June 5, 1951 M. LEVINE 2,555,800

TALKING DOLL

Filed Nov. 19, 1949 2 Sheets-Sheet 1

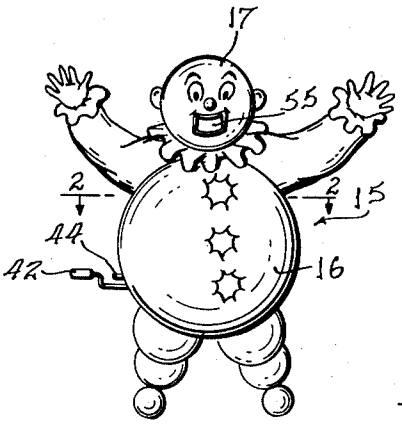


FIG. 1.

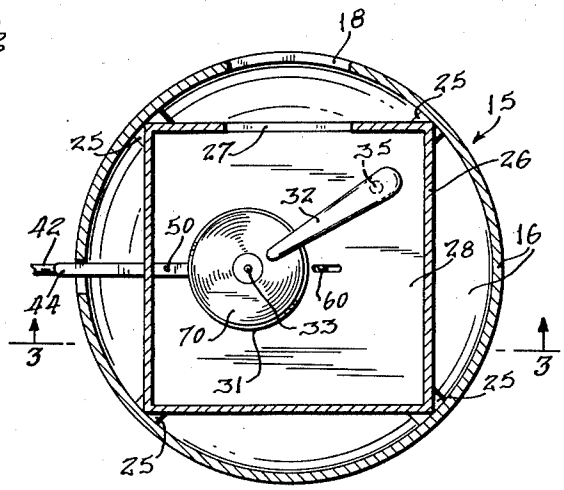


FIG. 2.

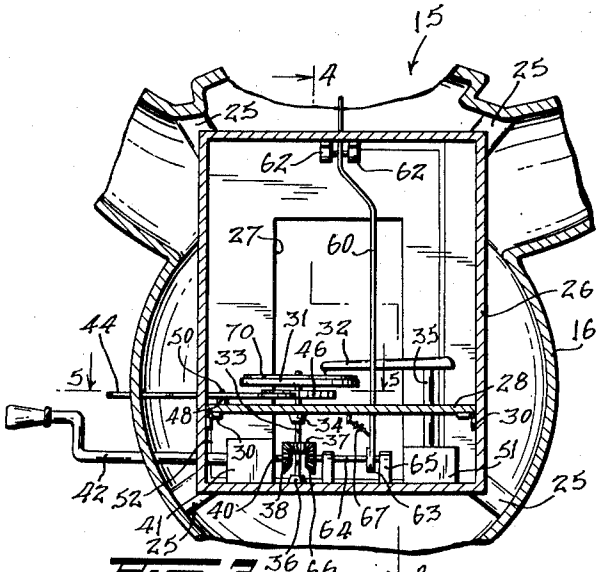


FIG. 3.

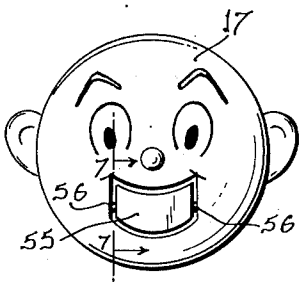


FIG. 6.

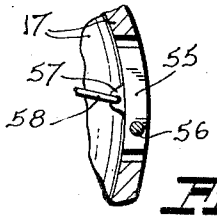


FIG. 7.

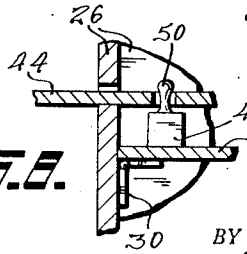


FIG. 8.

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TALKING DOLL

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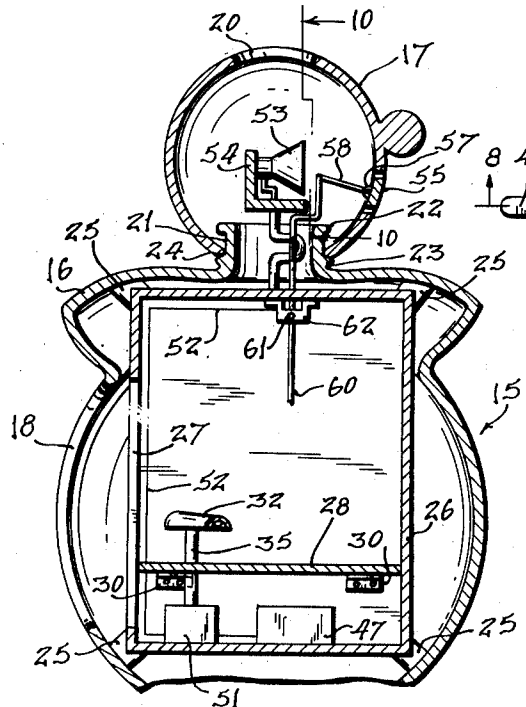


FIG. 4.

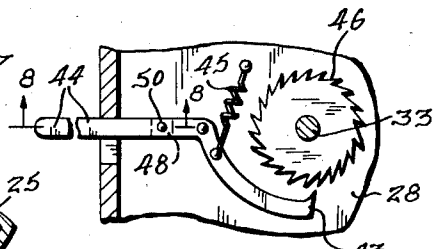


FIG. 5.

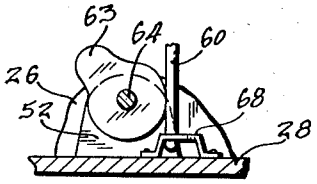


FIG. 9.

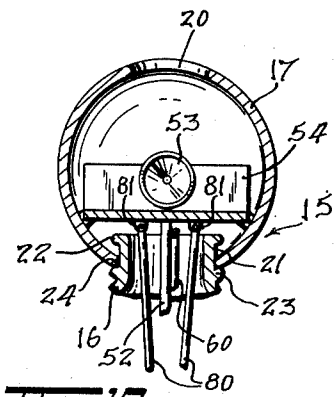


FIG. 10.

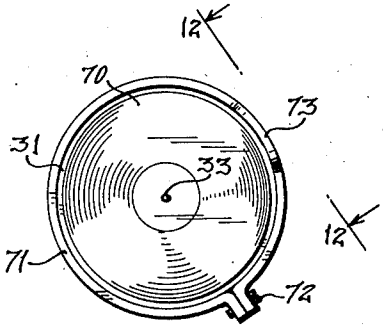


FIG. 11.

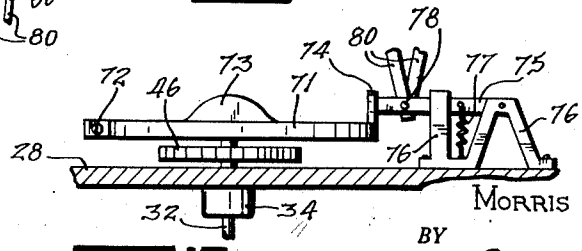


FIG. 12.

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UNITED STATES PATENT OFFICE

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TALKING DOLL

Morris Levine, Brooklyn, N. Y.

Application November 19, 1949, Serial No. 128,333

7 Claims. (Cl. 46—118)

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This invention relates to a talking, animated doll and has for its principal object the mounting of a phonograph within the body of the doll, the operating mechanism of said phonograph producing not only sound but also movements of the doll's mouth.

Another object of the invention is the provision of means whereby the doll's head can be raised and lowered under control of the phonograph mechanism.

Still another object of the invention is the provision of novel control means for the phonograph mechanism.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a full length frontal elevation of the doll embodying the invention.

Fig. 2 is a horizontal sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a partial vertical sectional view taken substantially on the line 3—3 of Fig. 2.

Fig. 4 is a vertical sectional view on line 4—4 of Fig. 3, certain mechanisms in the head of the doll being shown in this figure however.

Fig. 5 is a fragmentary detailed sectional view of the phonograph start stop mechanism on line 5—5 of Fig. 3.

Fig. 6 is a frontal exterior view of the doll's head and illustrates the hinged mouth of the doll.

Fig. 7 is a fragmentary sectional view on line 7—7 of Fig. 6.

Fig. 8 is a fragmentary sectional view of the phonograph start stop mechanism on line 8—8 of Fig. 5.

Fig. 9 is a face view of a certain cam and its cooperating parts in the phonograph mechanism.

Fig. 10 is a sectional view of the doll's head on line 10—10 of Fig. 4 and illustrates certain mechanism not present in the prior figures.

Fig. 11 is a plan view of the phonograph turn table and a cooperating cam ring secured thereon.

Fig. 12 is a fragmentary sectional view of the cam ring and its cooperating parts.

Referring to Fig. 1, the doll 15 shown therein is for purposes of illustration only, any stand-up or sit-down hollow bodied doll being equally well adapted to house the invention.

As shown in Fig. 4, the doll 15 comprises a body portion having a suitably formed covering or frame 16 of plaster or the like and a head portion having a frame 17 of similar material.

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The back of the body frame 16 is provided with a large opening 18 and the top of the head frame 17 with an opening 20, said openings serving as doorways to the mechanism of the doll. At its upper end body frame 16 is narrowed to form a circular neck, at which point the frame is provided with a smooth, straight up and down portion 21 between upper and lower annular ridges 22 and 23 respectively, said up and down portion being loosely engaged by the circular, turned-in lower end 24 of the head frame 17.

Within the body portion there is secured as by glued wedges 25 a substantially square sheet metal box 26 (Figs. 2, 3 and 4) having an opening 27 to complement opening 18 in body frame 16, and having a horizontal partition 28 supported therein by angle brackets 29. Above partition 28 are mounted the phonograph turn table 31 and pickup arm 32, the former on a drive shaft 33 projecting downward through a bearing 34 fastened to the partition, and the latter on a post 35 projecting downward through said partition. After passing through bearing 34, the drive shaft 32 extends downward into a bearing 36 (Fig. 3) on the floor of box 26 and carries midway between said bearings a bevel gear 37 meshing with a second bevel gear 38 on the shaft 40 of the drive mechanism 41.

It may be pointed out at this time that any type of phonograph can be used, the straight mechanical, the all electric or, as preferred, the mechanical drive, electrical pickup type; and it is this latter type that is indicated more or less diagrammatically in the drawings, such devices being well-known and the details of their construction not being required for an understanding of the invention.

The mechanical drive mechanism 41 is indicated by a box in Fig. 3 and has the usual handle 42 projecting through the right side of the doll. Rotation of drive shaft 33 is controlled by a pawl 43 (Figs. 3 and 5) having a handle 44 projecting through an opening in the right side of the doll and tensioned by a spring 45 into engagement with a ratchet wheel 46 on the drive shaft.

Electrical energy for the sound reproducing portion of the device is provided by batteries 47 indicated in the drawings by a box, the wires from said batteries first, however, having a switch 48 (Fig. 8) connected therein. Switch 48 is of the usual toggle type having a finger piece 50 projecting upward into an opening in the handle 44 of pawl 43.

The construction is such that if handle 44 be manipulated to move pawl 43 out of engagement with ratchet wheel 46, the switch is closed and current flows, said switch remaining closed and holding the pawl out of engagement against the tension of spring 45 until handle 44 is again manipulated to turn off the phonograph. The wires

from pickup arm 32 are passed down through hollow post 35 into the electrical reproduction means 51 of the phonograph, said means then being connected by wires encased in conduit 52 with a loud speaker 53 mounted on an angle bar 54 in the head of the doll.

In order to provide for opening and closing the doll's mouth as the phonograph is operating, the mouth comprises a suitably formed segment 55 (Figs. 6 and 7) pivoted on studs 56 in an opening in the head frame 17 and has a pivot block 57 secured, thereto.

Pivotally secured in block 57 is the end of a link 58 (Fig. 7) pivotally connected at its other end to the top end of a long downwardly extending lever 60 pivoted at 61 in a bracket 62 and engaging a cam 63 (Figs. 3 and 9) mounted on a shaft 64 in the bottom of box 26. Shaft 64 is journalled in blocks 65 and carries a bevel gear 66 meshing with bevel gear 37 hereinbefore described. The construction is such that whenever the phonograph is running the shaft 64 is turning. Link 60 is drawn into contact with cam 63 by a spring 67 (Fig. 3) and at its lower end is guided in a slotted bracket 68 (Fig. 9).

It will be seen that as cam 63 rotates it will rock the lever 60 about its pivot 61 and through link 58 will open and close mouth 55.

In order to reciprocate the doll's head up and down when a particular record 70 is being played, for example, a comic record, there is provided a cam ring 71 (Figs. 11 and 12) which may be clamped on or removed from the periphery of the turn table 31 by means of a screw 72 joining the two out-turned ends of said ring. Ring 71 is of equal height throughout its periphery except for a hump 73 which is made as large as possible, its size being limited by the distance between the turn table and the lower edge of the pickup arm.

A follower roller 74 is pivoted to the end of a lever 75 pivoted and laterally guided in a bracket 76, said roller being pressed against the ring by a spring 77. Pivoted at 78 to lever 75 are a pair of long links 80 which at their upper ends (Fig. 10) are connected to pivot blocks 81 on the underside of angle bar 54.

It will be seen that when hump 73 of ring 71 forces roller 74 upward, the head of the doll will also move upward, the ring 24 (Fig. 10) at the lower end of the head sliding on the neck portion 21 between ridges 22 and 23.

It will be noticed (Fig. 4) that link 57 is tilted downwardly slightly to take into account the raising of the head, and also that the wire conduit 52 is provided with a length of flexible cable for the same reason.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modification coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. In a talking, animated doll the combination of a body frame, a separate head frame mounted on said body frame, a box mounted within said body frame, a phonograph mounted within said box and a loud speaker for said phonograph mounted in said head frame, said phonograph including a turn table, a drive shaft for said turn table, a mechanical drive mechanism, an electrically controlled pick-up arm, a ratchet wheel on said drive shaft and a pawl having a handle projecting through the doll's side to engage said wheel and stop said drive shaft, a second shaft driven by said drive mechanism, a cam on said second shaft, a pivoted lever extending from a point adjacent said cam up into the head of the doll, a spring to maintain said lever in engagement with said cam, a mouth piece pivoted below its center in an opening in the head frame and a link connecting said lever with said mouth piece.

2. In a talking, animated doll the combination of a body frame, a separate head frame mounted on said body frame, a box mounted within said body frame, a phonograph mounted within said box and a loud speaker for said phonograph mounted in said head frame, said phonograph including a turn table, a drive shaft for said turn table, a mechanical drive mechanism, an electrically controlled pick-up arm, a ratchet wheel on said drive shaft and a pawl having a handle projecting through the doll's side to engage said wheel and stop said drive shaft, a second shaft driven by said drive mechanism, a cam on said second shaft, a pivoted lever extending from a point adjacent said cam up into the head of the doll, a spring to maintain said lever in engagement with said cam, a mouth piece pivoted below its center in an opening in the head frame and a link connecting said lever with said mouth piece, said cam having a high dwell to rock said lever and thereby to rock said mouth piece open.

3. In a talking, animated doll the combination of a body frame, a separate head frame mounted on said body frame, a box mounted within said body frame, a phonograph mounted within said box and a loud speaker for said phonograph mounted in said head frame, said phonograph including a turn table, a drive shaft for said turn table, a mechanical drive mechanism, an electrically controlled pick-up arm, a ratchet wheel on said drive shaft and a pawl having a handle projecting through the doll's side to engage said wheel and stop said drive shaft, a cam ring having its ends turned out, a screw passing through said turned out ends to clamp said ring on said turn table, a high dwell on said ring, a pivoted lever, a roller carried by said lever and riding on the cam surface of said ring, a spring to maintain said roller in contact with said ring, a pair of arms pivoted to said lever, and extending upward into the head of the doll, and a cross bar in said head to which said pair of levers are connected, said high dwell causing said head to be raised relative to the body.

4. In a talking, animated doll the combination of a body frame tapering in its upper part to a neck portion, a vertical slideway on said neck portion between upper and lower annular ridges, a separate head frame having its lower portion formed into a ring engaging said slideway, a box mounted within said body frame, a phonograph mounted within said box, a loud speaker for said phonograph mounted in said head frame, and means interconnecting said phonograph and said head frame for causing said head frame to be raised on said slideway.

5. In a talking, animated doll the combination of a body frame tapering in its upper part to a neck portion, a vertical slideway on said neck portion between upper and lower annular ridges, a separate head frame having its lower portion formed into a ring engaging said slideway, a box mounted within said body frame, a phonograph

mounted within said box, a loud speaker for said phonograph mounted in said head frame, said phonograph including a turn table, a drive shaft for said turn table, a mechanical drive mechanism, an electrically controlled pick-up arm, a ratchet wheel on said drive shaft, a pawl having a handle projecting through the doll's side to engage said wheel and stop said drive shaft, and means connected to said head frame and projected into said body frame and operated by said turn table for causing said head frame to be raised and lowered on said slideway.

6. In a talking, animated doll the combination of a body frame tapering in its upper part to a neck portion, a vertical slideway on said neck portion between upper and lower annular ridges, a separate head frame having its lower portion formed into a ring engaging said slideway, a box mounted within said body frame, a phonograph mounted within said box and a loud speaker for said phonograph mounted in said head frame, said phonograph including a turn table, a drive shaft for said turn table, a mechanical drive mechanism, an electrically controlled pick-up arm, a ratchet wheel on said drive shaft and a pawl having a handle projecting through the doll's side to engage said wheel and stop said drive shaft, a cam ring having its ends turned out, a screw passing through said turned out ends to clamp said ring on said turn table, a high dwell on said ring, a pivoted lever, a roller carried by said lever and riding on the cam surface of said ring, a spring to maintain said roller in contact with said ring, a pair of arms pivoted to said lever and extending upward into the head of the doll, and a cross bar in said head to which said pair of levers are connected, said high dwell causing said head to move upward on said slideway.

7. In a talking, animated doll the combination of a body frame tapering in its upper part to a neck portion, a vertical slideway on said neck portion between upper and lower annular ridges, a separate head frame having its lower portion

formed into a ring engaging said slideway, a box mounted within said body frame, a phonograph mounted within said box and a loud speaker for said phonograph mounted in said head frame, said phonograph including a turn table, a drive shaft for said turn table, a mechanical drive mechanism, an electrically controlled pick-up arm, a ratchet wheel on said drive shaft and a pawl having a handle projecting through the doll's side to engage said wheel and stop said drive shaft, a cam ring having its ends turned out, a screw passing through said turned out ends to clamp said ring on said turn table, a high dwell on said ring, a pivoted lever, a roller carried by said lever and riding on the cam surface of said ring, a spring to maintain said roller in contact with said ring, a pair of arms pivoted to said lever and extending upward into the head of the doll, and a cross bar in said head to which said pair of levers are connected, said high dwell causing said head to move upward on said slideway, a second shaft driven by said drive mechanism, a cam on said second shaft, a pivoted lever extending from a point adjacent said cam up into the head of the doll, a spring to maintain said lever in engagement with said cam, a mouth piece pivoted below its center in an opening in the head frame and a link connecting said lever with said mouth piece.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,260,159	DiMario	Mar. 19, 1918
1,325,013	Giebeler-Wauke	Dec. 16, 1919
1,512,283	Fritsche	Oct. 21, 1924
2,247,329	Deitz	June 24, 1941
2,254,454	Semple et al.	Sept. 2, 1941
2,493,581	Hood	June 3, 1950