instance, in Fig. 5 the depending webs 7 and 8 are bent back for producing upstanding reinforcing strips 27 and 28, while in Fig. 6 the flanges 7 and 8 are bent back for producing upstanding flanges 29 and 30 positioned between the flanges 7 and 8 instead of exteriorly thereof as shown in Fig. 5.

In Fig. 8 will be seen a projecting device constructed to co-act with the fuselage 1 for projecting the airplane when in use. This device is shown as made from wire twisted at 31 whereby there will be a looped section 32 acting as a handle and prongs 33 and 34 for receiving the ends of the elastic member 35. The center of the elastic member 35 is arranged so as to engage the rear end of the fuselage as shown in Fig. 2 and the forks 33 and 34 caused to straddle the fuselage while the fuselage is drawn rearwardly against the action of the elastic. When drawn rearwardly to the desired extent the fuselage is released and the elastic will immediately project the entire airplane forwardly in the direction aimed, and the planes 2 and 3 as well as the balancing planes 16 and 17 will act to assist in supporting the airplane and also assist in causing the same to fly in a substantially true course.

What I claim is:

1. A toy airplane comprising a body having a folded central section which is substantially U-shape in cross section, means for holding the U-shaped section together, a rudder having the front part extending into said U-shaped section, a single staple extending through said U-shaped section and said rudder for locking said U-shaped section and said rudder together, an elevator provided with a pair of elevating planes, and a folded U-shaped structure straddling the upper part of said rudder, and a single staple extending through said folded section and said rudder for connecting the elevator thereto.

2. A toy airplane formed of a piece of paper folded to present a centrally positioned fuselage U-shaped in cross section, and a pair of lifting planes, a transverse member extending across the upper surface in front of the longitudinal center of said lifting planes for stiffening the same, a pair of balancing planes arranged parallel with said lifting planes, each of said balancing planes being formed with an upstanding portion adjacent each end, the adjacent upstanding portions being connected with said fuselage, and staples for connecting the outer upstanding portions, said staples securing said transverse member in place.

3. A toy airplane formed of a piece of paper folded to present a centrally positioned fuselage and a pair of lifting planes, a transverse member extending across the upper surface in front of the longitudinal center of said lifting planes for stiffening the same, means for clamping said transverse member with said lifting planes, a rudder arranged at the rear of the fuselage, means for securing the rudder to said fuselage, and an elevator arranged adjacent the rudder, means for securing the elevator directly to the rudder and also to said lifting planes.

PETER O. ROTH.