

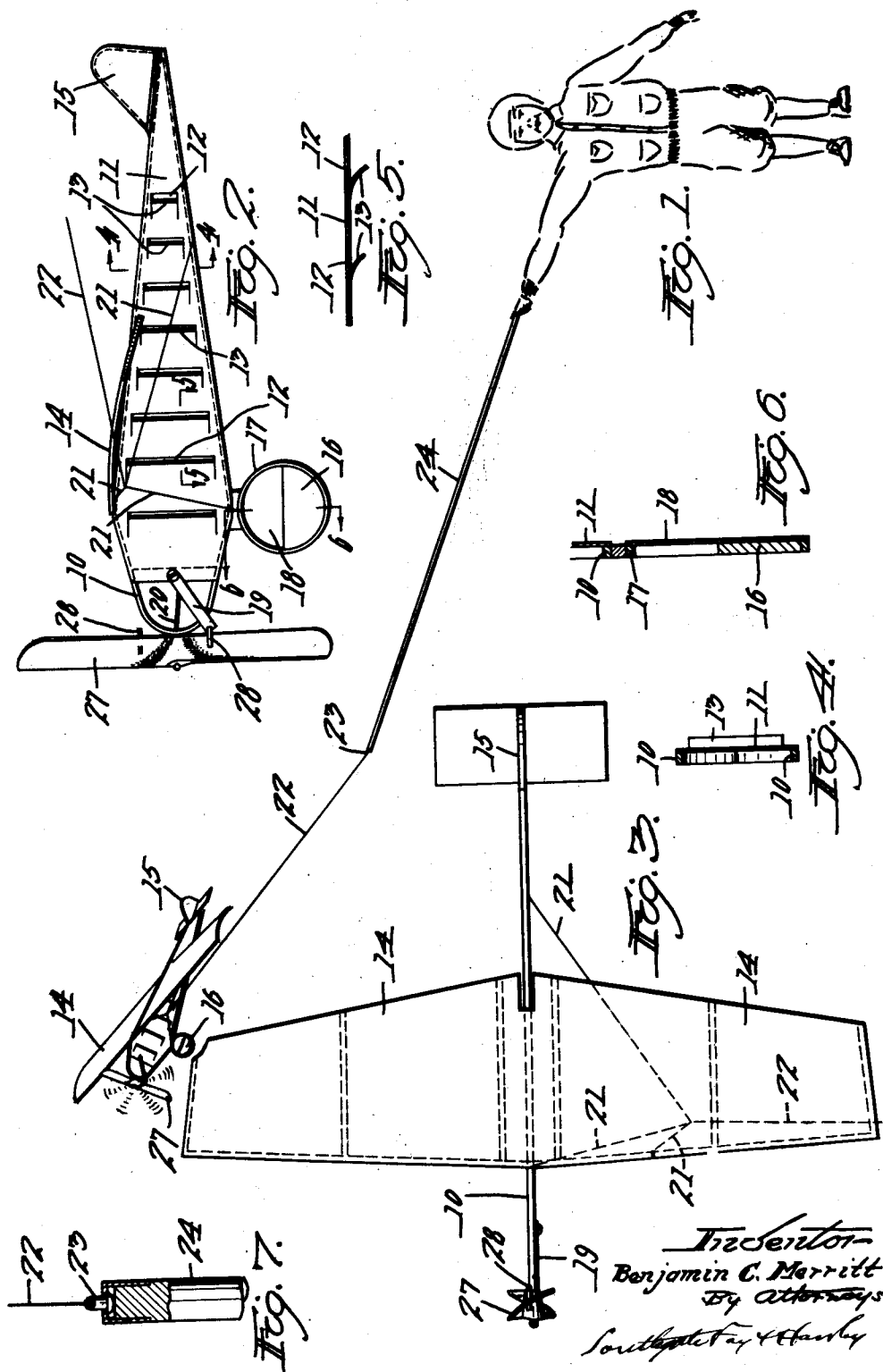
Sept. 17, 1929.

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1,728,245

AEROPLANE TOY

Filed April 6, 1928



UNITED STATES PATENT OFFICE

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AEROPLANE TOY

Application filed April 6, 1928. Serial No. 267,973.

This invention relates to a toy in the form of an aeroplane.

The principal objects of the invention are to provide a toy in the form of the representation of an aeroplane which can be whirled around in the air in a circle and will fly in such a way as to simulate the flight of a real machine of this character; to provide a construction in which the machine will be stabilized under the conditions of flight above mentioned and will rise in the air as it goes forward until it reaches a certain level; to provide a weight in such a place in relation to the wings and body that it will keep the body in a position substantially vertical and contribute to the appearance of a commercial machine, and will also keep the plane from tipping over backwards, as it would do under the action of centrifugal force if such a weight were not employed; to provide the body with perforations through it and vanes to assist in the flight of the machine; to provide a propeller having means for creating a noise like the propeller of a commercial aeroplane and also act as a slight resistance to help keep the plane in proper balance, and to provide, in combination therewith, a stick for use in flying the machine having a swivel joint and adapted to be connected with the machine by a flexible action.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which—

Fig. 1 is a general view showing the method of using the toy and the normal position of it in flight;

Fig. 2 is a side view of a preferred embodiment of the toy;

Fig. 3 is a plan of the same;

Figs. 4, 5 and 6 are sectional views on the lines 4—4, 5—5 and 6—6 respectively of Fig. 2, and

Fig. 7 is a view of the top of the stick showing the swivel connection.

The machine is shown in the form of a light framework 10 comprising a peripheral stiff wire or rod bent into the proper shape. It has a body 11 formed therein of sheet material, such as paper, cloth or the like, but

preferably of some stiff material. The body is provided with vertical slits 12 and vanes 13, all on one side for a purpose to be described.

The aeroplane is provided with warped wings 14 acting the same as the wings of the same shape on a passenger-carrying aeroplane, and is also provided with a tail 15. The body is weighted at the bottom by a weight 16, which is shown as being located in a ring 17 and having in the space above the weight, between the weight and ring, a sheet 18 to prevent air passing through. This weight is near the front end and under the front of the wings. It is located low with respect to the body for the purpose of balancing the machine and keeping it from tipping over under the force to which it is subjected. It is located in the plane of the body 11.

On the end of the body is mounted a propeller 27 which, of course, has no action in propelling the device, but is an imitation of the usual propeller. This is provided with a pair of projections 28 or at least one in each blade which engage a spring 19 as the propeller rotates and cause a humming action which is similar to that of an ordinary motor used on aeroplanes. Also the projections engaging this spring offer a little resistance to the rotation of the propeller and assist in stabilizing the body. The propeller is mounted to rotate on a stationary shaft 20.

Connected with the body or wing at one side are three flexible connections or strings 21 which come together at a point at a distance from the body, and preferably under the forward edge of one wing, and are connected with a cord 22. This cord is connected with a swivel 23 on the end of a stick 24 which is to be used in operating it.

In operation, the stick 24 is swung around and the cord 22 having the weighted toy at the end, will be brought out taut and will rotate in the swivel joint. This joint is provided to prevent this cord from twisting. By the action of centrifugal force, the plane is kept in position and by the wings it is caused to fly higher than the upper end of the stick 24 as indicated in Fig. 1. This is an important feature as without the construction set

forth or some equivalent thereof this latter feature could not be obtained at least not in such construction. Of course, the plane does not rise above the stick until the speed has been brought up to a certain number of revolutions per minute. The stick being whirled around by the hand of the user gives great leverage and gives the operator control of the plane.

It will be seen that, with this action, if it were not for the weight 16 the plane would tend to tip over under the action of the air under the curved wings. The weight prevents this and keeps the plane on an even keel, that is substantially vertical and the air catching under the curved wings causes it to rise. The air acts on it in this way if it is still and if the wind is blowing the action will be still more pronounced. It will be noticed that if the propeller should turn the wrong way the action on the spring 19 would assist in tipping the plane over. This shows that the propeller has a function in this connection. The vanes 13 and the action of the projections 28 on the spring 19 both assist in keeping the aeroplane in proper position when in use.

Although I have illustrated and described only a single form of the invention I am aware of the fact that modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to the exact form shown, but what I do claim is:—

1. In a toy aeroplane, the combination of a thin body having a weight depending below a point near the forward end in the same plane, curved wings on the body, three cords connected with the body and wing and meeting at a point at a distance therefrom and near the top, a cord connected with the three cords at said point, a rod by which the toy can be manipulated and a swivel connection between the last named cord and the rod.

2. In an aeroplane toy, the combination with a body comprising a surrounding frame located in a plane, a pair of curved wings, a covering of sheet material carried by said frame and having openings therethrough with vanes, a tail on the body and a freely rotary member simulating a propeller, of a weight depending below the body at a point near the propeller, three cords connected with the body and one of the wings, and projecting therefrom at one side so as to meet at a point well above the center of the body and under one of the wings, a cord connected with said point for the manipulation of the toy and a rod to which said cord is connected at its free end for swinging the toy in the air.

3. As an article of manufacture, a toy aeroplane comprising a body of sheet material having vertical openings therethrough and vanes formed from said material, means for

swinging the toy in the air about a central point in such a manner that it will assume a vertical position when in motion and the vanes will help keep it in that position, a weight depending from the body to prevent tipping over and a freely rotatable member representing a propeller at the forward end of the body.

4. As an article of manufacture, a toy aeroplane comprising a body of sheet material having vertical openings therethrough and vanes formed from said material, and means for swinging the toy in the air about a central point in such a manner that the vanes will help keep it in that position.

5. As an article of manufacture, a toy aeroplane comprising a body of sheet material having vertical openings therethrough and vanes formed from said material, means for swinging the toy in the air about a central point in such a manner that it will assume a vertical position when in motion and the vanes will help keep it in that position, a weight depending from the body to prevent tipping over, a freely rotatable member representing a propeller at the end, a spring mounted on the body and projecting toward the propeller, said propeller having a projection adapted to engage the spring to simulate the hum of a motor and to assist in keeping the body in position when manipulated in the air.

In testimony whereof I have hereunto affixed my signature.

BENJAMIN C. MERRITT.