May 12, 1925. 1,537,484

F. B. MEEHAN

DANCING DOLL

Filed March 18, 1921

Fig. 1.

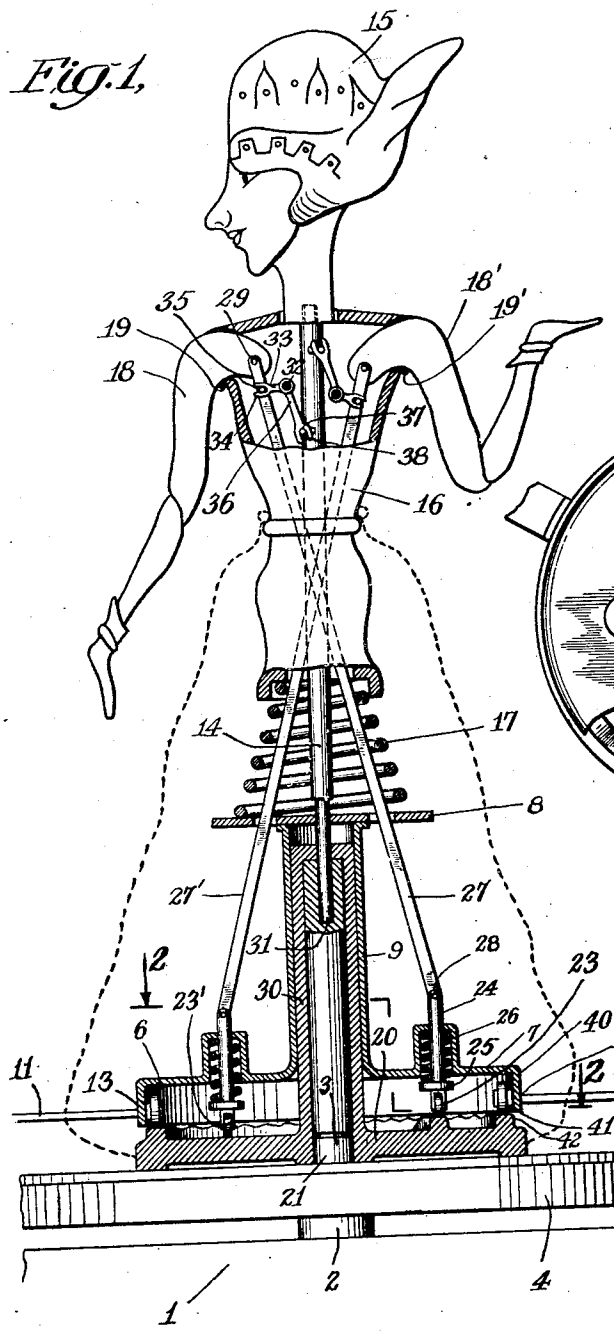
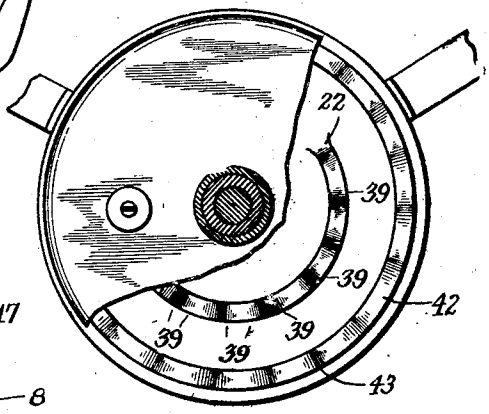


Fig. 2.



Inventor

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By her Attorney

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Patented May 12, 1925. 1,537,484

UNITED STATES PATENT OFFICE.

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DANCING DOLL.

Application filed March 18, 1921. Serial No. 453,435.

To all whom it may concern:

Be it known that I, FLORENCE B. MEEHAN, a citizen of the United States, residing in the city of Highland Park, county of Lake and State of Illinois, have invented certain new and useful Improvements in Dancing Dolls, of which the following is a specification.

This invention relates to improvements in dancing toy figures and to means for mechanically operating the same.

One of the objects of this invention is to provide a mechanically operated toy figure adapted to be associated with a phonograph so as to be effectively operated by the record driving mechanism of the phonograph; the further object being to provide a device of such a character that it may be readily and easily placed upon or removed from the phonograph.

Another object of the invention is to provide a doll figure and an operating mechanism therefor, such that when the mechanism is operated the doll will be caused to move in a manner imitating a well known dancing movement, which involves a rapid shaking and shrugging of the shoulders, and in addition to simultaneously move the head and limbs in such manner as will render the imitation of said dancing movements more natural.

The further object of the invention is to provide a cam mechanism adapted to be removably mounted on a phonograph for actuation by a rotating element, such as the turntable or a record thereon, or the spindle of the phonograph, whereby upon revolution of said element, said doll is caused to perform the desired dancing movements above stated.

Other objects of the invention will be in part obvious and in part pointed out hereinafter.

In the accompanying drawings, wherein is shown one of the various possible embodiments of this invention, Fig. 1 is a front view of the doll and operating mechanism therefor in position on a phonograph, some of the parts being shown in section and other parts cut away to more clearly illustrate the invention. Fig. 2 shows the rotatable cam element, showing its position relative to the supporting base for the doll, and is taken on the line 2—2 of Fig. 1. Similar reference characters refer to similar parts throughout the several views of the drawings.

Referring to the drawings, 1 indicates a casing of a phonograph having a spindle 2 provided at its upper end with record centering pin 3 and turntable 4; 5 indicates a record in position on the turntable. A supporting base 6 is provided for the doll and comprises a lower shelf 7, upper shelf 8 and hollow post 9 rigidly joining these shelves. The supporting base 6 is supplied with radially extending resilient arms 10 and 11, substantially L-shaped, and adapted at their outer extremities 12 to be removably fastened to the casing of the phonograph, so as to support at their inner ends 13, 13 the base and a doll carried thereon, in suitable position over the turntable of the phonograph.

The doll figure comprises a rod 14 vertically and loosely supported, extending above the supporting base, and carries a head 15 attached to its upper end. The doll figure also comprises a body member or torso 16 loosely positioned about said rod for free rotation or vertical movement thereon, the lower end of said torso 16 resting upon the upper end of a coil spring 17, the lower end of which rests on shelf 8 of the supporting base. A pair of limb members or arms 18, 18′ are pivoted to the body portion of the doll as at 19, 19′, and each arm may comprise a plurality of portions loosely joined together to render movement of the arms more natural.

It is apparent that a doll so constructed and mounted is capable of being moved to simulate many different dancing movements, including movements similar to those involved in a well known dance of the present day, which includes the shaking and shrugging of the shoulders and with or without independent and relative motions of the head and arms. Means are supplied whereby upon rotation of spindle 2, or turntable 4, or record 5, dancing movements are imparted to the doll figure, and particularly those movements which have been specifically referred to above. The said means, as shown, comprises a disk shaped member 20 adapted to rest upon record 5 with such frictional contact that member 20 will rotate with record 5. A perforation 21 may be supplied in the center of member 20 adapted to receive record centering pin 3 to keep the

member properly centered upon the phonograph. Member 20 comprises an undulatory portion 22 providing in effect an annular horizontally disposed cam track having a vertically undulating cam surface. A roller 23 supported on base 6, as by means of a rod 24, is mounted to ride over undulatory portion of member 20 when member 20 is rotated, and to be vibrated up and down in response to variations in the vertical extent of the undulations passing beneath the roller. A collar 25 may be supplied on rod 24, and a spring 26 may be positioned between collar 25 and supporting base plate 7 to effectively hold roller 23 in close contact with the cam surface of member 20, and to insure positive reciprocation of rod 24 in response to the passing of the waved cam track of member 20 therebeneath. To the upper end of rod 24 is pivoted a rod 27 as at 28, and the upper end of rod 27 is pivoted to arm member 18 as at 29, so that as the waves of the undulatory portion 22 of member 20 pass beneath roller 23, rod 27 will be moved up and down accordingly, with the result that arm 18 will be caused to swing on its pivot 19. In addition, the force imparted to arm 18 and pivot 19 through rod 27 will also tend to cause the body portion of the figure to be moved up and down, and will also cause the body portion to vibrate and to be reciprocated back and forth about rod 14. Similar connections may be made for operating the other limb member, and the corresponding roller 23′ may be so positioned relative to roller 23 that the desired movements of the arm members, as well as the movements of the different shoulders of the body member, may be effected at the desired times.

To aid in keeping the various parts properly positioned, member 20 may be supplied with an upright pin 30 having a centrally located socket 31 extending downwardly from the top and adapted to receive and loosely support the lower end of rod 14. The head portion 15 of the toy figure may be caused to rotate back and forth by means of a bell crank lever pivoted to the body portion as at 32, and having the outer end of one of its arms 33 slotted or forked as at 34 to receive a pin 35 fastened to rod 27, and its other arm 36 slotted or forked as at 37 and adapted to receive a pin 38 fastened to rod 14 as shown. It will be clear that by reason of this connection between rod 27 and rod 14, the movement of rod 27 up and down will cause the head 15 to correspondingly turn from side to side.

Member 20 comprises in effect a cam mechanism, and the undulatory portion 22 thereof may comprise wavelike cam portions, and the number and design of these cam portions may obviously be varied considerably. As shown, member 20 comprises a cam track 22 defining an arc of substantially 180° and comprises five waves 39.

Shelf 7 of base member 6 may be supplied with flanged portion 40, and on this portion may be mounted a roller 41 adapted to ride on a second undulatory surface 42 of rotatable member 20, so that as the undulations 43 of this surface pass beneath rollers 41, both base 6, and the torso 16 of the doll figure carried on the base, will correspondingly rise and fall. Supporting arms 10 and 11 are preferably sufficiently resilient to give the desired freedom of movement to base 6 and at the same time to maintain rollers 41 in close contact with cam surface 42. In this manner shrugging and shaking movements of the shoulders are positively obtained, and these movements may be accentuated or modified by altering the shape or number of the undulations on cam surface 43, or by altering the resiliency of spring 17. The rollers or trucks 41 may be provided with rubber tires if desired. The weight of the doll and base bearing on member 20 through rollers 23 and 23′ and rollers 41 also tends to maintain the proper frictional contact between member 20 and record 5.

Thus it is seen that this invention provides a doll and operating mechanism therefor, such that when mounted in operative position upon a phonograph, the doll will be caused to move so as to simulate the desired dancing movements whenever the phonograph operating mechanism is in operation.

The doll and mechanism as described may be modified considerably without departing from the scope of my invention. For instance, spring 17 may be entirely dispensed with, in which case the torso may be supported solely by rods 27 and 27′, and, being guided on rod 14, will be maintained in proper position. However, the use of a sufficiently resilient spring will occasion the figure to undergo irregular vibrating motions, both vertical and rotary.

It will be apparent that rollers 23 and 23′ need not be positioned diametrically opposite each other, but they may be placed in any one of a number of different relative positions as desired. The construction may be modified in many other ways to effect the imitation of any one or more of a great number of different dancing or other movements, and since many changes could be made in the above construction and as many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim is:—

1. The combination with a phonograph in-

cluding a rotating member, of a horizontal disk frictionally engaging said rotating member co-axially for rotation therewith, and having a horizontal cam portion, a figure having a part movable with respect to the figure as a whole, anchoring means restraining said figure from turning, and means connected with said movable part and in engagement with said cam surface, whereby movement of said disk causes movement of said movable part with respect to said figure as a whole.

2. The combination with a phonograph including a rotating member, of a horizontal disk frictionally engaging said rotating member co-axially for rotation therewith, and having an annular horizontal cam portion, a figure having a part movable with respect to the figure as a whole, vertically resilient anchoring means restraining said figure from turning, means connected with said movable part and in engagement with said cam surface, whereby movement of said disk moves said movable part with respect to said figure as a whole, a second annular cam portion on said disk and said figure as a whole resting on said second cam portion, whereby the figure as a whole is moved by movement of said second cam portion.

3. The combination with a phonograph including a rotating member, of a horizontal disk frictionally engaging said rotating member co-axially for rotation therewith, and having an annular horizontal cam portion, a base supported over said disk, anchoring means restraining said base from turning, a coil spring vertically mounted on said base, a figure supported on said coil spring, said figure including a pivoted part movable with respect to the figure as a whole, and rigid means connected with said movable part at a point removed from its pivot and riding on said cam surface, whereby movement of said disk moves said movable part with respect to said figure as a whole and imparts vibration to the figure as a whole due to its spring mounting.

This specification signed and witnessed this 7 day of March, 1921.

FLORENCE B. MEEHAN.

Witnesses:
HOWARD M. HOOKER,
ETHEL C. SHOCKLEY.