J. TONEY.

AMUSEMENT DEVICE.

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1,305,842.

Patented June 3, 1919.

Fig. 1.

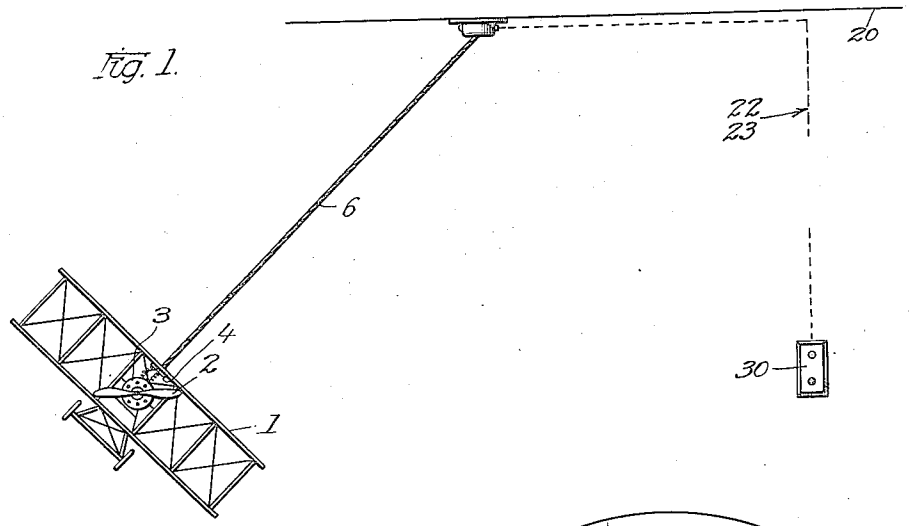


Fig. 3.

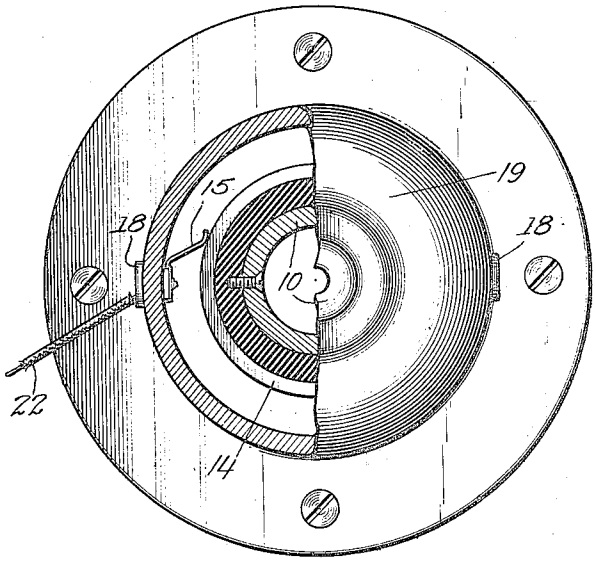


Fig. 2.

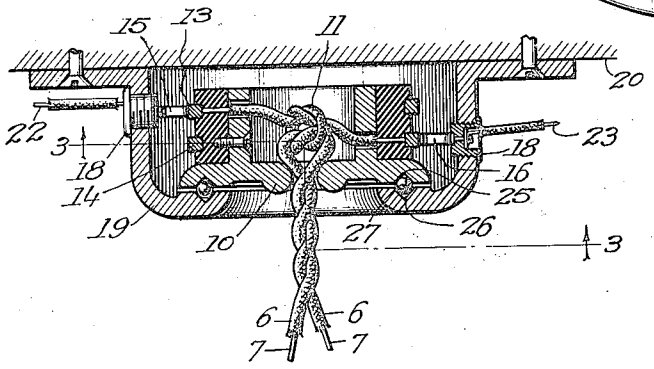
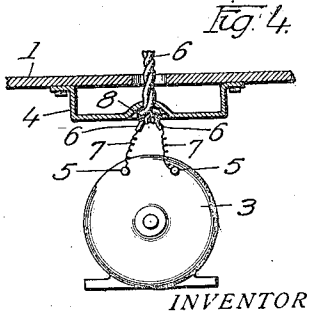


Fig. 4.



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AMUSEMENT DEVICE.

1,305,842. Specification of Letters Patent. Patented June 3, 1919.

Application filed January 23, 1919. Serial No. 272,644.

To all whom it may concern:

Be it known that I, JAY TONEY, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented a certain new and useful Improvement in Amusement Devices, of which the following is a specification.

My invention relates to amusement devices in which a freely suspended body, preferably in the form of an aeroplane or Zeppelin, is driven through the air by means of a propeller. The general object of the invention is to provide in a device of this character means whereby the body may be driven from an external source of power. Another object is to provide means whereby the propeller may, at any time, be caused to start or stop without first arresting the body in its flight. A correlative object is to provide means for remote control at a fixed station within the ordinary reach of the attendant. A contributory object is to provide an efficient ceiling fixture.

My device may be made of a size sufficient to enable it to carry passengers or may be of a more diminutive type, to be employed either as a mere toy, or, when constructed on a slightly larger scale, as an exhibition device for hotel lobbies or places of entertainment. I have chosen to illustrate the invention as embodied in a device of the last mentioned type.

I accomplish my objects by mechanism of which one type is shown in the accompanying drawings, in which—

Figure 1 is a general view showing the device in flight.

Fig. 2 is a vertical axial section of the ceiling fixture.

Fig. 3 is a bottom plan section on the line 3—3, Fig. 2, and

Fig. 4 is a vertical axial section of the fixture at the lower end of the suspending cord.

Similar numerals refer to similar parts throughout the several views.

While the body 1 may assume either the form of a Zeppelin or an aeroplane, I have selected the latter form. This is provided with a propeller 2 of ordinary design, driven by an electric motor 3 mounted on said body. In the form illustrated, the body is both suspended and energized by an ordinary twisted lamp cord composed of circular braids 6, inclosing metallic conductors 7. A suspension plate 4 is fastened to the suspended body for carrying the weight thereof. This is centrally apertured, as shown in Fig. 4, and a knot 8 tied in the cord beneath it. The conductors are led thence to the motor terminals 5, 5.

The ceiling fixture, shown in detail in Figs. 2 and 3, includes a suspension plate 10 which is centrally apertured to permit the passage of the lamp cord. A knot 11 is tied in the cord above the plate with the result that the weight of the cord and parts attached thereto are transferred to the plate. The conductors are electrically connected to two distributing rings 13, 14 and current is supplied to them by brushes 15, 16 respectively. Said brushes are mounted on bushings 18, 18 screwing into the side of the housing 19, suitably fastened to the ceiling 20. The bushings form terminals for the supply conductors 22, 23. Plate 10 is rotatably supported within the housing and by preference has a ball race 25 formed in its inner face, adapted to coöperate with the corresponding ball race 26 formed in the bottom flange of the housing. Anti-friction balls 27 run in said races and the whole constitutes a ball bearing for minimizing the friction between the rotary plate 10 and the supporting housing.

The supply conductors 22, 23 are led along the ceiling to a convenient point and thence down along the wall to a push button 30 of any suitable type.

With the device constructed as above described, as soon as the attendant closes the switch he causes the motor to be energized. This causes the propeller to revolve and drive the body forward, and by properly setting the rudder (of which any desired type may be provided), the body will swing from its point of suspension. Commonly the rudder will be so set that the body will travel in a circular path, centrifugal force causing the diameter of the path to increase as the speed increases, but this is a matter of choice, and it is not even essential that any type of rudder be provided. As the motor is supplied from an external source of energy it may be kept rotating as long as desired,—in which particular my device is an improvement over those operating by spring or other mechanism carried in the suspended body itself. My device does not "run down," nor is it necessary to reach the device itself in order to energize it, or to stop it. And yet to all appearances the cord

6 is merely a suspending element as is the case with similar mechanisms driven by springs.

When the body travels in a circular path it will tend to twist the lamp cord. This tendency is neutralized, however, by the suspension plate 10 which rotates under the torque transmitted to it through the cord. The twist in the cord will increase until the resulting torque is sufficient to overcome the friction of the plate on the housing and the friction of the brushes against the distributing rings, after which the plate will rotate in unison with the cord.

It is evident that the size of the device may be varied. The body may be of such small size as to constitute merely a toy or it may be of medium size adapted for exhibition purposes in hotel lobbies or places of entertainment. In the latter instance the wing spread (in case the aeroplane type of body is employed) may be several feet. It is possible, however, to increase the size until the body is capable of carrying one or more passengers,—a feature which adapts the device for amusement parks and like places. With such larger sized machines the cord will properly consist of three strands instead of two, two of the strands forming the conductors and the third of wire or rope, simply carrying the weight of the suspended body.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:—

1. An amusement device comprising a tubular member having means at one end for rigidly connecting same to an overhead support, a second member rotatably supported within the tubular member, continuously coöperating electrical contacts on the tubular and rotatable members, flexible electric conductors secured to the rotatable member and in electrical connection with the contacts thereof respectively, and a motor propelled aerial toy suspended by said conductors and having its motor electrically connected therewith.

2. An amusement device comprising a tubular member having means at one end for rigidly connecting same to an overhead support, an inwardly directed flange at the other end of the member, a second member rotatably supported within the tubular member by said flange, continuously coöperating electrical contacts on the tubular and rotatable members, flexible electric conductors secured to the rotatable member and in electrical connection with the contacts thereof respectively, and a motor propelled aerial toy suspended by said conductors and having its motor electrically connected therewith.

3. An amusement device comprising a tubular member having means at one end for rigidly connecting same to an overhead support, an inwardly directed flange at the other end of the member, a plate having a central aperture disposed within the member and rotatably supported by said flange, a tubular extension on the plate concentric with said aperture, an insulating collar surrounding said extension, continuously coöperating electrical contacts on the collar and member, flexible electric conductors in electrical connection with the contacts of the collar respectively and extending through the opening in the plate, and a motor propelled aerial toy suspended by said conductors and having its motor electrically connected therewith.

4. An amusement device comprising a tubular member having means at one end for rigidly connecting the same to an overhead support, a second member rotatably supported within the tubular member, an anti-friction bearing between said members, a suspension member having its upper end fast to the rotatable member, and a propelled aerial toy carried by the lower end of the suspension member.

5. An amusement device comprising a tubular member having means at one end for rigidly connecting the same to overhead support, an inwardly directed flange at the other end of the member, a second member rotatably supported by said flange within the tubular member, an anti-friction bearing between the second member and flange, a suspension element having its upper end fast to the second member, and a propelled aerial toy carried by the lower end of the suspension member.

6. In a device of the class described, the combination of a ceiling attachment in the form of a chambered member having a central opening at the bottom surrounded by a ball race facing upward, a second member located within the ceiling attachment and having a ball race facing downward over the first mentioned one, anti-friction balls coöperating with said ball races, an aerial toy, an air propeller for driving said toy, an electric motor for driving the propeller, a pair of flexible electric conductors adapted to energize the motor and carry the weight of it and of the toy and propeller, said conductors being suspended from said second member, and distributing rings and coöperating contact fingers, one on the ceiling attachment and one on said second member, said conductors being electrically connected to the distributing parts on the second member, whereby the conductors perform the dual function of weight carriers and current carriers, and the flexibility which affords the free movement occurs between the toy and said second member.

7. In a device of the class described, the combination of a chambered member adapt-

ed to be attached to the ceiling and having a central opening at the bottom surrounded by a ball race facing upward, a second member located within and housed by the chambered member and having a ball race facing downward, anti-friction balls working in said races, an aerial toy, an air propeller for driving the toy, an electric motor for driving the propeller, a pair of flexible electric conductors adapted to energize the motor and carry the weight of it and of the toy and propeller, said second member having an aperture at the center and the conductors passing up through said aperture and being knotted above the aperture whereby the weight of the conductors and parts suspended thereon is carried by the knot and second member, and distributing rings and coöperating contact fingers, one on the chambered member and one on the second member, said conductors being electrically connected to the distributing parts on said second member.

8. A structure as specified in claim 7 in which the aperture at the center of the second or suspending member is rounded at the edges to permit side swing of the conductors and yet avoid danger of abrading them.

In witness whereof, I have hereunto subscribed my name.

JAY TONEY.

Witnesses:
H. E. LEDYARD,
E. J. LEDYARD.