March 31, 1931. J. H. SLACHTER 1,798,358

ADVERTISING DEVICE

Filed Feb. 11, 1930 2 Sheets-Sheet 1

Fig. 1.

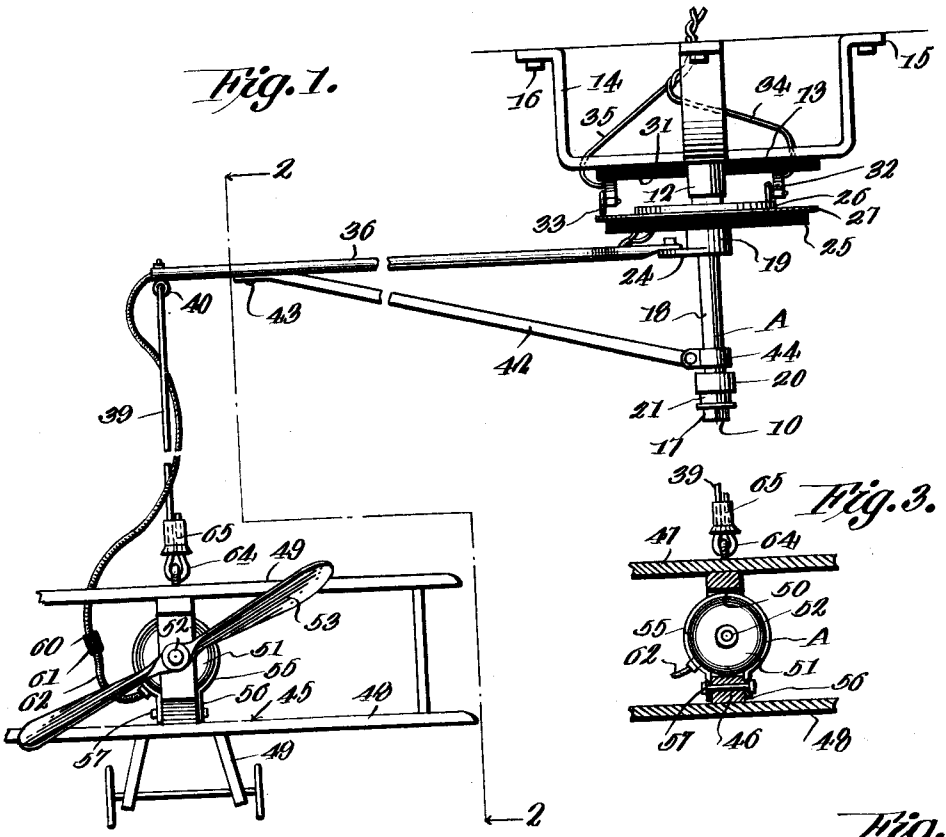


Fig. 3.

Fig. 2.

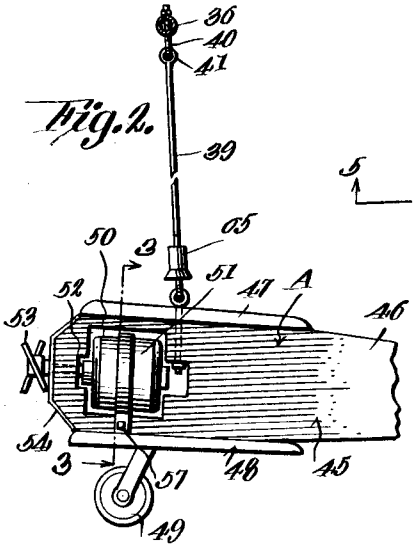
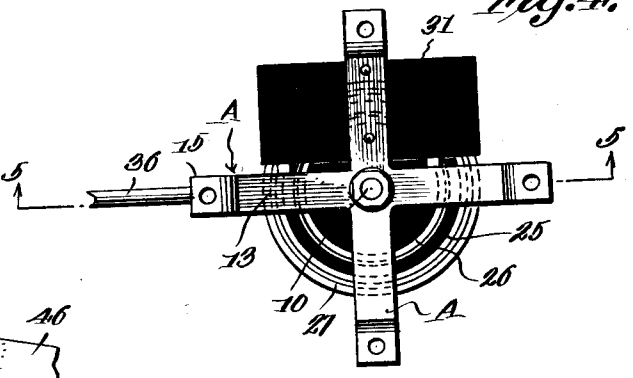


Fig. 4.



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Fig. 5.

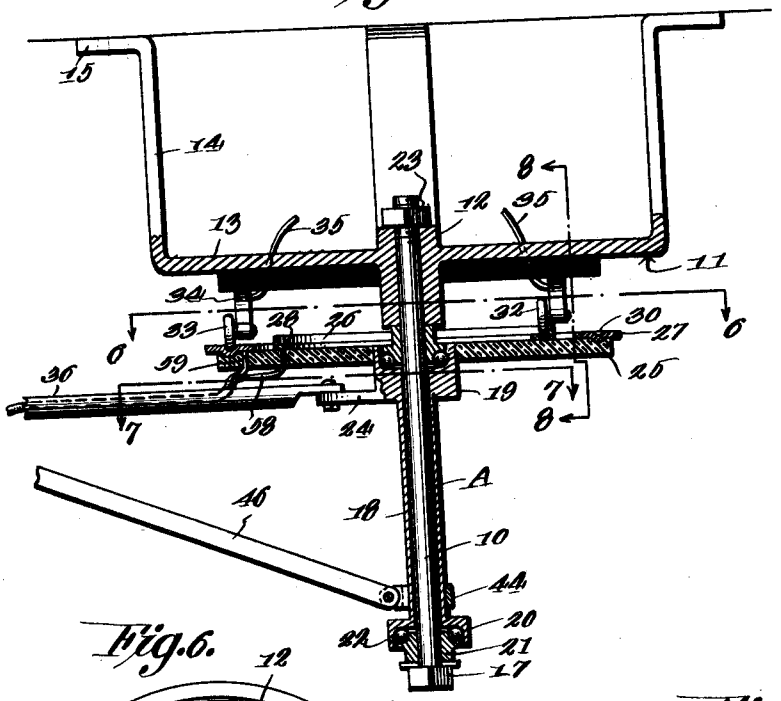


Fig. 6.

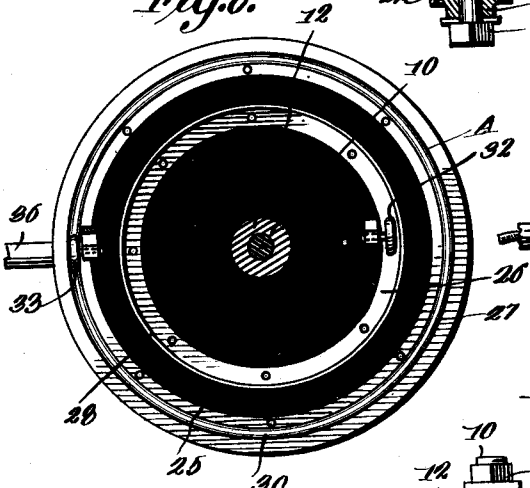


Fig. 7.

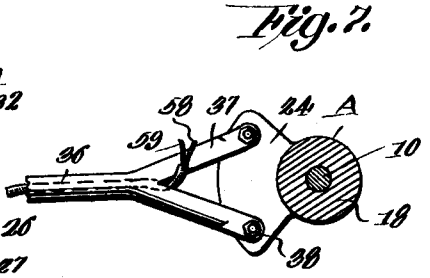
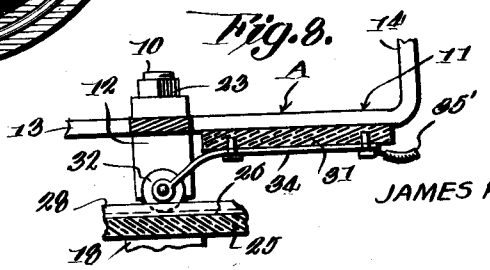


Fig. 8.



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Patented Mar. 31, 1931 1,798,358

UNITED STATES PATENT OFFICE

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ADVERTISING DEVICE

Application filed February 11, 1930. Serial No. 427,555.

This invention appertains to advertising devices and more particularly to a novel window or store display for attracting the attention of prospective buyers.

One of the primary objects of my invention is to provide a miniature aeroplane exhibit in which the aeroplane is supported for rotary movement and is provided with an electric motor for driving the propeller, whereby the aeroplane will be caused to maintain a circular path when the motor is in operation, the plane being of such a character as to carry a suitable advertising sign or the like.

Another salient object of my invention is the provision of a novel bearing for rotatably supporting the aeroplane either from an overhead ceiling bracket or floor standard, the bearing having associated therewith in a novel manner the radially extending arm carrying the aeroplane and the non-conducting disc for supporting the annular contact rings for conducting the current to the motor of the aeroplane, the rings being adapted to be engaged by the roller contacts of the stationary supporting bracket.

A further important object of my invention is the provision of a novel means for forming the inner and outer contact rings, one of the rings being provided with a depressed groove or track for receiving one contact roller and the other ring having an upstanding guard flange for engaging the other contact roller, the flange acting as means for holding the rollers accurately positioned relative to the contact rings.

A further salient object of my invention is the provision of means for forming the body plate or fuselage of the aeroplane, the body plate being provided with a cut out portion adjacent to its forward end for receiving the electric motor, the motor being provided with a holding strap provided with ears for engaging the opposite faces of the body plate, the strap forming an efficient means for holding the motor in place and accurately disposed relative to the longitudinal axis of the plate, whereby the propeller driven directly from the armature shaft of the motor will be correctly centered, the strap also allowing the quick assembling of the motor with the aeroplane.

A still further object of my invention is the provision of an improved miniature aeroplane advertising device of the above character, which will be durable and efficient in use, one that will be simple and easy to manufacture, and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, in which drawings:—

Figure 1 is a side elevation of my improved device, showing the aeroplane in front elevation and partly broken away.

Figure 2 is a section taken on the line 2—2 of Figure 1 looking in the direction of the arrows showing the aeroplane in side elevation, the rear end of the aeroplane being broken away.

Figure 3 is a transverse section through the aeroplane taken on the line 3—3 of Figure 2 looking in the direction of the arrows illustrating the novel means for associating the electric drive motor for the propeller with the aeroplane.

Figure 4 is a top plan view of the ceiling bracket and novel bearings for supporting the aeroplane.

Figure 5 is an enlarged vertical section through the supporting bracket and novel bearings taken on the line 5—5 of Figure 4 looking in the direction of the arrows.

Figure 6 is a horizontal section taken on the line 6—6 of Figure 5 looking in the direction of the arrows illustrating the novel contact rings.

Figure 7 is a horizontal section taken on the line 7—7 of Figure 5 looking in the direction of the arrows, illustrating the novel means of securing the arm to the bearings, and

Figure 8 is a vertical section taken on the line 8—8 of Figure 5 looking in the direction of the arrows illustrating one of the contact rollers and its contact ring.

Referring to the drawings in detail, where-

in similar reference characters designate corresponding parts throughout the several views, the letter A generally indicates my improved device, which comprises a supporting shaft or post 10 which may be either supported in a vertical plane by a floor base or, as shown, by an overhead ceiling bracket 11. The ceiling bracket 11 may comprise an axially disposed central boss 12, and radially extending arms 13 having vertically disposed legs 14, the upper ends of which are provided with attaching feet 15. Suitable fastening elements 16 can be extended through the feet 15 and into the ceiling or other overhead support. The shaft 10 is received within the boss 12 and depends therefrom, as clearly shown in Figures 1 and 5. The lower end of the shaft 10 is provided with a head or stop 17 and the shaft receives a rotatable hub, the opposite ends of which are cup shaped as at 19 and 20 to receive the bearing cones 21 rigidly secured to the shaft, bearings 22 being fitted between the bearing cones and the inner faces of said cups 19 and 20. Thus the hub 18 is supported by ball bearings at its opposite ends and is freely rotatable on the shaft with a minimum amount of friction. The lower cone 21 rests against the head 17 while the upper cone is fitted against the central boss 12 of the supporting bracket 11. A nut 23 can be threaded on the upper end of the shaft in engagement with the upper end of the boss 12 and holds the desired support in assembled position on the shaft. The upper end of the hub supports at the cup 19 a radially extending flange 24 and this cup at its extreme upper end has secured thereto a disc 25 formed of suitable insulating material.

The upper face of the disc 25 has secured concentrically thereto inner and outer contact rings 26 and 27. The inner contact ring 26 is provided with an upstanding guard flange 28 as clearly shown in Figures 1, 5 and 6. The contact ring 27 is relatively wide and of a greater width than the contact ring 26 and the ring 27 preferably projects beyond the marginal edge of the disc 25. This outer contact ring 27 at a point equi-distant its edges is provided with a struck-out rib 29 which is imbedded in a suitable groove formed in the upper face of the disc 25. The rib 29 formed in the ring 27 forms an upper groove or track 30, for a purpose, which will be later described.

The brackets 11 at one side of the central boss 12 has secured thereto a block or plate of insulation 31 which plate of insulation 31 has secured thereto adjacent to its opposite ends spring pressed contact rollers 32 and 33. The contact roller 32 engages the inner contact ring 26, while the outer contact or brush roller 33 is received within the track or groove 30. This establishes a contact between the brushes and rings at all times during the rotation of the hub 18 and the flange 28 acts as means for preventing the slipping of the rollers 32 and 33 from out of engagement with said contact rings. The rollers 32 and 33 are spring pressed as previously stated and are preferably supported by leaf springs 34, which can be riveted or otherwise secured to the block of insulation 31. The leaf springs 34 have electrically connected thereto the feed and return wires 34' and 35 which can lead from any suitable source of electrical energy that may be available.

In connection with the hub 18 I use a radially extending supporting arm 36 for the aeroplane indicated by the reference character 45 which will be later described. The arm 36 can either be formed solid or of a hollow tubular construction as shown and the inner end therefore is bifurcated to provide a pair of attaching arms 37 which are placed in abutting engagement with the upper face of the hub flange 24 and this arm is secured thereto in any desired way such as by a suitable fastening element 38. The outer ends of the arm 36 supports the connecting links 39 for the aeroplane 45 and the outer end of the arm 36 can be provided with an eye 40 for receiving an eye 41 formed on the upper end of said link or rod 39. The arm 36 is preferably braced by a diagonally extending bar 42, which is riveted or otherwise secured to the arm 36, as at 43 adjacent to the outer end thereof. The inner end of the brace bar 42 is rigidly secured to a collar 44 placed about the hub 18, preferably in close proximity to the lower bearing cup thereof.

The aeroplane 45 preferably includes a body plate 46 formed from a single piece of material suitably carved or shaped to represent the fuselage of an aeroplane and the upper and lower edges of the body plate 46 has secured thereto the upper and lower planes 47 and 48. The lower plate 48 may carry the suitable landing gear such as wheels 49. In accordance with my invention the body plate 46 adjacent to its forward end is provided with a cut out portion 50 which is shaped to receive an electric motor 51. The forward end of the body plate 46 is provided with a suitable opening through which extends the shaft 52 of the aeroplane propeller 53, the shaft 52 being attached to or forming a part of the armature shaft of the motor 51.

The front end of the body plate 46 is reinforced by a suitable metal strap 54 which extends across the opening for the shaft 52, and this strap is provided with a suitable bearing opening for the said shaft.

The motor 51 is secured within the cut out portion 50 of the body plate 46 in a novel manner and I employ a split band 55 for encircling the motor 51 and the ends of the band 55 are provided with attaching feet 56 which are adapted to engage the opposite sides of the body plate 46 below the cut out portion 50. A suitable bolt 57 is extended through

the body plate 46 and the attaching feet 56 and serve the dual function of tightening the band about the motor and holding the motor on the body plate. By this construction I am enabled to easily and quickly connect the motor with the body plate and at the same time centralize the same relative to the longitudinal axis of the aeroplane.

Connected with the inner and outer contact rings 26 and 27 and imbedded in the plate of insulation 25 are the feed and return wires 58 and 59 which may or may not be led through the hollow supporting arm 36. These wires extend down over the connecting rod 39 and terminate in a suitable plug 60, which is detachably connected with a suitable socket 61 connected with the feed and return wire 62 of the motor 51. By this arrangement the feed wires can be readily disconnected from one another when it is desired to detach the aeroplane 45 from the connecting rod 39.

In order to connect the rod 39 with the aeroplane 45 I employ an eye bolt 63 which extends through a suitable opening formed in the body plate 46, which opening communicates with the cut out portion 50. The rod 39 which can be formed of metal is bent through the eye 63 as at 64 and a thimble 65 is slid down over the rod and the bent back portion 64 thereof.

In use of my improved device the various parts are assembled as shown and described and when the current is turned on through the motor 51 the propeller 53 will be revolved thereby which will draw the aeroplane through the air in a circular path due to the connection of the aeroplane with the shaft 10. As the aeroplane gains speed the centrifugal force tends to swing the links 39 outward on the pivot 40 the speed of the aeroplane and the sizes of the propeller determining the amount of outward swing of the aeroplane. The opposite sides of the body plate 46 of the aeroplane can be provided with suitable advertising matter and as the aeroplane revolves the same will attract the attention of passers-by and to the advertising matter carried thereby.

I lay partricular stress on the formation of the hub 18 and the means of attaching the supporting arm 36 and the insulating disc 35 as well as the formation of the contact rings 26 and 27 and the contact rollers 32 and 33. Likewise I lay stress on the arrangement and the means of connecting the drive motor with the body plate of the aeroplane 45.

Changes in details may be made without departing from the spirit or the scope of this invention, but:—

What I claim as new is:

1. In a device of the class described, a supporting shaft, a hub rotatably mounted upon the shaft and having supporting bearings at its opposite ends, an outwardly extending flange formed adjacent to one end of the hub, a disc of insulation secured to the mentioned end of the hub above said flange, a radially extending arm having its inner end bifurcated and secured to the flange, a brace arm connected to the outer end of the supporting arm, a collar secured to the hub adjacent to its lower end, the brace rod being secured to said collar, a rod carried by the outer end of the arm, an aeroplane connected to the rod, an electric drive motor secured to the aeroplane, a propeller driven by said motor, inner and outer contact rings secured to the upper face of the disc of insulation, current conducting wires secured to the inner and outer contact rings and leading to said motor, and contact rollers frictionally engaging the inner and outer contact rings.

2. In a device of the class described, a supporting shaft, a hub rotatably mounted upon the shaft and having supporting bearings at its opposite ends, an outwardly extending flange formed adjacent to one end of the hub, a disc of insulation secured to the mentioned end of the hub above said flange, a radially extending arm having its inner end bifurcated and secured to the flange, a brace arm connected to the outer end of the supporting arm, a collar secured to the hub adjacent to its lower end, the brace rod being secured to said collar, a rod carried by the outer end of the arm, an aeroplane connected to the rod, an electric drive motor secured to the aeroplane, a propeller driven by said motor, inner and outer contact rings secured to the upper face of the disc of insulation, current conducting wires secured to the inner and outer contact rings and leading to said motor, contact rollers frictionally engaging the inner and outer contact rings, one of said contact rings being formed relatively wide and provided with a centrally located depressed groove and the other of said rings being provided with an upstanding guard flange.

3. In a device of the class described, a wall bracket including a centrally disposed apertured boss, a shaft having a head on its lower end extended through the boss, a hub rotatably mounted upon the shaft provided with bearings cups at its opposite ends, cones fitted on said shaft engaging respectively the head on the shaft and the lower end of the boss, a nut threaded on the upper end of the shaft engaging the upper end of the boss, a flange formed on the upper bearing cup, a supporting arm rigidly connected to said flange, and an aeroplane carried by the outer end of the arm.

4. In a device of the class described, an aeroplane comprising an elongated flat body plate, wings connected to the body plate, the forward end of the body plate being provided with a cut out portion, openings leading into said cut out portion, a motor fitted in said cut

out portion, the armature shaft of the motor being extended through the opening, a propeller secured to said armature shaft, and a split band encircling said motor having attaching feet engaging the opposite sides of the body plate, and a tightening bolt extending through the attaching feet and the body plate.

In testimony whereof I affix my signature.

JAMES H. SLACHTER.