Aug. 14, 1928. 1,680,982

E. G. GOERK ET AL

DEVICE FOR ANIMATING OBJECTS

Filed April 2, 1927

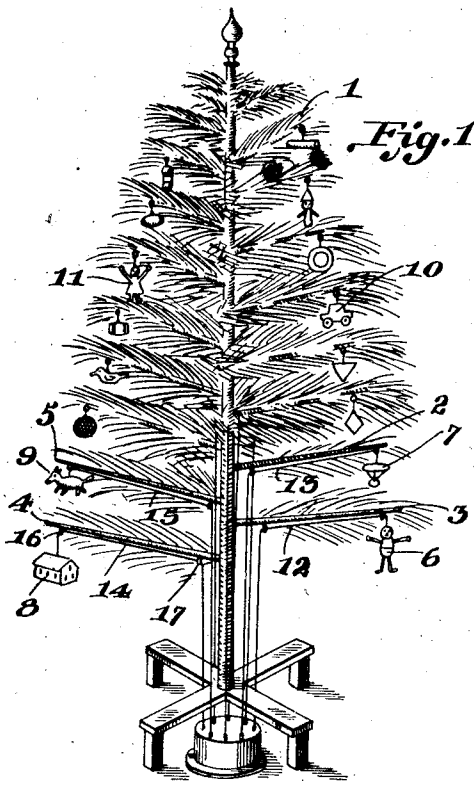


Fig. 1.

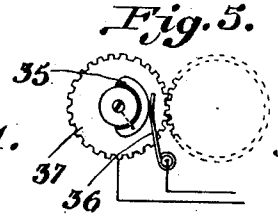


Fig. 5.

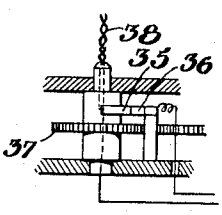


Fig. 6.

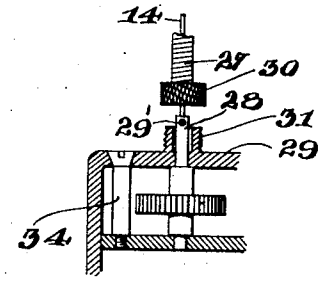


Fig. 4.

Fig. 3.

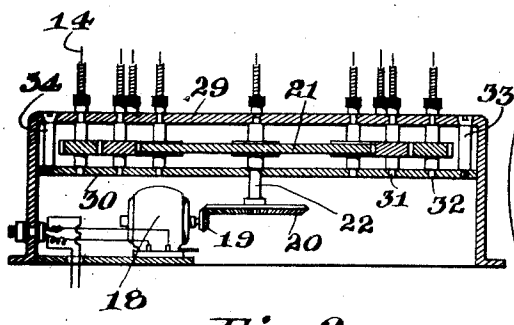
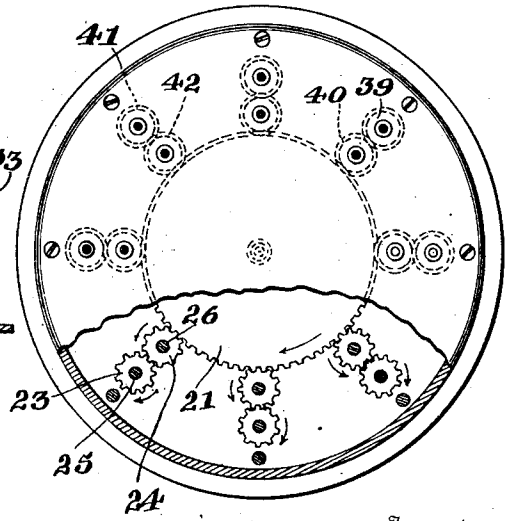


Fig. 2.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR ANIMATING OBJECTS.

Application filed April 2, 1927. Serial No. 180,592.

This invention relates to improvements in devices for animating objects extending from a supporting element, such as a Christmas tree.

The prime object of this invention is to provide a device which will function to animate objects which may be hung from a Christmas tree or the like, such as various types of toys, thereby adding materially to the pleasing effect of the ornamental tree.

Another object of this invention is to provide a means for intermittent illumination of the tree, that is, whereby the ordinary type of illuminating elements hung from a support, such as a Christmas tree, for instance, electric bulbs, may function to provide intermittent illumination at regular intervals.

Another object of this invention is to provide an animating device for objects on a support which will function to produce a plurality of directions of motion.

Other objects of this invention will appear from the following detailed description of the device, and as disclosed in the single sheet of drawings herewith made a part of this application.

In the drawings—

Figure 1 illustrates a side elevational view of the device disclosing certain objects supported from a Christmas tree and the flexible connections extending thereto.

Figure 2 illustrates a vertical sectional view of the motor driven means for producing motion in the flexible connections and the objects.

Figure 3 represents a top plan view of the motor driven means disclosed in Figure 2 with a portion of the top cover plate broken away in order to more clearly disclose the driving gear for the flexible connections.

Figure 4 illustrates a vertical sectional view to an enlarged scale of a portion of the motor driven means disclosing a driving gear in its operative relationship with the flexible connection.

Figures 5 and 6 illustrate a diagrammatic view of the primary means for producing intermittent illumination.

Numeral 1 designates a supporting element, such as a Christmas tree, having suitable extensions 2, 3, 4 and 5, adapted to support various objects in the form of toys or otherwise disclosed at 6, 7, 8, 9, 10 and 11.

In order to provide means for animating the objects on a tree, suitable cords, connections or flexible shafts 12, 13, 14 and 15 are attached at one end in each instance to the objects as disclosed at 6, 7, 8, and 9, the flexible shafts then preferably extending through some suitable element, such as rings 16 and 17, and then downward in each instance into operative relationship with a power driven means for moving the flexible shafts, thereby animating the objects on the support or tree which may be attached thereto. The moving power comprises, primarily, a motor element 18, of any suitable type, adapted to drive through gearing 19 and 20 and main guide gear element 21, the gearing 20 and 21 being mounted upon a main shaft element 22. In order to provide a plurality of different directions to the motion of the objects on the tree, the gear transmission may comprise several gear elements, such as 23 and 24, the gear 24 being adapted to mesh with the main driving gear 21 and in turn the gear 23 will be positioned to mesh with gear 24 in such a manner that the motion given to the gear 23 will be the same direction as the movement of the drive gear 21 and the gear 24 will move in the opposite direction, as clearly disclosed in Figure 3 of the drawings. This arrangement of motor driven means, together with the transmission elements, will function to make it possible to mount the gear 23 and 24 on flexible shafts 25 and 26, which shafts or connections are adapted to be attached at the other ends to the objects which will move in opposite directions or with the directions of the gears on which their connections or flexible shafts are mounted. The flexible connection or shaft extending from the object to the power driven means may be of any suitable type having a covering 27 or otherwise, as may be desired, and attached at its driving end to suitable gear, hub or spindle portions 28 by means of a pin 29. The protecting or covering element 27 for the flexible shafts may be detachably secured to the gear housing 29 by means of a thumb element 30 and a threaded portion 31 extending from the gear housing 29.

The power driven means in this invention may be housed in any desirable manner, such as disclosed in Figure 2, wherein the transmission gearing is enclosed in a housing 29 having partition plate therein 30, upon which the spindles or hub portions of the gears may be supported as at 31 and 32. The

spindle or shaft of the main gearing 21 is adapted to extend for connection with the gear 20, which is located in close proximity to the motor 18. The supporting plate 30 may be held in position by means of machine screws 33 and 34.

This invention provides a means for intermittently illuminating the objects on the tree at regular intervals, consisting of an arrangement of the illuminating wires in such a manner that the circuit will be made and broken while the gear connected to the flexible shaft revolves, thus causing the lights which may be within the objects or hung from a support externally of the objects, to give intermittent illumination, particularly when they are in the objects at the end of the flexible shafts or actuating cords.

Figures 5 and 6 of the drawing illustrate a diagrammatic form of means for bringing about intermittent illumination, in which the circuit is made and broken by the revolving of a contact plate to switch 35 which functions to contact intermittently with a cooperating element 36, as the driving gear 37 revolves, the flexible shaft in this instance being designated by the numeral 38.

In operation it is to be understood that any type of support may be utilized, although, in practice, this invention would probably be particularly applicable to Christmas trees wherein pleasing effects are brought about by the animation of the objects which may be hung therefrom and intermittent illumination emanating from the different objects or from the unenclosed lighting bulbs as supported on the tree.

The means for bringing about the animation of the objects and intermittent illumination described and claimed in this application are but one modification. Any suitable type of driving motor may be used, positioned in a convenient location, and flexible shafts extending from the objects to the driving means may be of any practical construction involving cords, wires or any other flexible shaft arrangement which may be adapted for the purpose. The objects are connected to the plurality of gearing through the flexible shaft elements in such a manner that different directions may be given to the various objects depending upon the movement of the gears through which the flexible shafts are connected. The number of the flexible connections may be limited only through the number of connecting driving gear elements, such as 39, 40, 41 and 42. The gears to which the flexible elements are connected, drive from a main gear which receives its motion from the driving power, such as a motor. All of these driving elements are preferably located at or near the base of the supporting element or tree and inasmuch as very little power is required to move the objects, the device will be of small dimensions and comparatively inexpensive and easily moved around.

Any suitable means for effecting intermittent illumination may be utilized without affecting the merits of this invention. The type illustrated in Figures 5 and 6 is simply that including the revolving motion of a switch arrangement that may be located at a point near the gearing and by having the contact point but a semi-circle, it is obvious that the circuit will be made and broken as it revolves.

What we claim is:—

1. In a device of the character described, a supporting element, objects on the support which may be varied in location on the support without effecting the operation of the device, means for animating the objects comprising flexible connections extending from the objects, means for slidably supporting the flexible connections and power driven means for giving different directions of movement to the objects through the flexible connections.

2. In a device of the character described, a supporting element, objects on the support which may be varied in location on the support without effecting the operation of the device, means for animating the objects comprising flexible connections extending from the objects, means for slidably supporting the flexible connections and power driven means for animating the objects through the connections, illuminating elements on the support, and means cooperating with the connections for affecting intermittent illumination.

3. In a device of the character described, a supporting element, objects on the support which may be varied in location on the support without affecting the operation of the device, means for animating the objects comprising flexible connections extending from the objects, means for slidably supporting the flexible connections and power driven means for animating the objects through the connections, illuminating elements on the support, and means cooperating with the connections for effecting intermittent illumination, consisting of an arrangement of illuminating wires in such a manner that the circuit will be made and broken while the flexible connections animate the objects.

In testimony whereof we affix our signatures.

GUSTAV GOERK.
EDWARD G. GOERK.