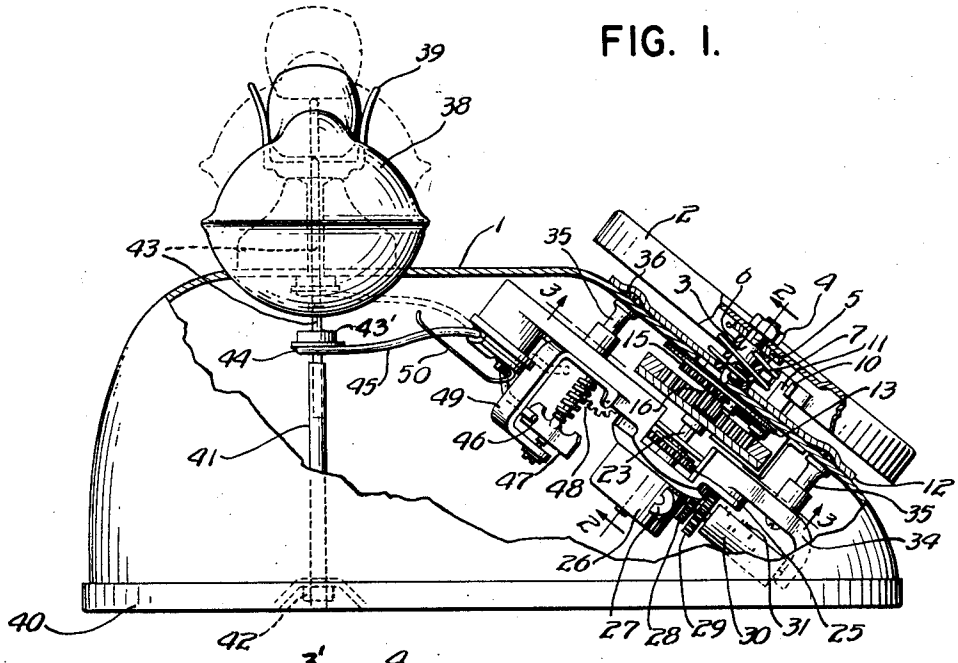
April 14, 1953 F. LOEFFLER ET AL 2,634,647

TOY TELEPHONE WITH MUSIC DEVICE

Filed May 3, 1948

FIG. 1.



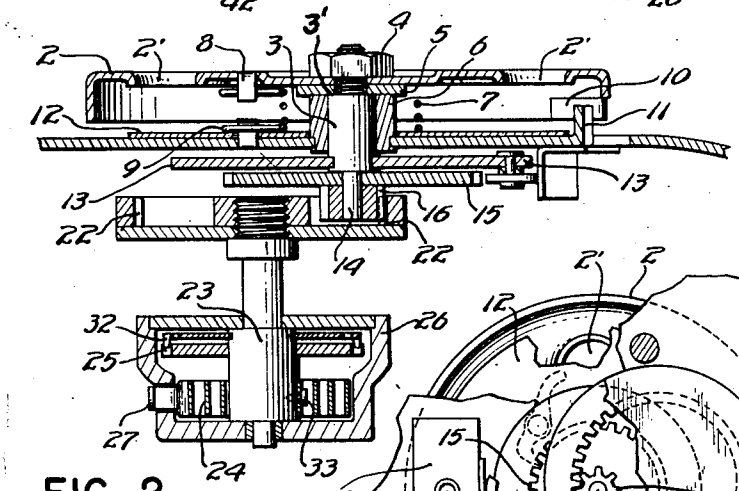


FIG. 2.

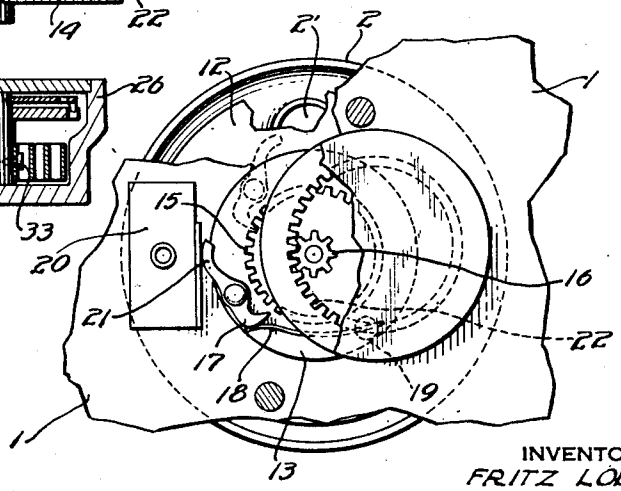


FIG. 3.

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TOY TELEPHONE WITH MUSIC DEVICE

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6 Claims. (Cl. 84—95)

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This invention has to do with improvements in toy telephones.

According to the present invention, a toy resembling a conventional telephone housing, receiver, etc., has a music roll mechanism of appropriate size mounted within the housing. Operating means, preferably simulating a calling dial, is provided for tensioning the driving spring of the music roll mechanism. The connection between the dial and spring is such that while the music roll mechanism operates, the dial is uncoupled from the driving spring and remains stationary. This feature enhances the authenticity of the toy for a child since in a real telephone the dial does not move after the desired number has been dialed.

According to another feature of the invention the receiver is connected to the music roll mechanism so that music will play only when the receiver is lifted from its support. This also is appealing to a child since the toy does not function until the receiver is lifted.

Although the various parts employed in this toy are generally referred to here and in the claims by the names ascribed to corresponding parts of an actual telephone, it should be remembered that these parts are merely toy simulations thereof.

Other features of the invention will be made clearer in the following detailed description taken in connection with the drawings.

In the drawings:

Fig. 1 is a perspective view partly broken away of the device;

Fig. 2 is a section on line 2—2 of Fig. 1; and

Fig. 3 is a bottom plan view on line 3—3 of Fig. 1.

A telephone housing 1 has on one side a rotatable finger dial 2 fastened at its center to a threaded end of a shaft 3 by nut 4. Dial 2 rests on a keyed washer 5 supported by a ledge 3' of shaft 3. Shaft 3 is surrounded by a bushing 6 which is pressed into a hole in housing 1. A dial return spring 7 has one end fastened to dial 2 at 8 and the other end fastened to housing 1 at 9. The dial may be rotated in a clockwise direction until projection 10 meets a stop 11. A suitable dial indicator card 12, lying on the side of the stand beneath the dial, may have numbers and letters inscribed on it in alignment with finger holes 2'. A circular plate 13 is fastened around shaft 3 adjacent narrowed end 14 of the shaft. A ratchet wheel 15 and pinion 16 are loosely mounted as a unit on end 14.

Referring to Fig. 3, a pawl 17 fastened to plate 13 is normally pressed into engagement with

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wheel 15 by a leaf spring 18 also fastened to plate 13 at 19. When the dial is in normal position a lug 20 projecting from housing 1 contacts end 21 of pawl 17 thereby disengaging the pawl from wheel 15. As shown in dotted lines, Fig. 3, as soon as the dial is rotated contact between lug 20 and pawl 17 is broken and spring 18 pushes the pawl into engagement with ratchet wheel 15. Pinion 16 engages an internal gear 22 mounted on a shaft 23. In a manner well known to those skilled in the art a music roll mechanism driving spring 24 is mounted around shaft 23 and fastened at one end to the shaft at 33 and at the other end to casing 26 at 27. A gear 25 loosely mounted on shaft 23 engages a pinion 28 thereby driving gear 29 and music roll mechanism 30 which produces a musical sound when pins 31 engage a comb (not shown). A ratchet plate 32 is attached to shaft 23 and engages gear 25 rotating it as shaft 23 rotates under pressure from spring 24 when the latter is permitted to unwind. The music roll mechanism assembly is mounted in a frame 34 which is secured to housing 1 by posts 35 and screws 36.

A receiver 38 rests on a hook or cradle 39 which is secured to housing 1. When receiver 38 is in cradle 39 it contacts a protruding end of movable rod 43 which is pushed downward by the weight of the receiver. The other end of rod 43 extends into a rod 41. Rod 41 is connected to a base 40 by a nut 42. End 44 of a movable bar 45 is attached to a collar 43' which is fastened to the lower part of rod 43. Collar 43' is mounted above rod 41 a distance corresponding to the distance that the top end of rod 43 protrudes through the bottom of cradle 39. When rod 43 is pushed downward due to the weight of the receiver, end 46 of movable bar 45 engages impeller 47 of a conventional air governor mechanism generally indicated at 48 which, in the well known manner, maintains a constant speed of operation of the music roll mechanism. The governor is secured to frame 34 by a bracket 49. When receiver 38 is in the cradle, as shown in solid lines, Fig. 1, the governor will be prevented from operating by end 46 of bar 45 and the music roll can not rotate. When the receiver is lifted out of the cradle (dotted lines, Fig. 1) end 46 is raised out of contact with the governor by a straight spring 50 and the music roll mechanism can operate.

The operation of the device will now be explained. Dial 2 may be rotated in the usual clockwise direction, for instance, a number of times corresponding to a telephone number. Preferably the receiver is left in the cradle while dialing

so that the music will not start until the dialing is completed. Spring 7 returns the dial to normal position each time the winding finger is removed from hole 2'. As plate 13 is rotated by shaft 3 end 21 of pawl 17 is moved away from lug 20 and the pawl immediately engages ratchet wheel 15 thereby turning it and pinion 16. Pinion 16 engages gear 22 which rotates shaft 23 thereby tensioning driving spring 24 of the music roll mechanism. As soon as receiver 33 is lifted from the cradle, end 46 of bar 45 is raised by spring 50 permitting the air governor assembly to operate and in turn gear 25 rotates the music roll mechanism until either the driving spring is run down or the receiver is replaced in the cradle.

It is to be noted that there is no rigid connection between the music roll mechanism driving spring and the dial, thus when the spring is released the dial remains stationary. This is made possible because pawl 17 contacts lug 20 and is disengaged from ratchet wheel 15 when the music roll mechanism is operating thereby permitting the wheel and its pinion to rotate freely on end 14 of shaft 3. The pawl and ratchet assembly provide for selective connection between the spring and dial. Rotating the dial winds the spring but unwinding the spring does not rotate the dial.

It will be understood that while one embodiment of the invention has been shown and described, other variations thereof are possible without departing from the scope of the invention as defined in the appended claims.

What is claimed is:

1. In a toy telephone assembly, a housing, a receiver, a cradle mounted on said housing to support said receiver, a dial mounted on said housing, a music roll mechanism, means including a spring for rotating said music roll mechanism during detensioning of said spring, gear means operable by said dial to wind up said spring, and means for selectively connecting the dial to said gear means, whereby said dial is disconnected from said gear means when the spring drives said music roll mechanism.

2. The device according to claim 1, and a bar connected at one end to said cradle, said bar being movable into engagement with said means for rotating the music roll mechanism when said receiver is in said cradle, and being movable out of engagement with said means when said receiver is lifted from said cradle, said bar thereby controlling the operation of the music roll mechanism.

3. In a toy telephone assembly, a housing, a receiver, a cradle mounted on said housing to support said receiver, a music roll mechanism, means including a spring for driving said music roll mechanism during detensioning of said spring, a shaft, a dial mounted on said shaft, gear means operable by said dial to tension said spring, a ratchet and pawl assembly mounted on said shaft for selectively connecting the spring to said dial whereby the dial is disconnected from the spring when the spring drives the music roll mechanism.

4. The device according to claim 3, and a bar attached at one end to said cradle, said bar being movable into engagement with said means for rotating the music roll mechanism when said receiver is in said cradle, and being movable out of engagement with said means when said receiver is lifted from the cradle, said bar thereby

controlling the operation of the music roll mechanism.

5. A toy telephone assembly comprising, a housing, a receiver, a cradle mounted on said housing to support said receiver, a shaft extending into said housing, a dial mounted on one end of said shaft, said dial having a normal position, a plate mounted adjacent the other end of said shaft, a ratchet wheel and pinion mounted on said shaft below said plate, a pawl mounted on said plate, said pawl engaging and turning said ratchet wheel when said dial is moved out of normal position, a second shaft, a gear mounted on one end of said second shaft, said gear being engaged by said pinion to rotate said second shaft, a music roll mechanism, means including a spring for rotating said music roll mechanism during detensioning of said spring connected to the other end of said second shaft, said spring being tensioned during rotation of said second shaft, and a bar connected at one end to said cradle and movable into engagement with said means for rotating the music roll mechanism when said receiver is in said cradle, and movable out of engagement with said means when said receiver is lifted from the cradle, said bar thereby controlling the operation of the music roll mechanism.

6. A toy telephone assembly comprising, a housing, a receiver, a cradle, said cradle being mounted on said housing to support said receiver, a shaft extending into said housing, a dial on one end of said shaft, said dial having a normal position, a plate mounted adjacent the other end of said shaft, a ratchet wheel and pinion mounted on the end of said shaft adjacent said plate, a spring pressed pawl fastened to said plate, said pawl engaging and turning said ratchet wheel when the dial is moved out of normal position, a lug projecting into said housing, said lug engaging an end of said pawl when the dial is in normal position to move said pawl out of engagement with said ratchet wheel, a second shaft, an internal gear mounted on one end of said second shaft, said gear engaging said pinion to rotate said second shaft, a music roll mechanism, means including a spring connected to the other end of said second shaft for rotating said music roll mechanism during detensioning of said spring, said spring being tensioned when said internal gear rotates said second shaft, a frame for fastening said music roll mechanism in said housing beneath the dial, an air governor, a train of gears connecting said air governor to said music roll driving spring, a rod engaging the receiver in said cradle and extending into said housing, a bar in said housing one end of which engages said rod and the other end of which is movable into engagement with said air governor when said receiver is in said cradle, and is movable out of engagement with said air governor when said receiver is lifted from said cradle.

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