

Aug. 20, 1963

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3,100,949

ANIMATED FIGURE TOY

Filed Oct. 6, 1961

2 Sheets-Sheet 1

Fig. 1

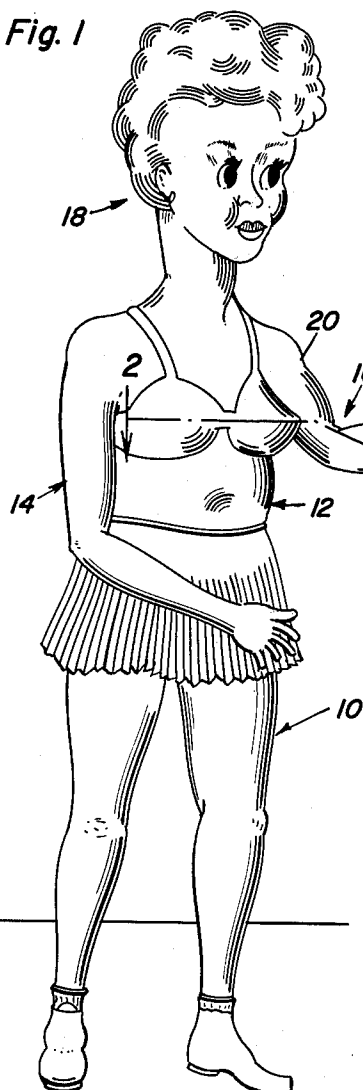


Fig. 6

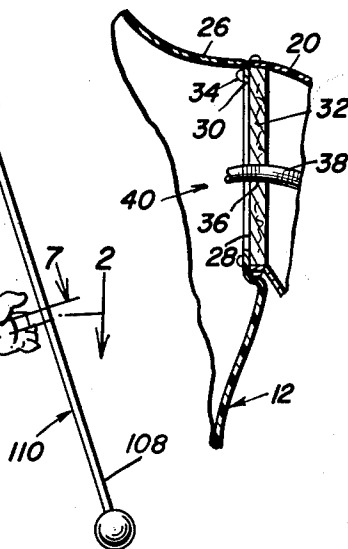


Fig. 9

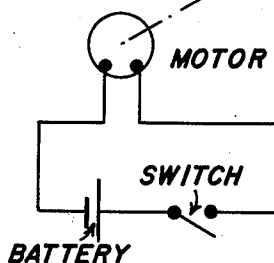


Fig. 8

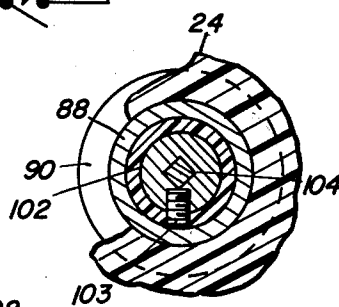
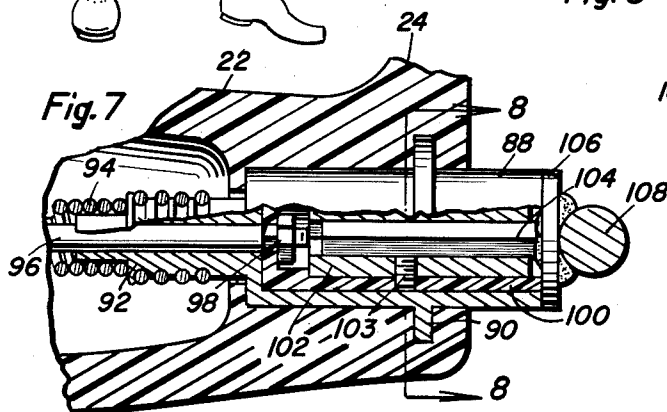


Fig. 7



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2 Sheets-Sheet 2

Fig. 2

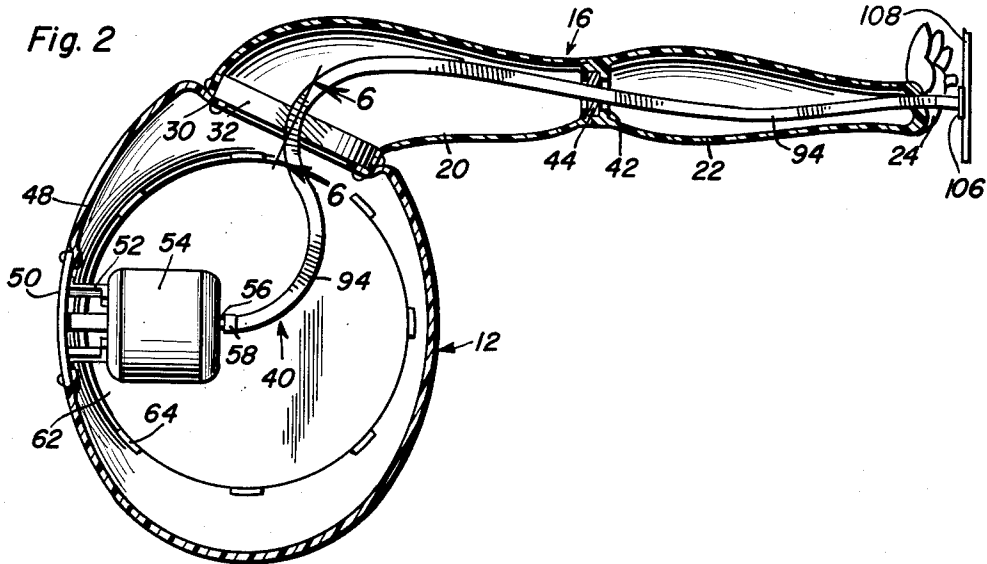


Fig. 3

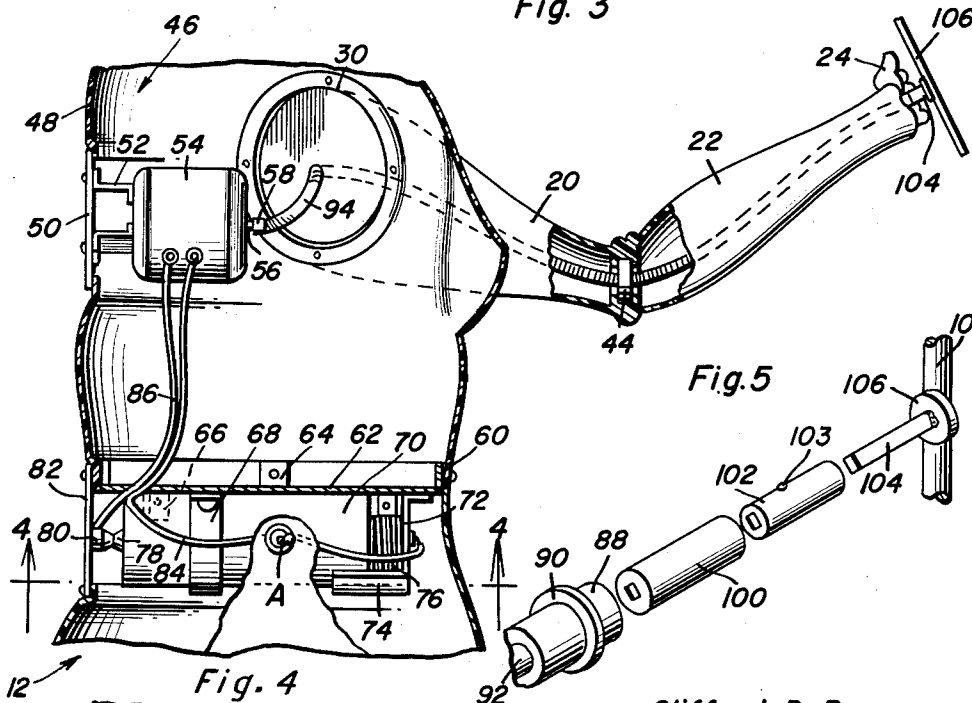


Fig. 5

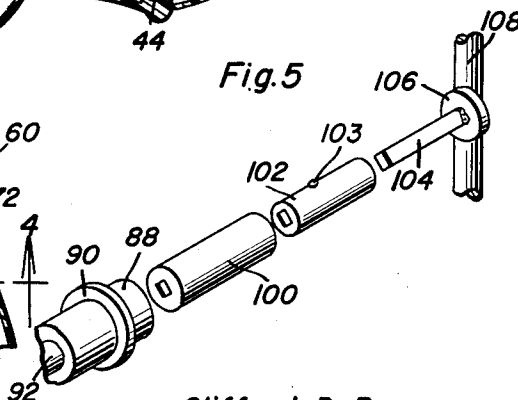
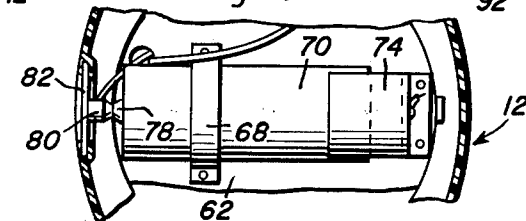


Fig. 4



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ANIMATED FIGURE TOY

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6 Claims. (Cl. 46-241)

The present invention relates to an animated toy, more particularly, a novel plaything, a doll or the like for example, which is unique in that it is provided with an amusing movable object functioning to render the toy novelly attractive.

The preceding objective and concept is, of course, not new. In fact, the art to which the invention relates is made up of many distinguishably varying figure and other toys where motion imparted to some component part of the toy gives the toy its innovative characteristics. It follows that an objective in the instant matter is to provide a figure toy, a doll for instance, wherein the doll is unique by reason of the fact that it is fashioned as or to represent a baton twirler, so to speak, and which as a result of its original appearance and behavior will appeal to the young and old alike.

It should be understood, from the very outset of this disclosure that the toy need not, manifestly, take the form of a doll or, for that matter, a baton twirling doll for, obviously, any suitable figure or well known creature or animal may be imitated or represented. Then, too, the so-called baton twirling or handling trick may be achieved by using some other attractive well known object than a baton for the desired animated result.

Notwithstanding the above aspect of the diversified overall concept it is desirable to embody the inventive idea in a baton twirling doll. To this end the invention pertains, briefly summarized, to a hollow or an equivalent plastic doll ranging, let us say, from 12 to 36 inches in height. At least one hollow arm of the doll terminates in a specially constructed hand fashioned to resemble the position taken by a twirler's hand when actually performing. The baton is poised in relation to the hand and is driven by an elongated flexible motion transmitting shaft which extends through the arm into the hollow portion of the body of the doll where it is connected with a motor which is also supported and concealed in the hollow portion and is operated by a switch-controlled readily insertable and removably dry cell battery.

More specifically, a simple, practical and expedient motion transmitting coupling is incorporated in the doll's hand and, what is also significant, the coupling is characterized by a turnable socket member, said socket member being constructed of magnetizable metal and being adapted to telescopically receive an insertable and removable permanent magnet which is suitably joined to the baton, whereby to provide an effective quick separable joint or connection between the source of power and the baton or equivalent rotatable object.

More explicitly it is an aspect of the overall concept to utilize a doll whose arm is not only hollow and constructed to accommodate the flexible shaft and coupling means but is bendable and has the desired inherent malleable properties that it may be bent to assume different positions and mannerisms to add to the display effect of the twirling baton much to the amusement of the observer, the baton receiving the necessary power notwithstanding the arm's position and shape.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a view in perspective of an animated figure toy, more specifically a baton twirling doll, con-

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structed in accordance with the invention and satisfactorily depicting the general nature of the concept;

FIGURE 2 is an enlarged view with parts in section and elevation taken on the plane of the horizontal line 2-2 of FIGURE 1 and showing the arm straight out;

FIGURE 3 is a fragmentary view with parts in elevation and section and which shows the hollow space and the significant components and their association and arrangement;

FIGURE 4 is a horizontal section on the plane of the section line 4-4 of FIGURE 3;

FIGURE 5 is an exploded perspective view showing a portion of the baton and the slip joint coupling and motion transmitting means;

FIG. 6 is a sectional view showing the connection between the arm and shoulder.

FIGURE 7 is a view greatly exaggerated and in section and elevation taken on the section line 7-7 of FIGURE 1;

FIGURE 8 is a similar fragmentary view on the line 8-8 of FIGURE 7; and

FIGURE 9 is a diagrammatic view showing the wiring diagram.

Keeping in mind the scope of the invention in accordance with the already given objectives the animated figure toy, generally speaking, takes the form of a suitably constructed baton twirling doll, the lower or leg portion thereof being denoted at 10 and the arm and head equipped body or upper portion being denoted generally at 12. Specifically the stationary arm is designated at 14, the improved baton holding and twirling arm at 16 and the head at 18. The shoulder portion is designated at 20, the forearm 22 and the hand at 24. The plastic material used must be of the desired pliant bendable and malleable type. The shoulder portion 26 in FIG. 6 has an opening 28 encircled by a flange 30 to which a wooden or an equivalent rigid diaphragm 32 is secured as at 34. This component or diaphragm 32 has a hole 36 therein to accommodate the coiled casing or housing 38 of the flexible shaft 40. As shown in FIG. 2 the elbow portion of the arm is suitably constructed as at 42 to accommodate a smaller shaft supporting member or diaphragm 44 through which the casing is shown passing in FIG. 2.

Before taking up the novel coupling and motion transmitting means of FIGURE 7 attention is directed to FIGURE 3 wherein it will be seen that the hollow portion or chamber is denoted at 46, the back wall 48 being provided with a closing end plate or disk 50 accessibly mounted and carrying interior brackets 52 supporting the electric motor 54. The motor shaft is denoted at 56 and the operating connection with the shaft, that is between the shaft and flexible motion transmitting shaft is denoted at 58. Continuing with this aspect of the invention it should be pointed out that the body sections 10 and 12 are appropriately connected together at the point 60. Also at this point there is a divider or partition which takes the form of a plate 62 having upstanding ears 64 attached to the section 12 and depending ears 66 attached to the lower body part 10. This plate is provided on its underneath side with a U-shaped hanger 68 embracing the dry cell battery 70. Also on this same side there is an L-shaped clip or hanger 72 having a portion 74 fashioned to seat the end portion of the dry cell battery and to accommodate the coil spring 76. The contact 78 at the other end of the battery is cooperable with a contact element 80 on an accessible removable cover or closure plate 82 whereby to thus mount the battery for operation. The electrical conductors, one from the battery at 84 and the other one 86 from the contact element 80 are shown and suitably connected with the motor or equivalent prime mover 84.

Attention is now directed to FIG. 7 in conjunction, of course, with FIG. 5. It will be seen that the bearing and

coupling means comprises a cylindrical barrel or cylinder 88 having an anchoring flange 90 intermediate its ends and embedded in the portion of the hand 24. At the left-hand end the barrel has an axial extension 92 suitably constructed to permit the coils 94 of the shaft housing to be secured thereto and to permit the terminal end portion 96 of the shaft to be journaled for rotation therein. The nut-equipped end 98 of the shaft end is suitably connected to an insulated cup 100 which is freely mounted for rotation in the barrel 88. This cup is provided interiorly with an elongated socket member 102 which is non-circular in cross-section to provide a keying socket for the insertable and removable key 104. It is to be pointed out here that the cup 100 and socket member 102 are connected by a setscrew 103. The key 104 preferably comprises an elongated permanent magnet which as shown in FIG. 5 is connected at one end to a disk 106 welded or otherwise joined to the rod portion 108 of the baton 110. Both components 104 and 102 may be magnets or the part 102 may be a magnetizable element. In any event the attraction object, the baton 110, is provided with a key or the like which has slip joint connection with a driven socket member whereby to thus provide a specifically distinct and novel aspect of the overall invention.

It is brought out in FIGS. 1 and 2 that the bendable arm may be adjusted and set by hand so that different positions may be assumed. It is further clear that the electric motor can be inserted from the back and positioned as illustrated in FIG. 3. Also the cover plate 82 is readily applicable and removable to allow the original dry cell battery to be installed or replaced when worn. It will be evident that by turning the accessible switch A (FIG. 3) "on" the motor will be supplied with current and a battery and the motor shaft 56 will impart rotation to the elongated flexible shaft. The latter shaft in turn operates the novel slip joint coupling and motion transmitting means illustrated in FIGS. 7 and 8. Assuming that the toy is a doll and that the animated plaything is a baton, it will be evident that with the baton in place it will be twirled or whirled in an attractive manner.

It is believed that a careful consideration of the specification in conjunction with the views of the drawings will enable the reader to obtain a clear and comprehensive understanding of the construction and operation of the invention. Therefore, a more lengthy description is regarded as unnecessary.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An animated figure toy comprising a body constructed to represent a given figure and having a hollow chamber and at least one limb with a free terminal end portion provided with bearing means, a prime mover fixed and confined in said chamber, a flexible motion transmitting shaft operatively connected at one end with said prime mover, a movable attention-attracting object adapted to move relative to said limb, the end of said shaft opposite said one end embodying a driven socket member of magnetizable metal, said object comprising a baton, said baton embodying a handling staff provided intermediate its ends with a laterally projecting permanent magnet constituting a coupling and keying shank, said shank being adapted to be slidably keyed in said socket member.

2. The structure defined in claim 1 and wherein said body comprises a plastic doll, said limb comprising a bendable arm terminating in a desirably poised hand, said arm being hollow and provided with shaft supporting means, said shaft extending axially through the hollow

portion of the arm and connected with the supporting means, said supporting means embodying a stationary bearing, said socket member being confined and rotatable in said bearing.

3. In combination, a hollow body having a hollow arm having a free outer end portion provided with a fixedly mounted barrel constituting a bearing, motion transmitting and coupling means mounted for rotation in said barrel and including a socket member, said socket member being constructed of magnetizable metal, a baton embodying a handle provided with a lateral shank, said shank comprising a permanent magnet and said magnet constituting a key and being slidably keyed in the socket of the socket member, a flexible shaft connected at one end with the socket member, and an electric motor in the hollow portion of the housing, the other end of the shaft being connected with said motor.

4. The structure defined in claim 3 and wherein a divider plate is mounted in the hollow portion of the body, said motor being fixed to the body above the plane of said plate, said divider plate having hanger brackets on an underneath side to support an applicable and removable battery for said motor.

5. An animated figure toy comprising a body constructed to represent a given figure and having a hollow chamber and including a body portion, legs, arms, head and neck connecting the head to the upper end of the body portion, one of said arms being fixed on the body portion and consequently relatively stationary, the other arm being made of bendable malleable material and being shapeable and positionable in a desired manner relative to said body portion, said one arm terminating at an outer end in a suitably poised hand, an electric motor fixedly mounted and confined in said hollow chamber, plate means mounted in said body portion and provided with a battery adapted to supply current to said motor, a flanged barrel anchored in a terminal end portion of said hand and providing a bearing, socket means mounted for rotation in said bearing, a baton having a staff with shank means thereon separably fitted into and joined to said socket means for rotation therewith, and a flexible power transmitting shaft having one end operatively connected with a shaft provided therefor on said motor and having the opposite end operatively connected with said socket means.

6. An animated figure toy comprising a body constructed and designed to represent a given figure, said body having a hollow chamber and including a body portion, legs, arms, a head and a neck connecting the head to the upper end of the body portion, at least one of said arms having a free terminal end portion embodying bearing means, a prime mover confined for operation in said chamber, a flexible motion transmitting shaft operatively connected at one end with said prime mover, a rotatable attention attracting object separate from said body, said motion transmitting shaft having a free end remote from said one end, said free end being provided with a driven socket member, said object comprising a toy baton having a shank embodying a permanent magnet, said socket member embodying magnetizable material and said shank being fitted telescopically and removably into the socket of said socket member and being separably connectible therewith.

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