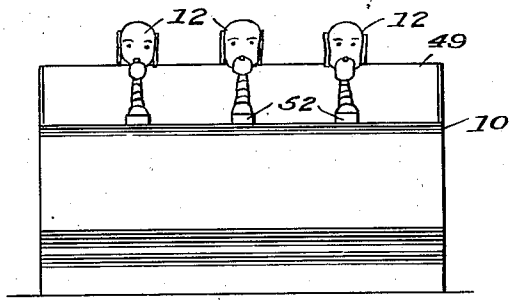
Oct. 22, 1940. G. SOWIN 2,218,772

ACTION TOY DEVICE

Filed Dec. 20, 1937

Fig. 1.



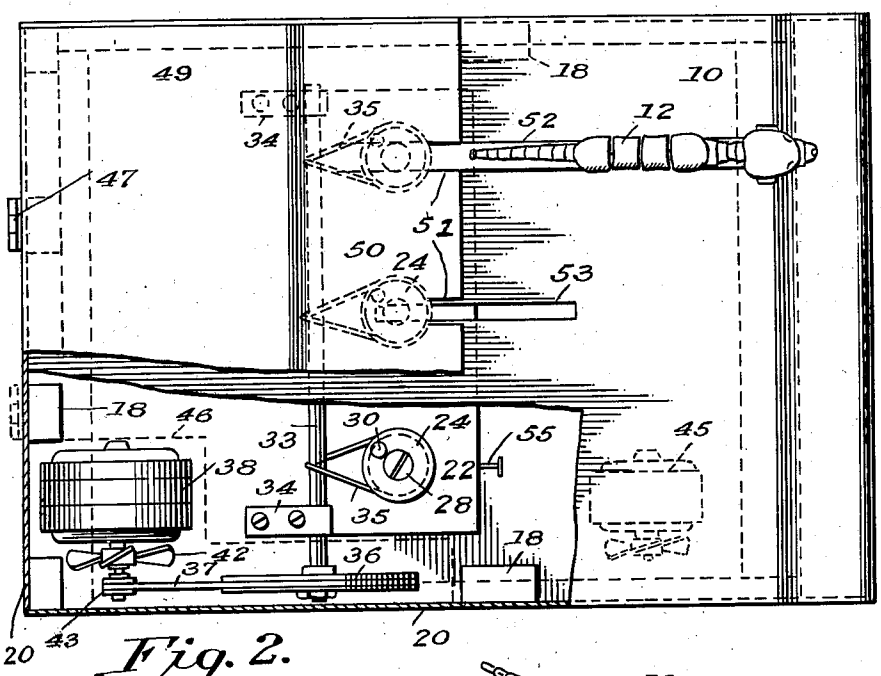


Fig. 2.

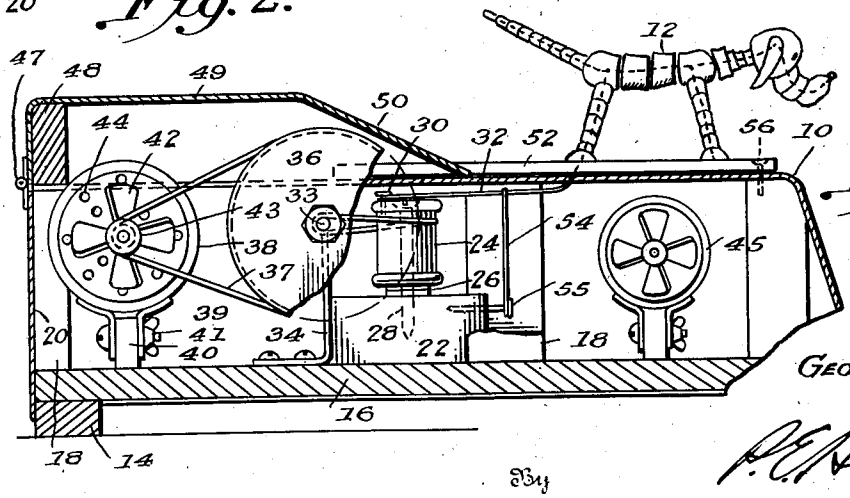


Fig. 3.

Inventor
GEORGE SOWIN

By

Attorney

Patented Oct. 22, 1940 2,218,772

UNITED STATES PATENT OFFICE

2,218,772

ACTION TOY DEVICE

George Sowin, Berwick, Pa.

Application December 20, 1937, Serial No. 180,715

4 Claims. (Cl. 46—119)

This invention relates to a mechanism for operating movable jointed figures.

There is obtainable a variety of jointed movable figures which may be operated in an amusing and entertaining manner by the manipulation of a string or strings running throughout the body of such figures. These figures, in the nature of amusing and entertaining toys, are composed of body, head and limb members comprising a plurality of sections movable with relation to each other and held in assembled position by means of a cord, attached to end sections, running through the head, body and limb members, and extending through a limb member into accessible position so that the same may be grasped for manual manipulation. These figures are mounted on a small platform or base which the operator usually holds in one hand while he manipulates the cord with the other hand. Whenever the tension on the cord is relaxed the figure partially or completely collapses, but if the cord is brought under tension, the figure stands erect and may be caused to move one or more of its members. Some of the figures of this type now available are operated through a single cord, while others may require the use of two or more cords to produce more complicated movement.

It is an object of this invention to provide a mechanism adapted to operate one or more of the above described movable figures. To this end the invention comprises simple means for mounting one or more of such movable figures and simple, inexpensive and compact mechanism for manipulating the operating cord or cords.

The nature of the invention will be more fully understood by reference to the accompanying drawing which forms a part hereof, and in which,

Figure 1 is a front elevational view of the device;

Figure 2 is an enlarged plan view with parts broken away to show underlying structure; and,

Figure 3 is an enlarged side elevational view with the casing wall removed and portions broken away to show underlying structure.

With more particular reference to the accompanying drawing, in which like reference numerals indicate like parts throughout the several views, 10 is a platform or base upon which one or more jointed movable figures 12 may be mounted. The platform 10 is built upon a structure comprising sills 14, beams 16 and upright supports 18. These supporting members together with the platform 10 and the encasing structure 20 form a housing in which the drive mechanism is located.

Extending transversely of the device is a support 22 upon which is mounted one or more drive bobbins or spindles 24. The bobbins 24 are held upon bearing washers 26 by means of a bearing pin 28. Each of the bobbins 24 has a pin 30 eccentrically located in its upper face. To the pin 30 may be attached the figure operating cord 32.

The bobbins 24 may be driven simultaneously from a transverse shaft 33 rotatably mounted in bearing brackets 34. By providing positive drive means between the shaft 33 and the bobbins 24, the bobbins may be driven in synchronization. It is however, more desirable to avoid positive synchronization between the several bobbins 24 and to this end the drive connection between the shaft 33 and the bobbins 24 simply comprises a belt 35 which permits a certain amount of slippage therebetween and the shaft 33 and the bobbins 24.

The shaft 33 is rotated by a drive wheel 36 attached to the end thereof and adapted to receive a belt 37 operatively connected with an electric motor 38. The motor 38 is a self-cooling, high-speed motor adapted to run on ordinary lighting current. The motor 38 has attached thereto clamp members 39 adapted to be fastened to a support 40 by means of a nut and bolt 41. In order to maintain the motor 38 at low temperature a fan 42 is attached to the motor shaft 43 and is adapted to direct air into the motor casing ventilation holes 44.

An auxiliary motor 45 is provided within the casing for operating the device with battery current in localities where other electric supply is unobtainable. It will be understood, of course, that a drive belt will, in such cases, connect the motor 45 with the drive wheel 36 in proper driving relation.

The platform 10 and the front of the mechanism may be constructed of suitable sheet metal stock and I have found it desirable in some cases to provide a ply-wood sub-platform immediately under the platform 10. The platform 10 may extend from the front to the rear of the casing with parts cut away at 46 to provide clearance for the motor 38 and the drive wheel 36. This cut away portion also provides easy access for lubrication.

To the rear of the casing and hinged thereto at 47 is a cover member 48 comprising a top portion 49 which is in a plane above and substantially parallel to the platform 10, and inclined

face member 50. The face member 50 of the cover is cut away or notched at 51 to accommodate the base 52 of a jointed movable figure 12. Immediately in front of the notches 51 in the cover are slots 53 which extend through the platform member 10. These slots permit the passage of figure operating cord 32 to the interior of the mechanism where the end thereof is passed around the eccentric pin 30. In order to keep the operation cord or cords 32 under proper tension during the entire operating cycle, a spring means 54 is utilized. The spring means has one end thereof attached to the operating cord 32 and the other end thereof attached to a pin 55 which extends from the support member 22. This tensioning element 54 may be simple and in the form of an elastic rubber band or a light coil spring.

It is believed that the operation of the device is clear from the foregoing description. In utilizing the invention for demonstrating or operating movable figures of the type referred to, the figure, for example the figure 12 used for illustration in the drawing, is mounted upon the platform 10. To mount the figure it is only necessary to affix the front end of its base 52 to the platform 10 by means such as the screw 56 at the front end thereof. The rear end of the figure's base may be likewise attached to the platform 10 but this is not necessary in view of the construction of the cover 48 in which the notched portions 51 embrace the rear end of the figure's base for holding it in place. The figure operating cord 32 is passed through the slot 53 and the end thereof is attached to the eccentric pin 30. Upon rotation of the shaft 33 by the motor 38, the bobbins 24 carry the pin 30 in a circular path thus alternately releasing and drawing tight the operating cord 32. As a result of this movement the figure 12 is caused to move as hereinabove stated. It is obvious that more than one figure may be mounted on the platform 10 at one time and that they may be caused to move simultaneously although not necessarily in synchronization. Should the device be used to operate a jointed movable figure having two or more operating cords, such figure may be secured to the platform and each cord may be attached to a separate pin 30 on different operating bobbins.

It will be obvious that the invention is capable of various applications and that extensive modifications in the specific construction may be made without departing from the spirit thereof, and it is therefore desired not to limit the invention in any particular other than by the limitations imposed thereon by the terms of the subjoined claims.

What I claim is:

1. A casing for housing movable figure operating mechanisms comprising a figure supporting platform to which the front end of a figure base may be attached, and a cover to the rear of said platform having notches therein for securing the rear end of a figure base.

2. A casing for housing movable figure operating mechanism comprising a figure supporting platform having slots therein, and a notched cover above and to the rear of said platform.

3. A device for operating movable figures comprising a housing having a figure supporting platform at one end thereof to which the front end of a figure base may be attached, a cover above and to the rear of said platform, notches in the front edge of said cover for holding the rear end of a figure base, figure driving mechanism within said housing, and an operative connection between said driving mechanism and a figure upon said platform.

4. A mechanism for demonstrating jointed figures of the type having a base on which is mounted a body composed of a plurality of sections joined by an operating cord, said mechanism comprising a housing having a figure supporting platform on the top thereof, means for removably securing a figure base to said platform, an aperture in said platform to permit passage of a figure operating cord into said housing, an eccentric in said housing for receiving the free end of a figure operating cord, means for maintaining said cord under tension during operation thereof, and means in said housing for actuating said eccentric to impart operating impulses to a figure being demonstrated.

GEORGE SOWIN.