Sept. 1, 1931. R. M. BAYLIS 1,821,172

TOY AIRPLANE

Filed Jan. 27, 1930 4 Sheets-Sheet 1

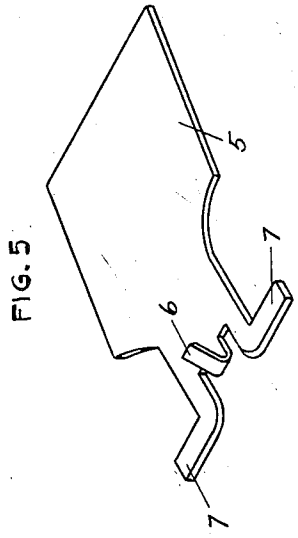


FIG. 5

FIG. 1

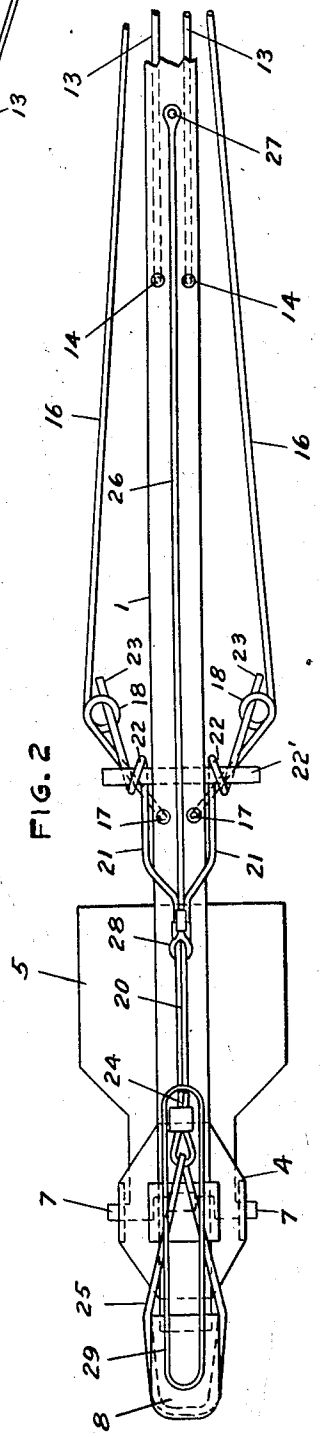


FIG. 2

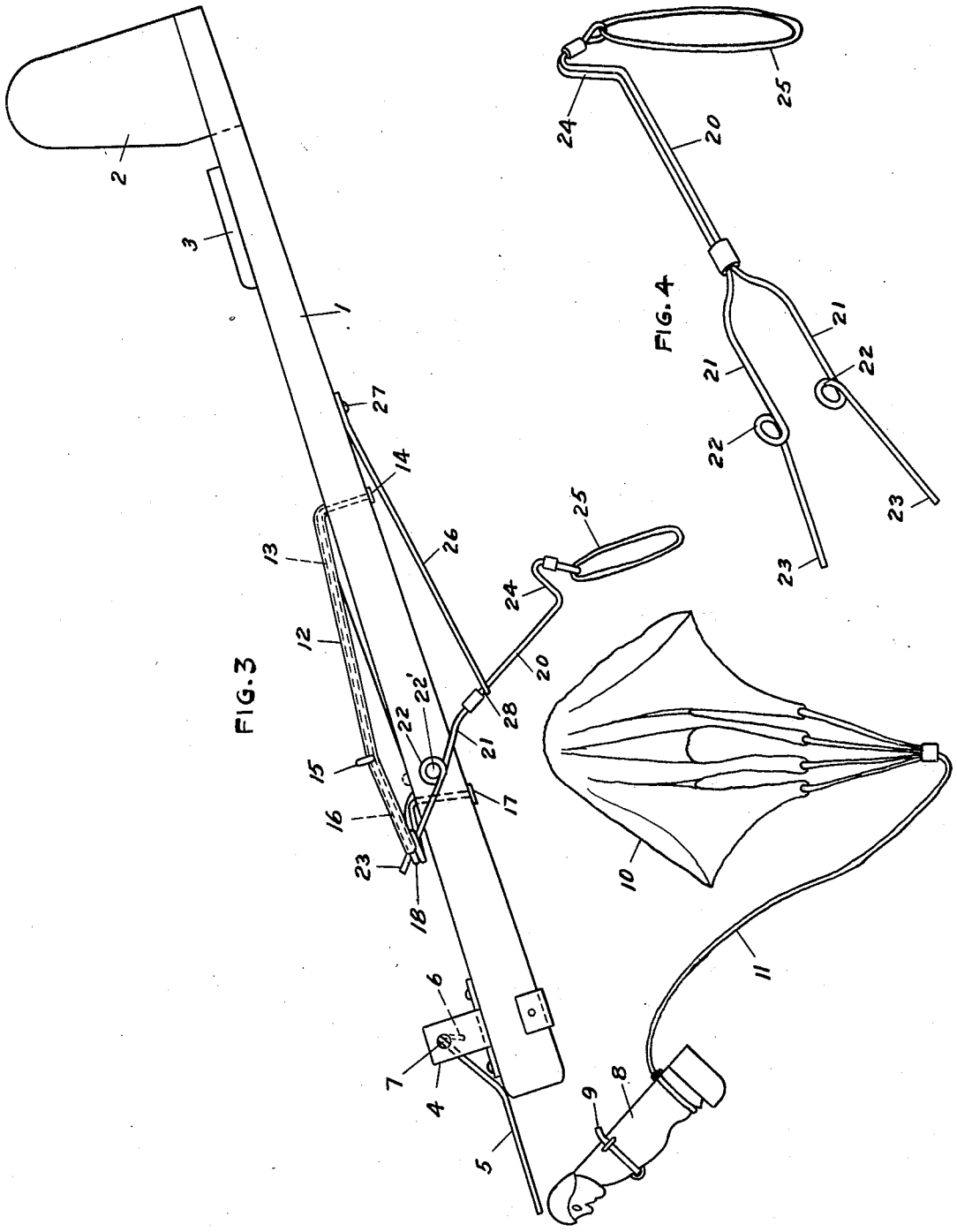
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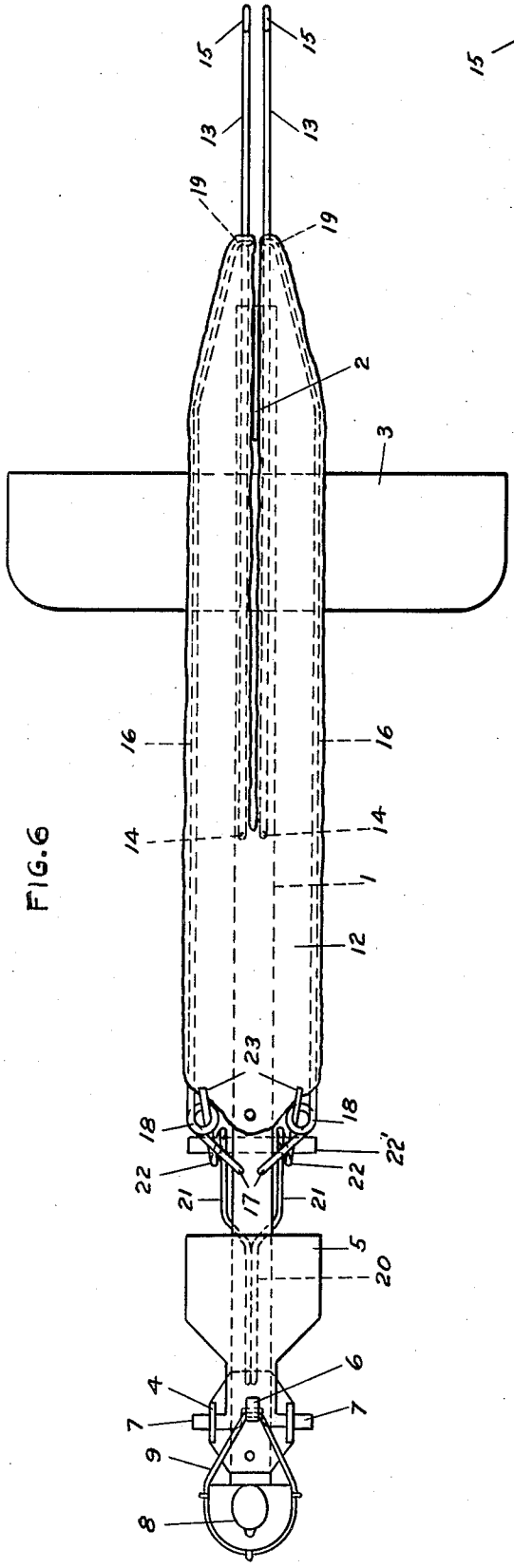


FIG. 6

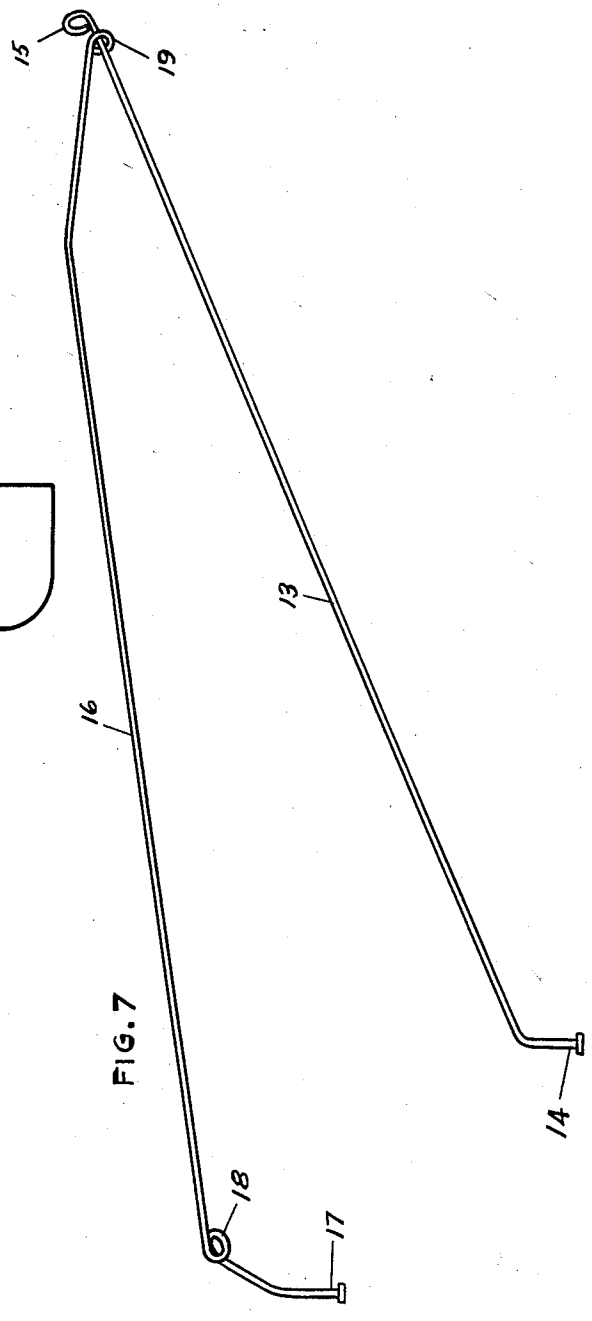


FIG. 7

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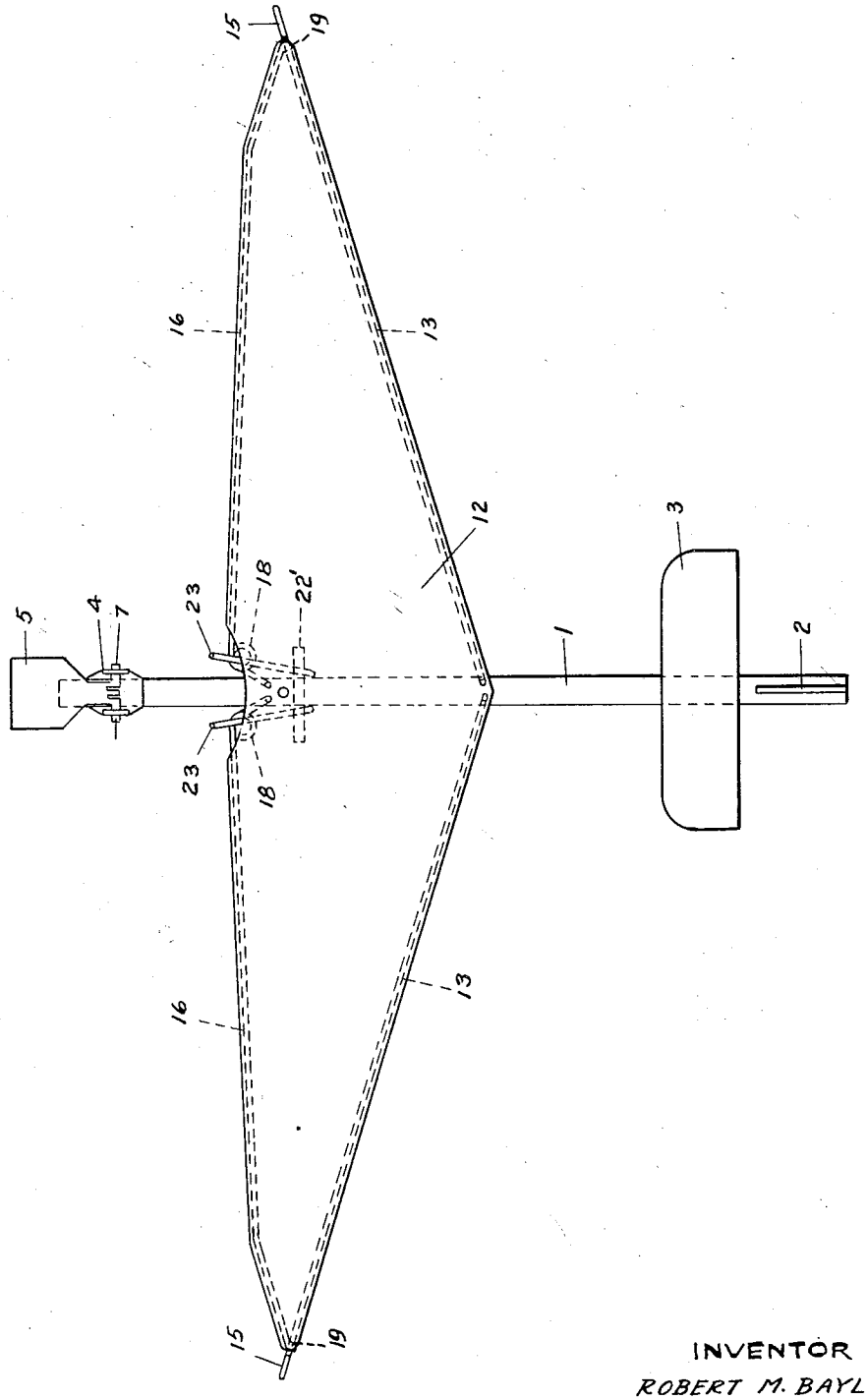


FIG. 8

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UNITED STATES PATENT OFFICE

ROBERT M. BAYLIS, OF DAYTON, OHIO

TOY AIRPLANE

Application filed January 27, 1930. Serial No. 423,689.

This invention relates to improvements in toy airplanes, and has for its object to provide a toy in the form of an airplane having wings adapted to be folded or extended, with means for holding the wings in a normally extended position.

It is an object of this invention to provide, in connection with the front end of the airplane, a dummy or figure removably supported thereon by a trigger which is released when the toy begins to fall by a decrease in the air force, due to loss of momentum of the projected toy. Cooperating with this trigger in holding the figure in place is a means cooperating with the wings for holding the wings in folded position while the figure or dummy is seated or positioned on the front end of the frame.

Another object of this invention is to provide, in connection with the figure or dummy, a parachute by which the dummy may descend after it has been released from the frame. When the plane is provided with the dummy on the front end thereof, and the wings folded, the whole assembly is projected into the air by means of a rubber band or some suitable means for that purpose. After the toy plane has lost it momentum it begins to fall with the figure or dummy down. At this time the lack of air force upon the trigger releases the dummy, which falls, and is supported in its fall by the parachute. At the same time the release of the dummy releases the means for maintaining the wings in folded condition so that the wings are now spread out and the airplane sails to the ground by means of the outspread wings.

These and other objects will appear from the following description, taken in connection with the drawings, which show a preferred embodiment of this invention.

Referring to the drawings:

Figure 1 is a side elevation of the toy in condition for being projected into the air.

Figure 2 is a bottom plan view of the toy as shown in Figure 1.

Figure 3 shows the toy after it has been shot into the air and the dummy released and the wings outspread so that both the dummy and the airplane are falling.

Figure 4 is a view of the lever mechanism for operating the wings and holding them either in a folded or spread condition.

Figure 5 is a perspective view of the trigger used to hold the dummy on the front end of the plane and the wings in folded condition.

Figure 6 is a top plan view of the toy with the wings folded.

Figure 7 is a view showing the frame structure of the wings.

Figure 8 is a top plan view of the toy with the wings outspread and the dummy released.

The main structural body of this toy consists of a longitudinal beam 1. On the rear end of the beam is a vertical stabilizer 2. Adjacent the vertical stabilizer and attached to the beam is a horizontal stabilizer 3. Adjacent the front end of the beam and extending upwardly therefrom is a bracket having two parallel vertical arms 4. These arms have in their upper ends holes in which a trigger 5 is supported. The rear end of the trigger is broad and flat, while on the front end is a hook 6. The trigger is supported in the bracket by means of pivot arms 7 which are seated within the holes in the upper ends of the bracket arms.

On the front end of the frame is a figure or dummy 8, removably held thereon to the frame by a rubber band 9 around the upper body part of the figure, which engages the hook 6 on the trigger 5. The other or lower end of the dummy is engaged by a member extending back to the wings and which will be later described. To the lower end of the dummy there is attached a parachute 10 by means of a cable 11. The purpose of this parachute is to support the dummy when it is released from the frame, due to the tripping of the trigger 5.

Located intermediate the ends of the frame or beam are wings 12 composed of some fabric material. These wings are supported by frame members such as shown in Figure 7. The rear one of the frame members is indicated by the numeral 13 and is pivotally mounted at a point 14 to the beam. On the outer

end of this member is a loop 15. The other member of the wing frame cooperating with the member 13 is a front member 16 pivoted at 17 to the frame. This member has near the frame a loop 18. It also has on its outer end a loop 19 through which the member 13 passes and slides during the operation of folding and spreading the wings. The loop 15 is for the purpose of preventing the loop 19 from being detached from the member 13.

The wings are operated for spreading and closing purposes by means of a lever 20, shown in Figure 4. This lever is composed of heavy wire or a small rod bent as shown in this figure. At one end of the lever the parts of the rod are in contact with each other, while at the other end of the lever the parts of the rod form spaced arms 21. In these arms are formed loops 22 by means of which they are pivotally supported by a pin or rod 22′ extending through the beam 1 adjacent the fronts of the wings. The free ends 23 of the arms 21 extend into the loops 18 for operating the frame of the wings to spread or close the wings.

The other end of the lever remote from the free ends 23 is provided with an elbow 24 adapted to be engaged by a rubber band for the purpose of projecting the toy into the air. On the end of the lever adjacent the elbow is a rubber band 25 which fits over the lower end of the figure or dummy and cooperates with the rubber band 9 and the trigger 5 for holding the dummy on the front end of the beam, and for holding the wings in a folded condition, as shown in Figure 1. When in this position a rubber band 29 is placed on the elbow 24. The end of the band 29 remote from the elbow is held by one hand of the operator, while the rear end of the beam of the toy airplane is held by the other hand of the operator. In this position the hands are moved apart so that the rubber is stretched and brought into a state of tension.

When in this condition the hand releases the rear of the toy so that the force of the rubber causes the toy to be projected into the air. As the toy travels through the air the trigger is slightly raised and held in this position, as shown by dotted line A in Figure 1, by the force of the air until the toy loses its momentum and begins to fall. At this time the trigger flips over and releases the rubber band 9, due to the decrease of air pressure on the trigger and also due to the fact that, when the trigger is in the dotted line position shown in Figure 1, the rubber band 9 engages the hook 6 slightly off pivot. The tripping of the trigger releases the upper end of the dummy so that it tumbles off from the front end of the beam and releases the rubber band 25 from the lower end of the dummy so that the wings are out-spread. In this condition the dummy is separated from the airplane and falls, supported by the parachute, while the toy airplane glides to the ground supported by the out-spread wings.

For the purpose of cooperating with the lever 20 to hold the wings out-spread there is a rubber band 26 attached at one end to the beam at a point 27, and at the other end to the lever at a point 28. The purpose of the rubber band 26 is to hold the lever in a substantially upright or partly rearwardly inclined position, as shown in Figure 3. In this position the wings are out-spread for soaring or flying purposes. When the parts are assembled for the purpose of projecting the complete toy into the air the lever 20 is pulled forward with the rubber band or loop 25 over the lower end of the figure or dummy, as shown in Figure 1. In this position the ends 23 of the lever 20 force the wings backward substantially parallel with the beam so that they are in a folded condition, and remain in this condition until the trigger 5 is released.

This toy is easily operated, and easily assembled and adjusted for operating purposes.

I desire to comprehend within my invention such modifications as may be clearly embraced within my claims and the scope of my invention.

Having thus fully described my invention, what I claim is new and desire to secure by Letter Patent, is:

1. In a toy airplane, a longitudinal member, a pair of wings pivoted one to each side of said member, said wings being normally in an extended position, and an air pressure operated means to releasably hold said wings in a folded position.

2. In a toy airplane, a longitudinal member, a pair of foldable wings, one pivoted to each side of said member, said wings being normally in an extended position, and means to releasably hold said wings in folded position, said means including a demountable member engaging the front end of said first mentioned member.

3. In a toy airplane, a body member, a wing pivoted to each side of the body member, means to operate said wings to spread or fold them, means acting on the first named means to spread the wings, and a releasable means including an air pressure operated trigger acting on the first named means and against the last named means to hold the wings in folded position.

4. In a toy airplane, a body, a wing foldably mounted on each side of the body, yielding means tending to hold said wings spread, and releasable means to hold said wings folded against the action of said yielding means, said releasable means including a detachable figure on the end of the body.

5. In a toy airplane, a body, a wing foldably mounted on each side of the body, a

lever member pivoted to said body to spread and to fold said wings, yielding means attached to said body and to said lever member to normally hold said wings spread, a figure on the front end of said body, and means attached to one end of said lever to releasably engage said figure to hold the wings folded against the action of said yielding means.

6. In a toy airplane, a body, a pair of wings on said body, a lever member pivoted to said body to spread and to fold said wings, yielding means attached to said body and to said lever member to normally hold said wings spread, a figure removably mounted on the front end of said body, yielding means releasably connecting the lower end of said figure to the end of said lever, and a trigger releasably attached to the upper end of said figure whereby the figure is held on the end of the body and the wings are held folded until the trigger is tripped.

7. In a toy airplane, a body, a pair of wings on said body, a lever member pivoted to said body to spread and to fold said wings, yielding means attached to said body and to said lever member to normally hold said wings spread, a figure removably mounted on the front end of said body, yielding means releasably connecting the lower end of said figure to the end of said lever, a trigger releasably attached to the upper end of said figure whereby the figure is held on the end of the body and the wings are held folded until the trigger is tripped, said trigger including an air vane mounted for initial movement by air pressure caused by the movement of the toy through the air, mounted to be further moved and thus tripped by pressure from the figure upon loss of air pressure on the vane effected through the loss of momentum of the toy, whereby the figure is released from said body.

8. In a toy airplane, a body, a pair of wings on said body, means normally tending to hold said wings spread, means acting against said first means to hold the wings folded, said second named means including a figure loosely mounted on said body and connected at one end to said first named means, and a trigger releasably connected to the other end of said figure, whereby when the trigger is tripped the figure is released and the wings spread by the action of the first named means.

9. In a toy airplane, a body, wings on said body, yielding means tending to hold said wings spread, a figure loosely mounted on said body, means to hold said figure on said body and to hold the wings folded against the action of said yielding means, said last means including a trigger adapted to be tripped, whereby the figure falls from the body and the wings are spread, and a parachute to support the figure when separated from the body.

10. In a toy airplane, a body, wings on said body, yielding means tending to hold said wings spread, a figure loosely mounted on said body, means to hold said figure on said body and to hold said wings folded against the action of said yielding means, said last means including a detachable connecting means between the figure and said yielding means and a broad flat trigger pivoted to said body and detachably connected to said figure, and means to project said airplane into the air, all constructed so that when the airplane loses its momentum and starts to fall the lack of air pressure on the trigger will cause the trigger to release the figure whereby the wings are spread and the plane will glide to the ground.

11. In a toy airplane, a body, wings on said body, yielding means tending to hold said wings spread, a figure loosely mounted on said body, means to hold said figure on said body and to hold said wings folded against the action of said yielding means, said last means including a detachable connecting means between the figure and said yielding means and a broad flat trigger pivoted to said body and detachably connected to said figure, a parachute attached to the figure, and means to project said airplane into the air, all constructed so that when the airplane loses its momentum and starts to fall the air will trip the trigger to release the figure whereby the wings are spread and the plane will guide to the ground.

12. In a toy airplane, a figure detachably supported by said airplane, a trigger pivoted to said airplane adjacent said figure, and means extending from the figure and engaged by the trigger to hold the figure on the plane when the trigger is in one position, said trigger including an air vane mounted for initial movement by air pressure caused by movement of the toy through the air, the trigger being mounted to be further moved and thus tripped by said means connected therewith upon the loss of air pressure effected through the loss of momentum of the toy, whereby the figure is released from said airplane.

13. In a toy airplane, a figure detachably supported by said airplane, a broad flat trigger pivoted at one end to said airplane adjacent to said figure, and means extending from the figure and engaged by the pivot end of the trigger to hold the figure on the airplane when the trigger is in one position, said trigger being adapted to be tripped to release the figure when the airplane falls.

14. In a toy airplane, a figure detachably supported on the front of said airplane, a bracket on said airplane adjacent the figure, a trigger pivoted at one end to said bracket, the pivot end of said trigger having a hook thereon while the body part of the trigger is broad and flat and bent toward the airplane, and means connecting the figure to said hook

so that the figure will be held on the airplane when the trigger lies adjacent the airplane, said trigger being adapted to trip when the airplane falls to release the figure.

15. In a toy airplane having a longitudinal beam, a figure adapted to be supported in an upright position on the front end of said beam, means to engage and hold the lower part of said figure as long as said figure is in upright position on said beam, a trigger, and means connected therewith to engage the upper part of said figure and in cooperation with the first named means hold the figure in said upright position, said trigger including an air vane mounted for initial movement by air pressure caused by movement of the toy through the air, the trigger being mounted to be further moved and thus tripped by said means connected therewith upon the loss of air pressure effected through the loss of momentum of the toy, whereby the figure is released from the beam.

In testimony whereof, I affix my signature.

ROBERT M. BAYLIS.