July 17, 1951 S. E. CARNEY ET AL 2,561,179

TOY AIRPLANE

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Fig. 1.

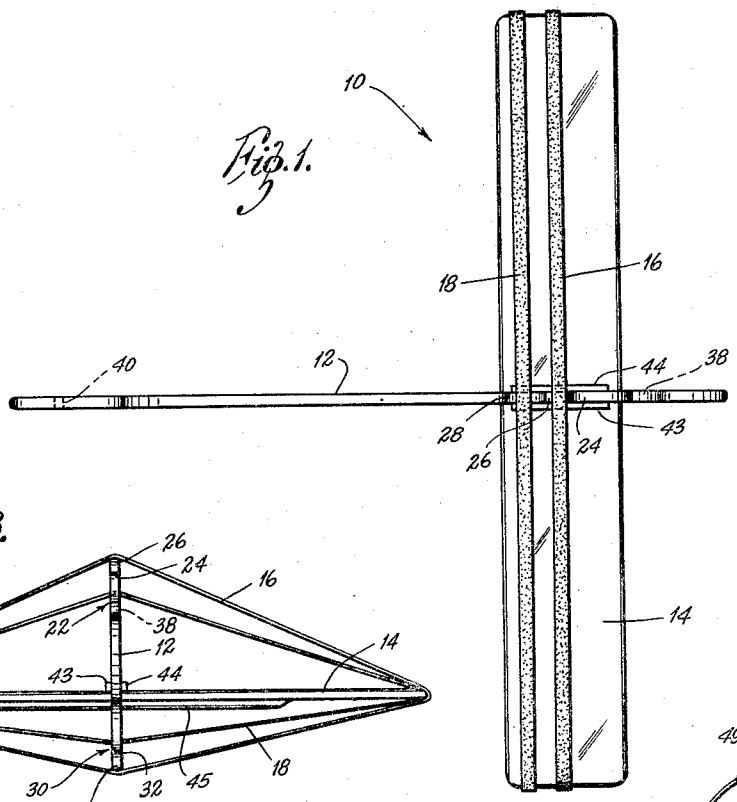


Fig. 3.

Fig. 4.

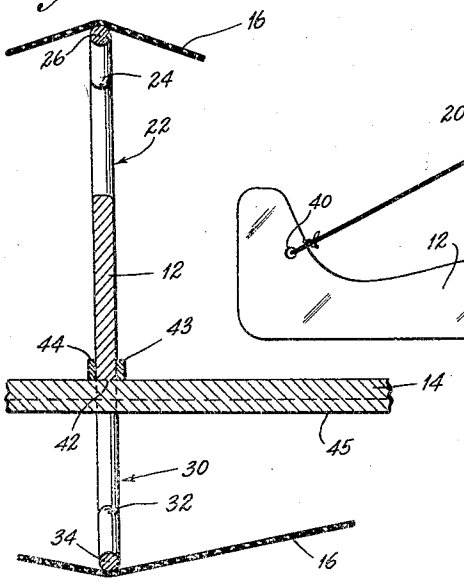
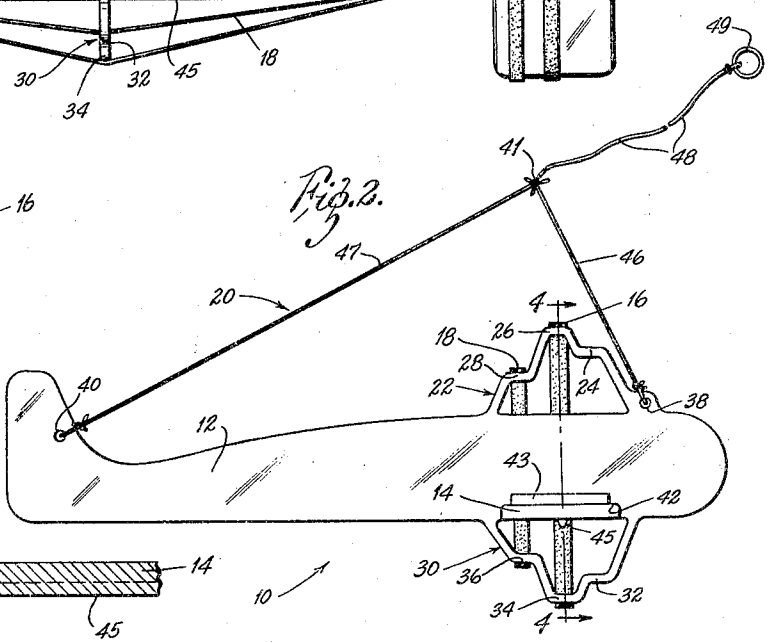


Fig. 2.



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Fig. 5.

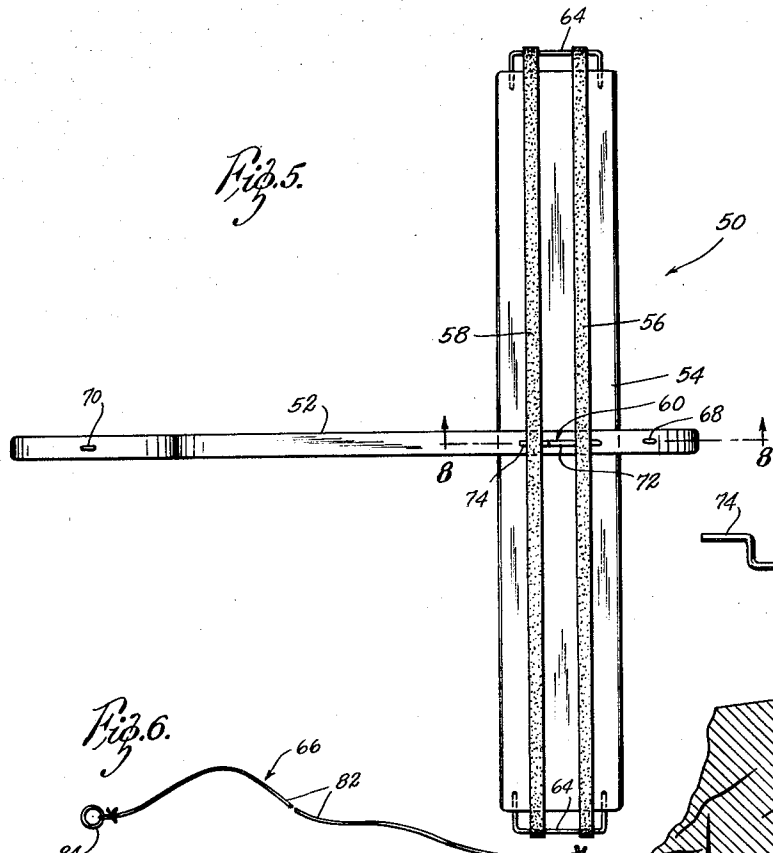


Fig. 8.

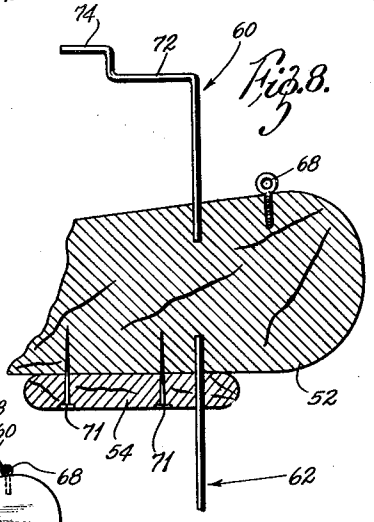


Fig. 6.

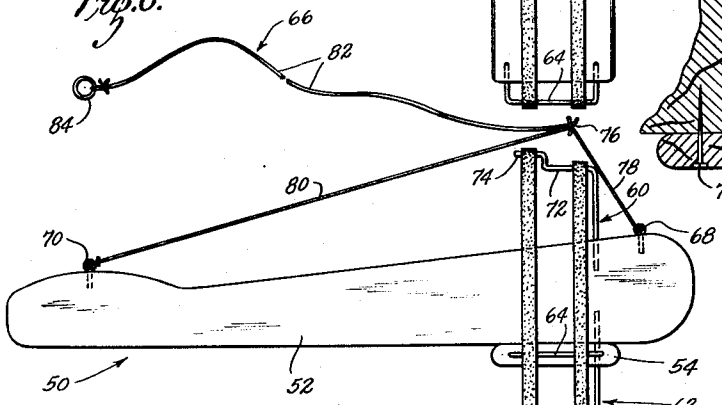
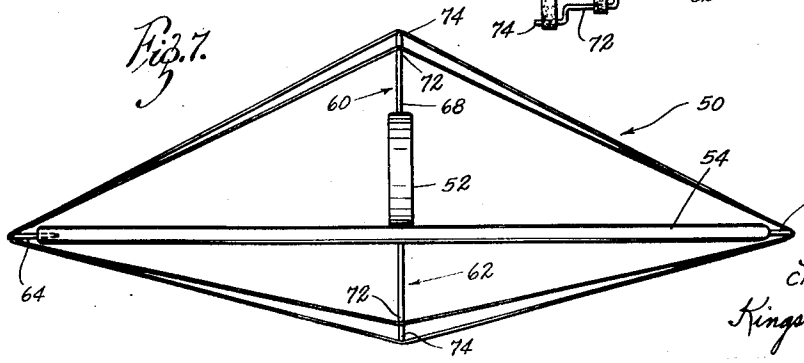


Fig. 7.



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TOY AIRPLANE

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8 Claims. (Cl. 46—52)

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The present invention relates generally to toys, and more particularly to a toy airplane which is adapted to simulate the noise of a motor when whirled in a circle.

Heretofore many toy planes have been devised, inasmuch as for many years the airplane has been more and more in prominence. Some of these planes have included one device or another for making some kind of a noise as the plane is shot through the air or is whirled in a circle. However, such planes have been deficient in many particulars, including the effect of the simulated motor sound equipment.

An object of the present invention is to provide a novel toy plane which realistically simulates the drone of a motor when moved rapidly through the air.

Another object is to provide a novel toy plane of simple construction which may be of the knockdown type for flat handling and which is readily assembled by the user.

Another object is to provide a novel toy plane incorporating sound features whereby the device emits a droning sound, simulating the noise of a motor, when the device is moved rapidly through the air.

Other objects are to provide a novel toy plane which is light in weight and sturdy in construction, which is inexpensive to manufacture, which is easily assembled by a user, and which requires a minimum of instruction for flying to achieve the maximum desired results.

The foregoing and other objects and advantages are apparent from the following description taken with the accompanying drawings, in which:

Fig. 1 is a top plan view of a toy plane embodying the teachings of the present invention, the flying bridle being omitted for clarity;

Fig. 2 is a side elevational view of the plane shown in Fig. 1, the flying bridle being included, the rubber bands being shown in vertical cross section for clarity;

Fig. 3 is a front elevational view of the plane, the flying bridle being omitted for clarity;

Fig. 4 is an enlarged cross-sectional view on the line 4—4 of Fig. 2;

Fig. 5 is a top plan view of a modification of the present invention, the flying bridle being omitted for clarity;

Fig. 6 is a side elevational view of the modified plane shown in Fig. 5, the flying bridle being included;

Fig. 7 is a front elevational view of the modified plane, the flying bridle being omitted for clarity; and

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Fig. 8 is an enlarged fragmentary cross-sectional view on the line 8—8 of Fig. 5, the rubber bands being omitted.

Referring to the drawing more particularly by reference numerals, 10 indicates generally a toy plane incorporating the concepts of the present invention.

Broadly, the toy plane 10 includes a fuselage 12, a single wing 14 disposed beneath the fuselage 12, forwardly and rearwardly disposed rubber bands 16 and 18, respectively, and a bridle 20.

The fuselage 12 is preferably formed of a plastic, although other suitable materials may be employed. A preferred configuration of the fuselage 12 is illustrated in the drawing, although the specific outline may be varied. Extending upwardly from and formed integral with the fuselage 12 is an upper rubber band support 22 which includes three steps 24, 26, and 28, as is clearly shown. Extending downwardly from and formed integral with the fuselage 12 is a lower rubber band support 30 which includes three steps 32, 34, and 36, the three steps 32, 34, and 36 being oppositely opposed to the three steps 24, 26, and 28, respectively. A forwardly located aperture 38 and a rearwardly located aperture 40 are provided in the fuselage 12 for the reception of the bridle 20. In the lower edge of the fuselage 12, interiorly of the downwardly extending rubber band support 30, is a notch 42 for the reception of the wing 14.

The wing 14 is also preferably formed of a plastic but may be made of other suitable materials. A preferred form of the wing 14 is shown in the drawing, which includes rounded corners and beveled edges, but the configuration may be varied. The wing 14 is disposed in the notch 42, as shown, and is maintained in place by suitable cement or plastic welding and by opposed reinforcing strips 43 and 44, which are cemented or plastically welded to both the fuselage 12 and the wing 14. A longitudinal reinforcing rib 45 is provided along the lower surface of the wing 14 to counteract bending stresses set up in the wing 14 through the action of the rubber bands 16 and 18. The rubber bands 16 and 18 are shown mounted on the steps 26—34 and 28—36, respectively, and extending around the wing 14, being in contact with the ends thereof. A third rubber band may be located on the steps 24—32 or the rubber band 16 may be moved forwardly to occupy the steps 24—32, if desired. It

is to be understood, of course, that resilient material other than rubber may be employed for the bands 16 and 18. The stepped relation of the rubber bands insures full air contact thereof.

The bridle 20 may be of strong string and is formed with a juncture 41 disposed substantially above the step 26 in order to insure proper flight of the plane 10 when being whirled about the head or arm. The bridle 20 includes short and long fork elements 46 and 47, respectively, a main string length 48, and a finger ring 49. The short leg 46 is attached to the aperture 38, and the long leg 47 is attached to the aperture 40.

In Figs. 5–8 is shown a toy plane 50, a modification of the toy plane 10, which broadly includes a fuselage 52, a single wing 54 disposed beneath the fuselage 52, forwardly and rearwardly disposed rubber bands 56 and 58, respectively, upper and lower rubber band supports 60 and 62, respectively, wing tip rubber band supports 64, and a bridle 66 which is secured to the top edge of the fuselage 52 by front and rear eyelets 68 and 70, respectively, threadedly anchored in the fuselage 52.

The fuselage 52 and the wing 54 are shown formed of wood, but may be formed of plastic, or other material, and may be of the configuration shown in the drawing, although the specific outlines for the fuselage 52 and the wing 54 are not material. The wing 54 is secured to the bottom edge of the fuselage 52 by tacks 71, or the like.

Each of the upper and lower rubber band supports 60 and 62 includes step portions 72 and 74 which receive the rubber bands 56 and 58, respectively, thereby locating the rearwardly disposed rubber band 58 out of the four planes of the forwardly disposed rubber band 56, as is clear from Fig. 7, so that both rubber bands 56 and 58 may receive full impact of the air as the plane 50 is whirled. As shown, the supports 60 and 62 are frictionally anchored in the fuselage 52, the lower support 62 extending through the wing 54 as well. The supports 60 and 62 may be threadedly anchored in the fuselage 52 if desired.

The wing tip rubber band supports 64 may comprise wire brackets, as shown, having frictional anchorage in the ends of the wing 54. The supports 64 are of sufficiently large cross section or are of sufficient depth to maintain the rubber bands 56 and 58 out of contact with the wing 54 to insure free vibration of the bands 56 and 58.

The bridle 66 may be of strong string and is formed with the juncture 76 disposed substantially above the main stem of the rubber band support 60 in order to insure proper flight of the plane 50 when being whirled about the head or arm. The bridle 66 includes short and long fork elements 78 and 80, respectively, a main string length 82, and a finger ring 84.

With the toy fully assembled, as shown in Fig. 6, the ring 84 may be grasped by a finger and the plane whirled about the head or around the arm at a rapid rate, or the ring 84 may be retained by a finger on one hand and the cord fed through the other hand as the plane is whirled thereby. The rubber bands 56 and 58 will vibrate due to striking the air and will give forth a droning sound simulating very closely the sound of a plane in flight. Since the rubber bands 56 and 58 are spaced from the wing 54 and are out of contact therewith, the wing 54 acts as a sounding board therefor.

The step relation of the rubber bands in the toy planes 10 and 50 to insure air contact therewith is a feature of the present invention. Another feature is the disposition of the rubber bands 56 and 58 in the toy wooden plane 50 out of contact with the wing 54 to eliminate the damping effect of the wooden wing 54 and to insure its maximum sounding-board effect, this feature being of less significance in plastic planes.

It is apparent that there has been provided a toy plane which fulfills all the objects and advantages sought therefor.

It is to be understood that the foregoing description and the accompanying drawings have been given by way of illustration and example. Furthermore, those modifications which are apparent to those skilled in the art, including changes in configuration, rearrangement of parts, and the substitution of equivalent elements, are contemplated as within the scope of the present invention, the invention being limited only by the claims which follow.

What is claimed is:

1. In combination, a toy airplane comprising a fuselage and one wing, taut elastic members laterally encircling the fuselage and the wing, upwardly and downwardly extending supports for said elastic members connected to the fuselage, said supports including step portions spaced different distances from the wing, said elastic members being disposed on said supports for intermediate support, so that each elastic member strikes the air when the airplane is whirled, and means by which the airplane may be whirled.

2. In combination, a toy airplane comprising a fuselage with wing elements, supporting members extending from the fuselage and wing elements, and elastic members mounted on said supports and extending laterally from the fuselage around the wing elements and the fuselage and spaced therefrom, said elastic members being in different planes so that the forward edges may individually strike the air when the airplane is whirled.

3. In combination, a toy airplane comprising a fuselage with wing elements extending laterally therefrom, supporting members extending upwardly and downwardly from the fuselage, a bracket at each wing tip disposed outwardly therefrom and parallel thereto, and elastic members extending laterally from the fuselage around said wing elements and mounted on said supports and brackets out of contact with said wing elements.

4. In combination, a toy airplane comprising a fuselage with wing elements extending laterally therefrom, supporting members extending upwardly and downwardly from the fuselage and formed integral therewith, a bracket at each wing tip disposed outwardly therefrom and parallel thereto, and elastic members extending laterally from the fuselage around said wing elements and mounted on said supports and brackets out of contact with said wing elements.

5. In combination, a toy airplane comprising a fuselage with wing elements extending laterally therefrom, supporting members extending upwardly and downwardly from the fuselage, and elastic members extending laterally from the fuselage around said wing elements and mounted on said supports for intermediate support, said supports including step portions spaced different distances from the wing so that each elastic member may strike the air when the airplane is whirled.

6. In combination, a toy airplane comprising a fuselage with wing elements extending later-

ally therefrom, supporting members extending upwardly and downwardly from the fuselage, a bracket at each wing tip disposed outwardly therefrom and parallel thereto, and elastic members extending laterally from the fuselage around said wing elements and mounted on said supports and brackets out of contact with said wing elements, said supports including step portions spaced different distances from the wing so that each elastic member may strike the air when the airplane is whirled.

7. In combination, a toy airplane comprising a fuselage with wing elements extending laterally therefrom, supporting members extending upwardly and downwardly from the fuselage and formed integral therewith, and elastic members extending laterally from the fuselage around said wing elements and mounted on said supports for intermediate support, said supports including step portions spaced different distances from the wing so that each elastic member may strike the air when the airplane is whirled.

8. In combination, a toy airplane comprising a fuselage with wing elements extending laterally

therefrom, supporting members extending upwardly and downwardly from the fuselage and formed integral therewith, a bracket at each wing tip disposed outwardly therefrom and parallel thereto, and elastic members extending laterally from the fuselage around said wing elements and mounted on said supports and brackets out of contact with said wing elements, said supports including step portions spaced different distances from the wing so that each elastic member may strike the air when the airplane is whirled.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
596,643	Weingard	Jan. 4, 1898
2,222,677	Main	Nov. 26, 1940