United States Patent

Martin

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[54] **MUSICAL TOY**

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[52] **U.S. Cl.** **46/118**

[51] **Int. Cl.** **A63h 5/00**

[58] **Field of Search** 46/130, 118

[56] **References Cited**

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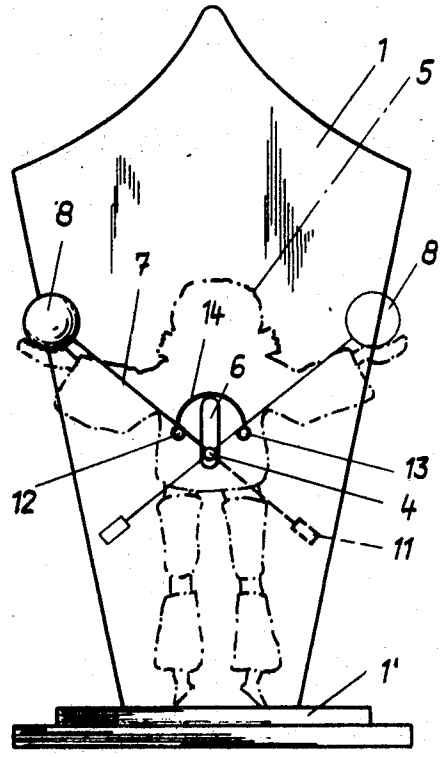
[57] **ABSTRACT**

An articulated toy figure is mounted on an axle driven with a vertical reciprocating movement by a musical motor. A rod pivoted about said axis can pivot between two extreme positions defined by stop members, and upon impact with one stop is rebounded to the other stop so that an object on the rod is apparently juggled from one hand of the figure to another hand.

7 Claims, 4 Drawing Figures



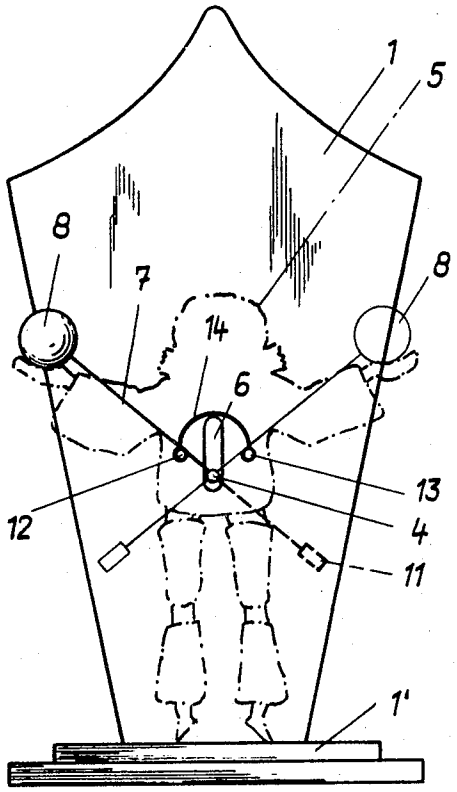


Fig. 1

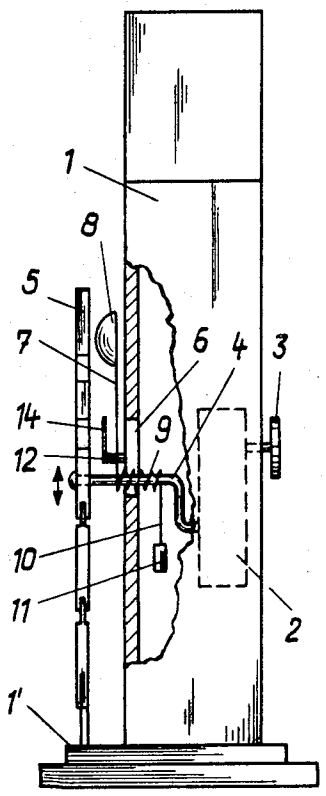


Fig. 2

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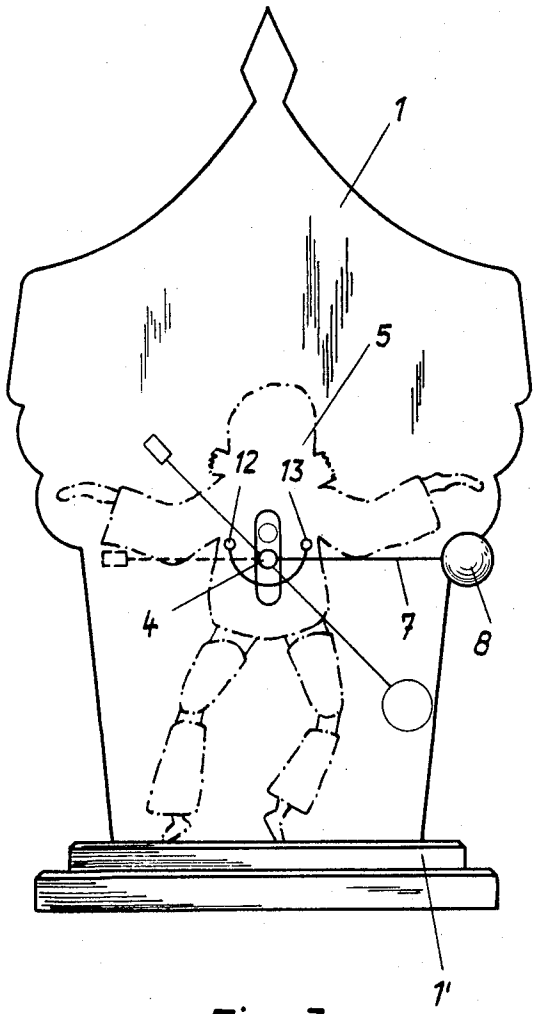

Fig. 3

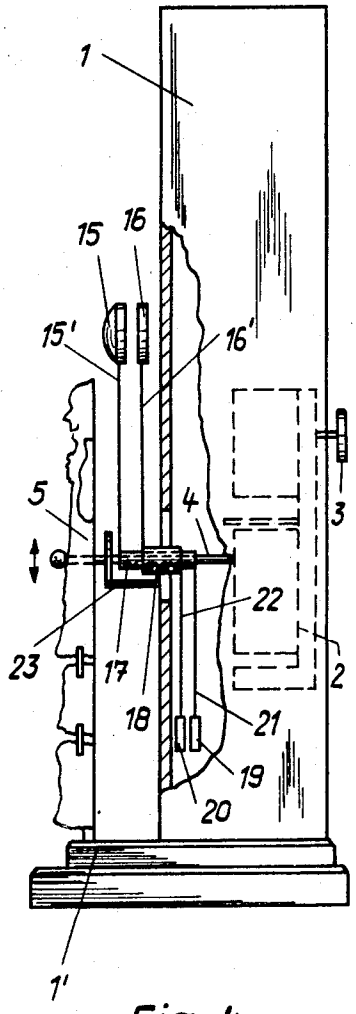

Fig. 4

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MUSICAL TOY

FIELD OF THE INVENTION

This invention relates to musical toys and is more particularly concerned with articulated toy figures driven by means of a musical motor.

An object of the invention is to provide a toy figure which, upon driving with a vertical reciprocating movement by the motor, gives the impression of juggling with one or more objects in a natural manner.

SUMMARY OF THE INVENTION

According to the invention there is provided a musical toy comprising a musical motor including means for driving a support axle with a reciprocating movement along a vertical axis. A toy figure supported on said axle comprises a plurality of articulated limbs and at least two lateral limbs. A radial rod is freely pivoted about said axle and a support member is provided on either side of said vertical axis. The support members act as stops to limit pivotal movement of the rod between a first extreme position in which an object carried by the rod is adjacent a first lateral limb and a second extreme position in which said object is adjacent a second lateral limb, and the support members also form means for rebounding the rod towards the opposite extreme position upon impact of the rod with a support member during vertical reciprocation of said axle by the motor.

DESIGNATION OF THE DRAWINGS

The accompanying drawings show, schematically and by way of example, a preferred embodiment of the invention and two variants thereof.

FIG. 1 is a front elevational view of the embodiment.

FIG. 2 is a partly cut-away side of the embodiment.

FIG. 3 is a view similar to FIG. 1 for a variant.

FIG. 4 is a view similar to FIG. 3 for another variant.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The musical toy shown in FIGS. 1 and 2 comprises a casing 1 mounted on a base 1' and housing a schematically indicated known type of spring driven musical motor 2 with a winding key 3. Motor 2 carries a support axle 4 on which is mounted an articulated toy FIG. 5 with the characteristic appearance of a juggling clown. The support axle 4 is driven by an eccentric (not shown) of the musical motor 2 so as to effect a vertical reciprocating movement through a slot 6 in the casing 1. In the position shown in the drawings, the feet of the toy FIG. 5 contact the base 1'.

The support axle 4 additionally carries a radial rod 7 the outer end of which carries a hemispherical member 8 whilst the inner end has a helicoidally wound section 9 forming a cylinder through which the axle 4 passes freely. The section 9 has an inner radial extension 10 aligned with rod 7, and a counterweight 11 is provided on extension 10 to counteract the weight of member 8 and balance the rod 7 about the axle 4.

Supports 12 and 13 are provided on either side of the slot 6 and thus of the vertical plane in which the axle 4 moves. These supports are connected by an arcuate guide member 14 for guiding the radial rod 7 and serve to alternately rebound the rod 7 each time that it comes into abutment against one of the supports when the rod 7 is driven by the support axle, as will be described further on. A rubber coating is provided around each support 12 and 13 so as to elastically absorb the shock upon impact of the rod with a support to thereby make movement of the rod less abrupt.

The length of the radial rod 7 is such that the hemispherical member 8 having the outward aspect of a ball appears to pass over the head of the toy figure from one hand to the other hand, as indicated in FIG. 1.

In operation, the musical motor 2 moves the support axle with a vertical reciprocating motion as indicated by the arrow in FIG. 2. The toy FIG. 5 is thus raised and lowered in such a manner that its feet touch the base 1' either singly or together so that the figures' legs are thrown from side to side with a random movement. According to the relative positions of the various articulated parts of the toy figure, the body thus pivots in one direction or the other in a non-controlled manner. During this reciprocating movement of the axle 4, the rod 7 which is freely mounted about this axle makes impact with one of the supports 12 or 13 which rebounds it towards the other support. The member 8 thus passes from one extreme position to the other, giving the impression of being thrown from one of the hands of the toy FIG. 5 to the other. The movements obtained seem to be natural and are not automated as is the general case with the other known devices of a similar type.

DESCRIPTION OF VARIED EMBODIMENTS

In the variant of FIG. 3, the hemispherical member 8 representing, for example, a ball, is downwardly displaced under the hands of the toy FIG. 5. To this end, the rod 7 is mounted below the supports 12 and 13, and the arcuate guide member is also inversed in comparison to FIGS. 1 and 2. Otherwise, the operation of this variant takes place in the same manner as before.

In the variant shown in FIG. 4, the toy FIG. 5 juggles with two objects 15 and 16 carried by radial rods 15' and 16' respectively. Object 5 is a hemispherical ball-like member as before, whilst object 16 is a disc. The rod 15' is fixed to a pipe 17 freely mounted on the support axle 4 and the rod 16' is fixed to a sleeve 18 freely mounted on the pipe 17. Counterweights 19 and 20 are carried respectively by rods 21 and 22 located inside the casing 1 and fixed on the pipe 17 and sleeve 18 in alignment with the corresponding rods 15' and 16'. Means (not shown) are provided to axially hold the sleeve 18 on the pipe 17 and the pipe 17 on the axle 4.

Two lateral supports, only support 23 being visible, each serve as a stop for the two rods 15' and 16' and, apart from a slightly increased length, are in all other respects identical to the supports for the preceding examples.

Upon operation of the musical motor 2, the toy FIG. 5 juggles with the ball 15 and disc 16, the movements of which are entirely independant and unpredictable, impact of the rods 15' and 16' against the lateral supports being entirely at random. The movements of this variant of toy juggling figure therefore also have a natural, spontaneous appearance.

Whilst the described examples all include a counterweight for each rod carrying a juggled object, this counterweight could be omitted without causing failure of operation, but simply a slowing down of the movement of the juggled objects.

Instead of a juggling clown, the toy figure could be any other toy or cartoon figure juggling with one or several objects which can be decorated other than as described.

What is claimed is:

1. A musical toy comprising a vertical reciprocating axle driven by a wind motor, a toy figure mounted on said axle, a radial rod pivotally mounted upon said axle carrying an object at its free end and a pin on each side of the path of said vertically reciprocating axle acting as an abutment for said rod striking against said pins during the reciprocation of said axle by said motor to swing said object from one side to the other side of the reciprocating path of said axle.

2. A toy according to claim 1 wherein said toy figure having the aspect of a juggling clown comprises a main body portion supported on said axle having a head and two laterally directed arms each terminating with a hand, the dimensions of said main body portion and said rod being such that upon pivoting of said rod from one extreme position to the other said object moves above said head from one of said hands to the other.

3. A toy according to claim 1 wherein said rod has a cylindrical member mounted upon said axle.

4. A toy according to claim 3 wherein said cylindrical member is a helicoidally wound section of said rod.

5. A toy according to claim 3 wherein said cylindrical member carries a counterweight to counterbalance the weight of said object and said rod.

6. A toy according to claim 4 wherein said helicoidally wound section has an extension in alignment with said rod and said extension carries a counterweight to counterbalance the weight of said object and said rod.

7. A toy according to claim 1 wherein said radial rod is fixed to a pipe pivotally mounted on said axle, and a second radial rod is fixed to a sleeve pivotally mounted on said pipe, and a second object is carried by said second rod.

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