July 9, 1940. S. WARD 2,206,987

MECHANICAL TOY

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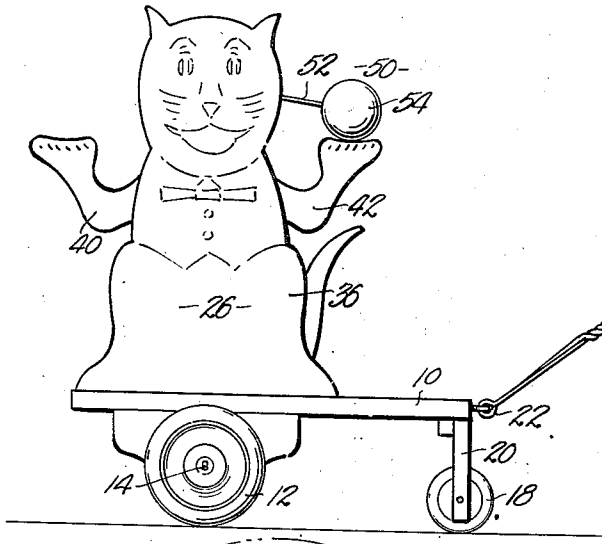

Fig. 1.

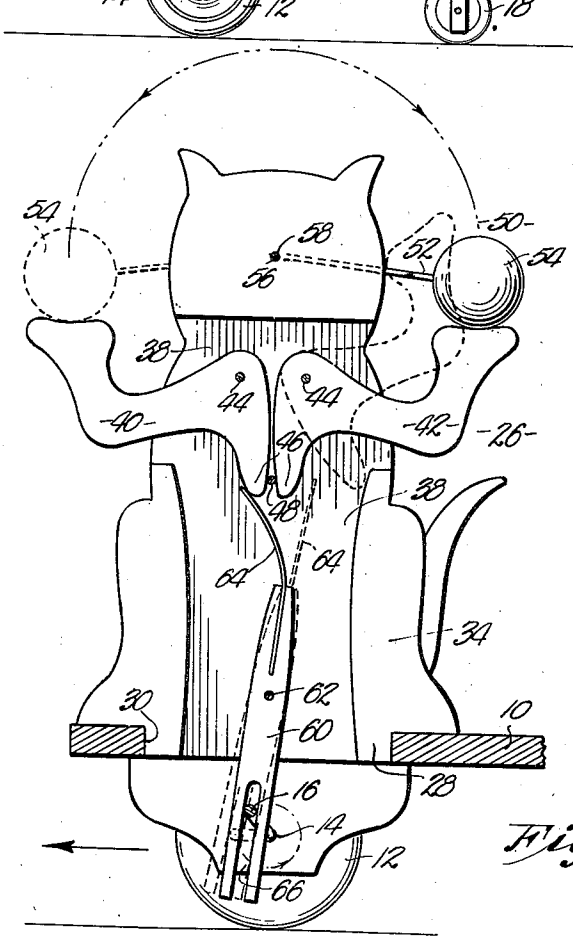

Fig. 3.

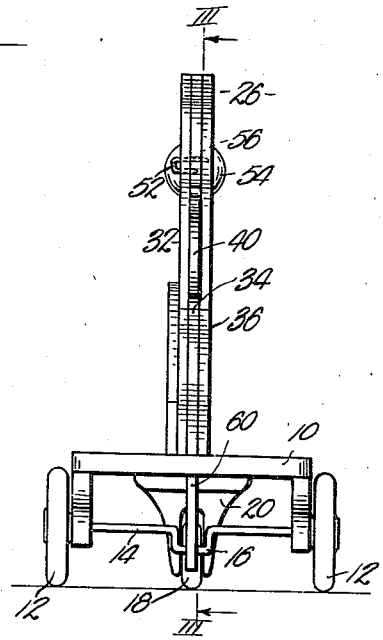

Fig. 2.

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MECHANICAL TOY

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5 Claims. (Cl. 46—107)

This invention relates to improvements in mechanical toys and has for its principal object, the provision of a mechanical toy mounted on wheels and provided with a movable ball and means actuated as said wheels are rotated to change the position of said ball relative to its supporting standard.

Other objects are simplicity and economy of construction, efficiency of operation, and adaptability for use with various forms of standards.

With these, as well as other objects, which will appear during the course of the specification in view, reference will now be had to the drawing wherein:

Figure 1 is a side elevation of a mechanical toy embodying this invention.

Fig. 2 is a rear elevation of the toy; and,

Fig. 3 is an enlarged fragmentary sectional view, taken on line III—III of Fig. 2, with certain of the parts shown in dotted lines to indicate certain actions of the movable parts.

Throughout the several views, like reference characters refer to similar parts and the numeral 10 designates a body member mounted on a pair of drive wheels 12, rigidly mounted on axle 14, having an offset central crank portion 16. Axle 14 is mounted for rotation in depending bearings secured to the underside of body member 10.

A wheel 18 mounted in bracket 20 serves to support the front end body member 10, to maintain it in substantially parallel relation with the floor. Hingedly attached to the front end of body member 10, by means of screw-eyes 22, is a suitable handle 24, by means of which the toy may be pushed or pulled over the floor.

A standard 26 having a detent 28 is adapted to be removably secured to body member 10 by inserting the detent 28 into a hole 30, formed in said body member. This standard is formed to represent the form of a cat or could be altered to represent any desired figure. Referring to Fig. 2, it will be noted that standard 26 is made of three members, 32, 34 and 36, of sheet material matched in form and having a portion of the inner sheet 34 cut away to present a center recess 38 which extends from the bottom edge to the opposite sides respectively, of the standard below the top portion thereof.

For convenience of operation, the standard 26 is preferably centered on a line perpendicular to body member 10, that passes through the axis of axle 14. Similar arms 40 and 42 are pivoted respectively at opposite sides of the center line of standard 26 by means of pins 44 with their lower end portions 46 resting against a centrally disposed stop member 48, and their outer ends extending outwardly beyond said standard 26, as clearly shown in Fig. 3. It is very evident that these arms, will, due to the action of gravity, maintain their relative relation until acted upon by some outside force.

An oscillatory member 50 comprising an arm 52 and a ball 54, is pivotally mounted by means of the offset end portion 56 of arm 52, passing into hole 58 formed in standard 26 on its center line. The oscillatory member is so constructed that when it is thus pivoted the ball 54 carried by the free end of arm 52, will be resting on the outer end portion of one of the arms 40 or 42.

It is one of the objects of this invention to transfer the ball from one side to the other side of the standard, to rest on the respective arms. This transfer of the position of the ball, is obtained as the toy is moved along the floor by the following mechanism.

An arm 60 pivoted intermediate its ends at 62 extends into recess 38 and is provided with a resilient member, such as a flat spring 64, which, when oscillated, contacts the lower end portions 46 of arms 40 and 42 in a manner hereinafter described.

The lower end of arm 60 is bifurcated at 66 and positioned to straddle the crank portion 16 of axle 14 so that as the wheels are rotated, the rotating crank will cause the arm 60 to oscillate through a predetermined arc, thus moving spring 64. The driving action of spring 64 is as follows:

In Fig. 3 it will be considered that the toy is being pushed in the direction indicated by the arrow and the crank 16 is causing the upper end of arm 60 to move in a clockwise direction. During the larger portion of the oscillation in the direction, the spring is being energized because the free end thereof rests against the arm at 46 until it reaches a position where it can be released, past the end of arm 40. The end portions of arms 40 and 42 are spaced apart so that the energized spring 64 will strike the lower end 46 of arm 42 and impart a quick movement thereto, thus, forcing ball 54 to oscillate about point 56 so that the ball will be transferred to the opposite side of the standard and rest on arm 40, as shown in dotted lines. The arm 42 will return to the normal position, due to gravity, and the lower portion 46 thereof, will move past spring 64 so that the spring will be in position to oscillate arm 40, as the toy is moved in the same direction. By this means it will be noticed that the ball will make a full cycle at each full revolution of the wheels 12.

While a flat spring has been shown and de-

scribed, whereby a quick movement has been imparted to the arms 40 and 42, yet it is apparent that other equivalent means, such as weights or other forms of spring actuated means, might be substituted without departing from the spirit of the invention.

The toy may be moved in either direction to obtain the same general effects, also various effects may be obtained by making slight changes in the standard design.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A mechanical toy comprising a base member mounted on wheels; a standard carried by said base member; a pair of oppositely disposed arms pivotally mounted on said standard; and a single oscillating lever energized as said wheels are rotated whereby said arms are successively and rapidly moved.

2. A mechanical toy comprising a base member mounted on wheels; a standard carried by said base member; a pair of oppositely disposed arms pivotally mounted in said standard and extending therebeyond; a pivoted member carried by said standard with a portion thereof adapted to be moved from a position on one of said arms to a similar position on the other of said arms; and resilient means energized as said wheels are rotated, operable to successively impart rapid movement to said arms whereby said pivoted member is shifted from one arm to the other.

3. A mechanical toy comprising a standard; wheels supporting said standard; a pair of arms pivoted for oscillation to said standard and extending in opposite directions, respectively therefrom; means to limit the oscillatory movements of said arms; a pivotally mounted member adapted to be oscillated about the upper end of said standard; and means operated by said wheels as they are rotated to energize a flat spring and cause it to be released to successively operate said arms and cause said pivotally mounted member to be oscillated about said standard.

4. A mechanical toy comprising a standard mounted on wheels; a pair of oppositely disposed arms pivotally carried by said standard and extending outwardly therefrom; an arm secured at its one end to said standard and having a member at its free end; and a single oscillating lever pivotally mounted intermediate its ends and adapted to be energized as said wheels are rotated to impart a rapid movement to said ball whereby it is moved from one side to the other side of said standard.

5. A mechanical toy comprising a base member; a pair of base supporting wheels rigidly secured to an axle having an offset crank; a standard supported on said base; a pair of arms pivotally mounted on said standard and extending outwardly therefrom at opposite sides of the standard; an oscillatory arm pivoted at its one end to said standard; a member secured to the free end of said oscillatory arm and adapted to rest on one of said first named arms; an operating lever pivoted intermediate its ends to said standard with its one end portion engaging said axle crank and its other end provided with a flat spring to engage said pair of arms, whereby as said crank is rotated, said arms will be successively moved to cause said member to move from one side to the other side of said standard.

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