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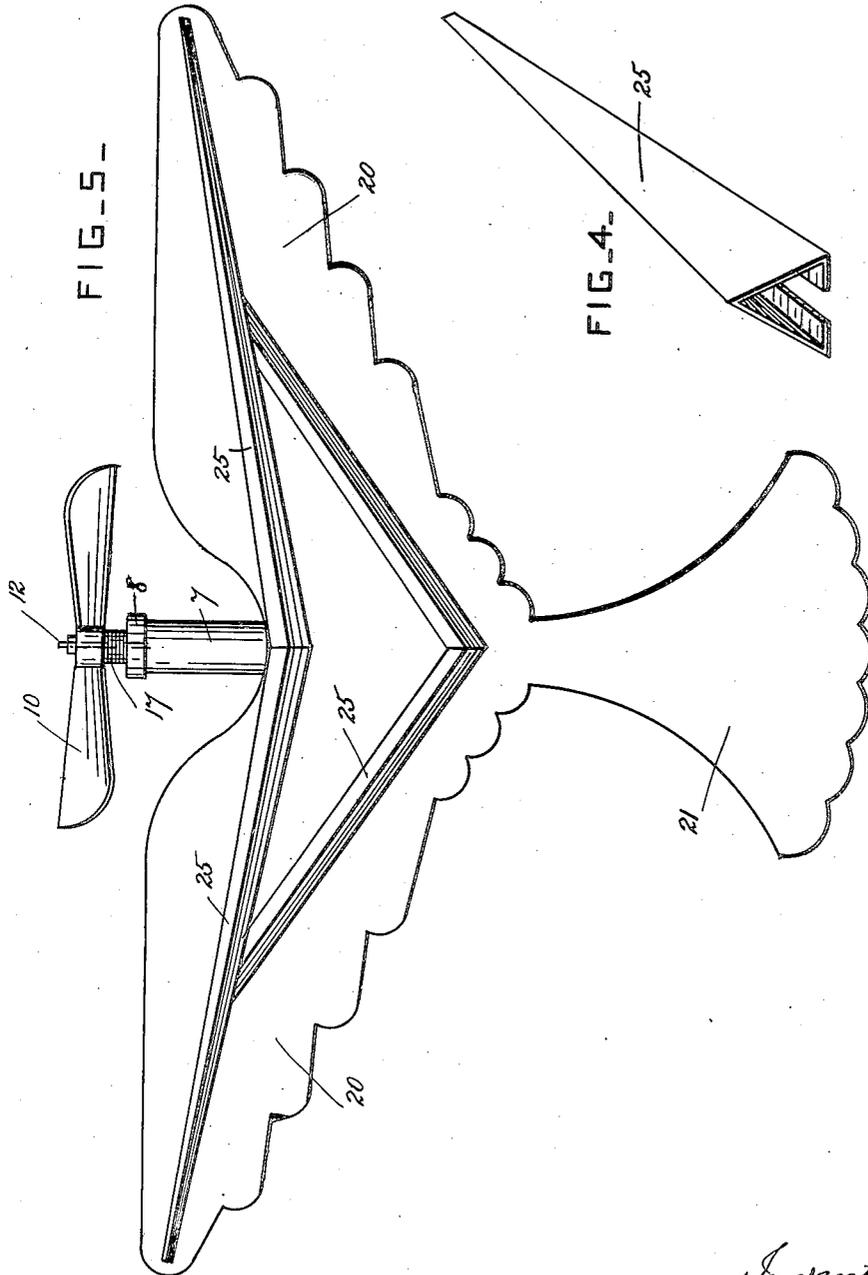
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TOY AIRPLANE

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UNITED STATES PATENT OFFICE.

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TOY AIRPLANE.

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To all whom it may concern:

Be it known that I, BERNHARD F. LAUKANDT, a citizen of the United States, residing at Red Wing, in the county of Goodhue and State of Minnesota, have invented certain new and useful Improvements in Toy Airplanes, of which the following is a specification.

This invention relates to toy air planes provided with springs for operating them, and adapted to fly in the air when properly wound up and released; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of a toy air plane constructed according to this invention. Fig. 2 is a front end view of the same. Fig. 3 is a longitudinal section through the tubular body, taken on the line 3—3 in Fig. 2. Fig. 4 is a perspective view of one of the wing stiffening bars. Fig. 5 is a plan view of the air plane.

The body is formed of a thin tube 7 of light material, such as paper. A stopper 8 closes the front end of the tube, and a stopper 9 closes its rear end. A propeller 10 is provided, and is secured on a shaft 12 which is journaled in the front stopper 8 on the axis of the tube. Both stoppers are preferably formed of cork, or similar light material. An anchor hook 14 is secured in the rear stopper 9, and 15 is an elastic rubber band the ends of which are looped over the hook 14 and over a hook 16 on the rear end of the shaft 12. Thin washers 17 are interposed between the hub of the propeller and the front stopper, so that the friction is reduced as much as possible.

The propeller is revolved by hand so that the two stretches of the rubber band are wound together spirally, as shown in Fig. 3, and when the propeller is released, the unwinding of the elastic spring affords the power which causes the air plane to fly.

The air plane is provided with air plane members, comprising preferably two or more wings 20 and a tail 21, which are secured to the upper side of the tube 7. These parts may be glued directly to the tube, or they may be secured to it by short pillars 24 of cork, or they may be otherwise secured in place. The wings and tail may be arranged in the same plane, or they may be arranged at any slight angle to each

other. They may be shaped to simulate any sort of a bird, butterfly, or other flying creature, or may be of conventional outline, and they may be colored and ornamented in any way desired.

The air plane members are formed of paper, or other light material, and the wings preferably have stiffening bars 25 secured to them, and arranged laterally of the center tube. These bars are preferably formed of paper, and are hollow, and triangular in cross-section, and the longer bars which extend to the tips of the wings are tapered. A center plate or rudder 26 is secured vertically under the rear end portion of the tube 7, and is also formed of paper, and is secured to the tail 21, by struts 27 of paper or other light material.

The front end portion of the tube 7 has two downwardly and outwardly projecting legs 28 secured to it, and strengthened by a block 29 of cork, secured to the tube between the legs. A shaft 30 is journaled horizontally in the lower end portions of the legs 28, and has wheels 31 of cork or other light material secured on its end portions. The air plane rests on the two wheels 31 and the center plate 26 when stood on a flat surface, as shown in Fig. 1. The spring is then wound up, and upon the release of the air plane from the hands, it rises in the air and flies for a considerable distance, according to its proportions and the strength of the elastic spring. The tube is normally supported in an upwardly and forwardly inclined position, so that the air plane may rise in the air when released. The direction of flight can be varied by bending the air plane members and center plate in a suitable way relative to each other and to the tube.

What I claim is:

1. In a toy air plane, a body, a propeller shaft journaled at the front end thereof, a rubber band motor inclosed in the body and operating to revolve the said shaft, and air plane members secured to the top side of the body and provided with hollow strengthening bars of light material, triangular in cross-section, secured to their upper surfaces and extending laterally of the body.

2. In a toy air plane, a body, a propeller shaft journaled at the front end thereof, a rubber band motor inclosed in the body and operating to revolve the said shaft, a

series of short pillars of light material spaced apart longitudinally of and secured to the top side of the said body, wings arranged at an angle to each other, and a tail arranged parallel to the body, said wings and tail being secured to the said pillars. 5

3. A toy air plane as set forth in claim 2,

and having also a vertical center plate secured to the underside of the body below the tail, and struts secured between the said center plate and tail. 10

In testimony whereof I have affixed my signature.

BERNHARD FRANK LAUKANDT.