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APPARATUS FOR FLYING MODEL AIRPLANES

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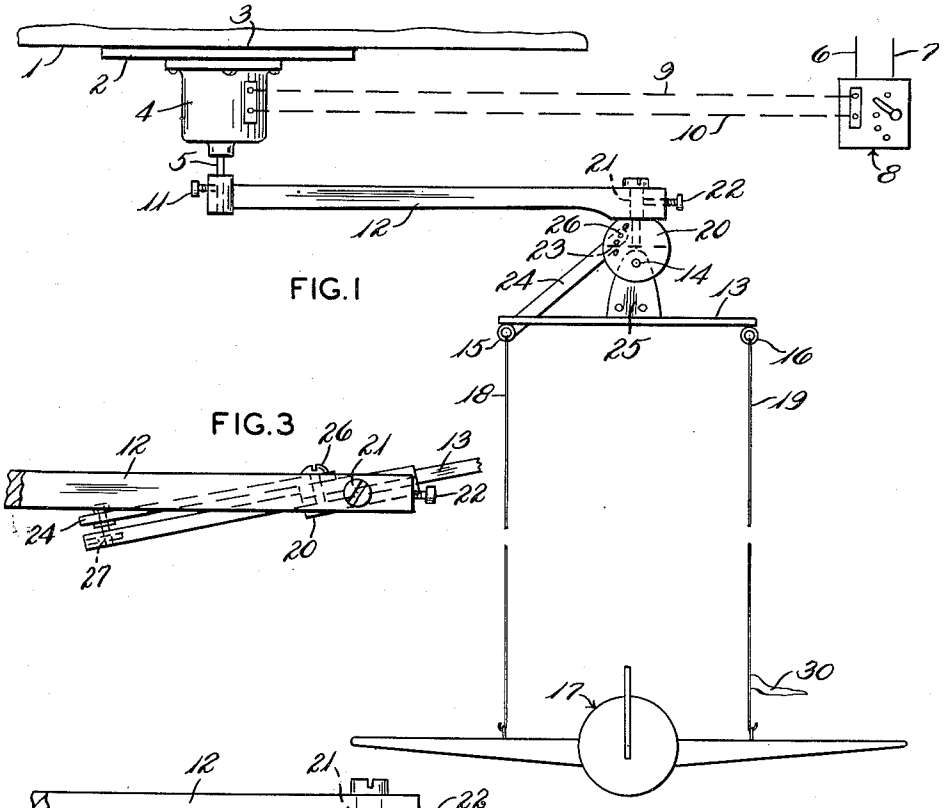


FIG. 1

FIG. 3

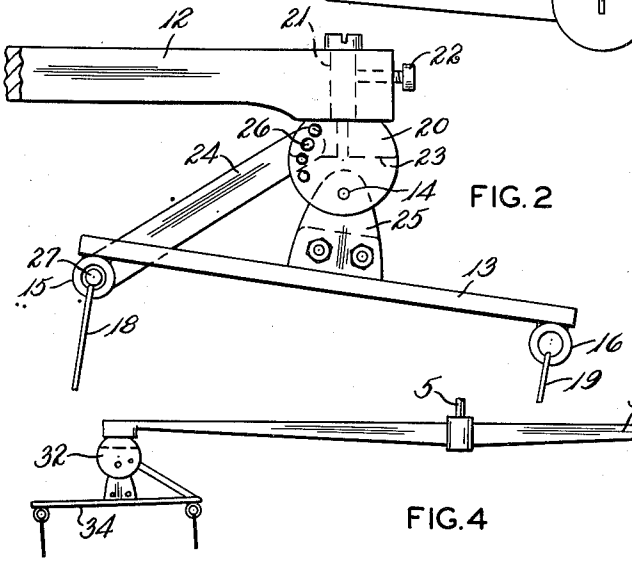


FIG. 2

FIG. 4

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APPARATUS FOR FLYING MODEL AIRPLANES

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1 Claim. (Cl. 272—31)

This invention relates to apparatus for flying model airplanes and more particularly to apparatus for propelling airplane models having no power plant of their own.

With increased interest in aviation the manufacture of airplane models has become quite extensive and kits of parts are readily available making it possible for anyone to assemble static models of aircraft. Also available are models of existing aircraft molded in plastic or other compositions or formed of metal. While such static models are very attractive as static exhibits, they cannot be flown on their own power as a rule.

It is an object of the present invention to overcome the foregoing and other difficulties and to provide for powering and controlling these model airplanes, rockets, or the like.

Other objects are to provide a readily available source of power and control for selectively receiving and controlling a multiplicity of models, to provide for removably securing the source of power to an available building structure or support, and to provide for mounting this power unit in a convenient position in a room without interfering with normal use of the room.

A further object is to provide for simulating the sound of a traveling plane, especially of the jet type.

These and other objects will appear from the following description and the accompanying drawings forming a part hereof.

Of the drawings:

FIG. 1 is a vertical sectional view of a ceiling with an apparatus corresponding to and embodying the invention secured thereto and suspended therefrom.

FIG. 2 is an enlarged detail side view of the outer end of the sweep arm, parts being broken away.

FIG. 3 is a top view of the outer end of the sweep arm, parts being broken away.

FIG. 4 is a side view showing a modification of the sweep arm.

Referring to the drawings, and first to FIG. 1 thereof, the numeral **1** designates a horizontal support such as a ceiling to which is secured a panel **2** of sheet material. The panel may be of sheet plastic material and it may be secured to the ceiling or other support by a pressure sensitive cement layer **3**. Other fastening means may be used to hold the panel in place.

Removably secured to the center of the panel **2** as by screws is an electric motor **4** having a vertical spindle **5**. The motor receives its power from the ordinary house lighting circuit represented by wires **6**, **7** by way of a transformer **8** and lines **9**, **10**. Secured to spindle **5**, as by a set screw **11** is a sweep arm **12**. The transformer is of the adjustable speed type. At the outer end of the sweep arm, a bar **13** is supported at its center upon a pivot **14** and has ears **15**, **16** at opposite ends thereof to support an airplane model **17** as by a pair of fine metal wires **18**, **19** such as piano wire, the wires each ordinarily extending downwardly from an ear of bar **13** to a supporting ear on a wing of the model.

As the motor **4** is energized the sweep arm rotates and carries the model in an orbital path. Due to the trapeze-like suspension of the model from the bar **13**, the model may move out radially and upwardly so as to inscribe a larger orbit.

In order to present the model in the best attitude for orbital flight, provision is made to permit the plane to fly in bank flight or in level flight. Also in order to

suspend the model so that it will nose in the best attitude for flight, an adjustable support is provided. For these purposes a head **20** is mounted on the outer end of arm **12** for adjustable movement about a vertical axis, a threaded shoulder screw **21** being rotatably mounted in a vertical bore of the arm and with its threaded end engaging a tapped opening in the head. A clamp screw **22** is provided to hold the screw **21** against rotation.

The head **20** is formed with a downwardly open slot **23** across which a pivot pin **14** extends. An ear **25** on the center of bar **13** is pierced to engage over the pin. Slot **23** is oriented generally in a radial direction relative to the axis of rotation of the spindle but may be adjusted by loosening clamp screw **22** and rotating the head to the desired angle. Due to the trapeze suspension, the model would fly in bank flight, the pivot pin **14** permitting a swing-out movement.

Where it is desired to restrain the model to level flight a link **24** may be provided to secure the bar **13** to the head **20**, as by a screw **26** in the head **20** secured to one end of the link and a pin **27** secured to the other end of the link and adapted to enter the eye in one end of the bar **13**. The link may be of flexible material so that the pin **27** may be withdrawn by flexing the link slightly.

In order to simulate sound of an airplane in flight a small pennant **30** of metal foil may be secured to one of the suspending wires **19**.

While in FIG. 1 the wires **18** and **19** have been shown as parallel and of the same length, it is also possible to employ wires of different lengths and suspension points of bar **13** closer or farther apart relative to spacing of the ears on the model. Such changes in the geometry of the suspension may also be used to present the model in different attitudes during flight.

While an airplane model has been shown in FIG. 1 with supporting ears on its wings, other models such as missiles may be supported at front and rear positions by rotating the head **20** to suit.

The panel **2** especially when mounted on a ceiling by the layer of pressure sensitive cement may be removed without damage to the ceiling. The apparatus may be installed in the ordinary living room and operated without damage to the furnishings.

If desired the sweep arm may extend in opposite directions from the spindle and two models supported at opposite ends thereof as in FIG. 4 where the sweep arm **31** is suspended from the spindle **5** at its center and has adjustable heads **32**, **33** similar to head **20** at opposite ends thereof which supports bars **34**, **35** from which a model may be suspended by wires. This embodiment also gives a balanced mechanism.

While a certain embodiment and details have been shown for the purpose of illustrating the invention, it will be apparent to those skilled in the art that various changes and modifications may be made therein without departing from the spirit or scope of the invention.

What is claimed is:

In combination, a horizontally rotatable arm, a bar, bracket means mounting the bar beneath the outer end of the arm in a position normally parallel to the arm, a model airplane, strand means extending from each end of the bar to a wing of the airplane to provide a parallel linkage support for the airplane, said bracket means including double pivot means at right angles to each other, one pivot means providing adjusting movement of the bar about a vertical axis, means for locking the bar in this adjusted position, the other pivot means providing adjusting movement of the bar about a horizontal axis, and means for locking the bar in this adjusted position

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whereby most realistic flight of the airplane results upon rotation of the arm.

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