Dec. 12, 1950 F. A. RICHARDS ET AL 2,533,327

TOY TELEPHONE

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Fig. 1

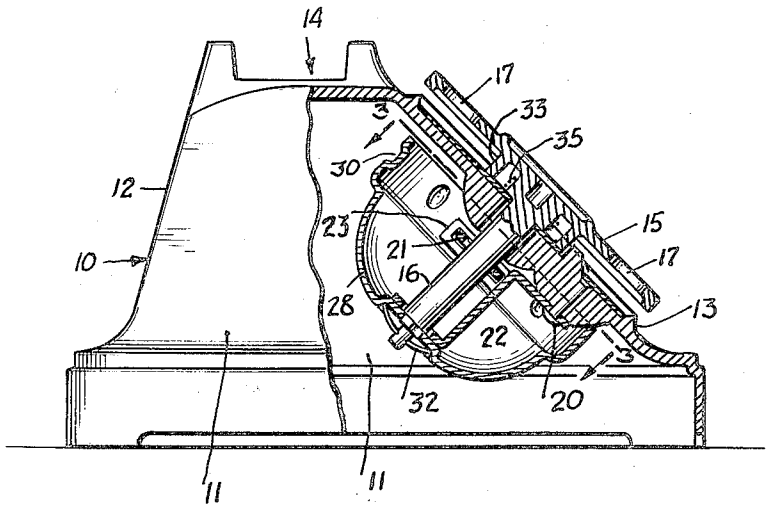
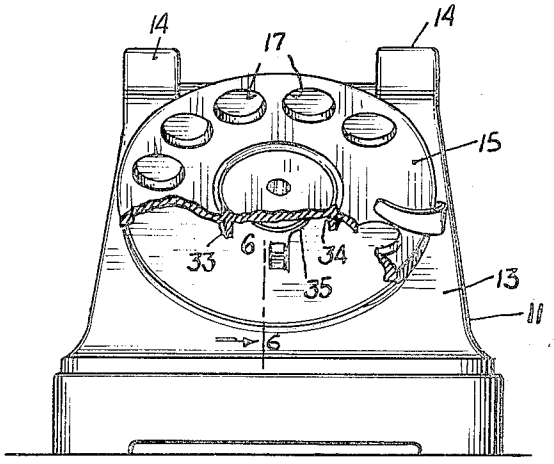


Fig. 2



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Fig. 3

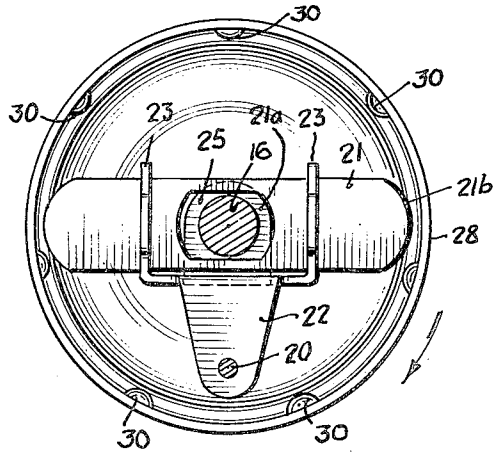


Fig. 4

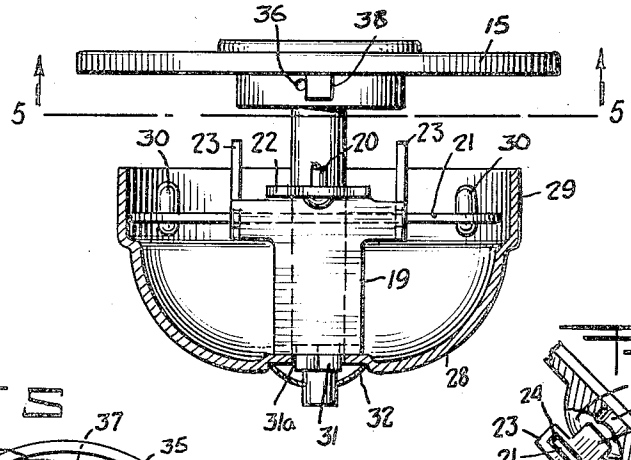


Fig. 5

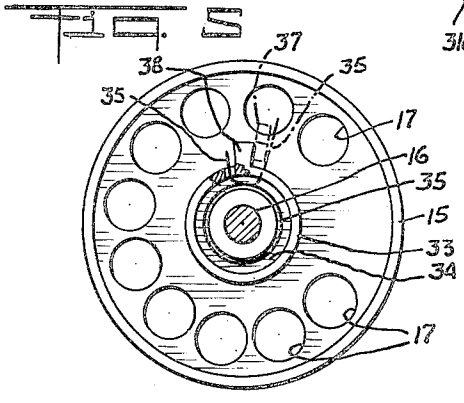
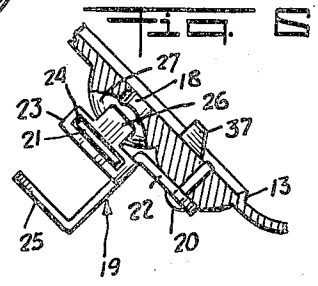


Fig. 6



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UNITED STATES PATENT OFFICE

2,533,327

TOY TELEPHONE

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Application August 5, 1948, Serial No. 42,634

1 Claim. (Cl. 46—33)

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This invention relates to a sound-producing toy device and, more especially, to a toy device simulating a telephone instrument.

A primary object of the invention is the provision of a toy telephone having a rotary dial which operates to sound a bell as the dial is manually rotated.

Another object of the invention is the provision of a toy telephone of the character indicated, constructed and arranged in such a manner as to produce a ringing sound both during the initial clockwise motion of the dial and during the return or counterclockwise motion thereof.

An additional object of the invention is the provision of a toy telephone of the character indicated which may be readily and inexpensively fabricated from a minimum number of components assemblable to a durable finished unit.

A further object of the invention is the provision of a toy telephone wherein the external parts, such as the housing and rotary dial, may be constructed from suitable plastic material by simple molding operations to eliminate the possibility of any harmful effect upon children such as might normally result from dirt, contamination, rusting, and the presence of sharp metallic edges.

Another object of the invention is the provision of a toy telephone of the character indicated wherein the sound-producing elements, i. e. the bell and striker are unobtrusively disposed within the toy housing, thereby contributing to realistic appearance and preventing unauthorized tampering and disassembly.

The objects and advantages of the invention will be readily apparent in the course of the following detailed description taken in connection with the accompanying drawings, which illustrate by way of example a preferred embodiment of the invention, and wherein:

Fig. 1 is a side elevation of the toy telephone, the housing being partly broken away to illustrate internal structure and relation of parts;

Fig. 2 is a front elevation of the toy telephone, a portion of the rotary dial being broken away to illustrate the disposition of the return spring;

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1 and showing the relationship of the bell, striker element and striker mounting frame, and rotary dial shaft;

Fig. 4 is an elevational view, partly in section, of the assembled components of the device exclusive of the housing;

Fig. 5 is a sectional view taken on line 5—5 of Fig. 4; and

Fig. 6 is a fragmentary detail view taken on line 6—6 of Fig. 2 illustrating the manner of securing the striker mounting frame to the housing of the device.

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Referring now to the drawings in greater detail, 10 designates the housing of the toy telephone which is hollow, being formed with side walls 11, a rear wall 12 and inclined front wall 13, the top of said housing being formed with cradle elements 14 for supporting a receiver (not shown). A rotary dial 15 having a preferably integral central shaft 16 and circumferentially arranged perforations or finger openings 17 is mounted in a suitably disposed aperture 18 of front wall 13.

A mounting frame 19 is secured to the inside of front wall 13 in any desired manner, as by means of a rivet 20, for supporting a slidable striker 21. Frame 19 is formed with a mounting tongue 22, a pair of opposed side walls 23 having slots 24 for the reception of striker 21, and an apertured supporting lug 25, substantially parallel to mounting tongue 22, retaining the free end of dial shaft 16, as clearly shown in Fig. 6. Side walls 23 of frame 19 are preferably formed with lugs 26 engageable on opposite sides of internal boss 27 of front wall 13 in order to facilitate assembly and prevent displacement of the frame. In order to allow reciprocation of striker 21 an elongated central slot 21*a* is formed therein (see Fig. 3), through which slot shaft 16 passes in the assembled condition of the device.

A preferably dome-shaped bell 28 is fixedly secured to the free end of dial shaft 16 for rotation therewith. Bell 28 is formed with an annular skirt portion 29 of slightly greater internal diameter than the length of striker 21 and is provided with a plurality of regularly spaced, inwardly extending projections 30. In order to render the device operative, it is essential that projections 30 be so arranged that they do not form diametrically opposed pairs. This arrangement is achieved by providing an odd number of such projections, for example seven, as shown in Fig. 3.

It will be remembered that bell 28 is fixed to and rotates with dial shaft 16 as dial 15 is caused to rotate. A preferred manner of securing bell 28 to shaft 16 is by providing said shaft adjacent its free end with a portion of square cross-section, as shown at 31 and by further providing bell 28 with a square central mounting aperture 31*a*, the bell being retained in operative position by means of a frictional spring-grip fastener 32 of conventional type secured over the tip of shaft 16 or by other suitable fastener means.

Provision is made for returning dial 15 to rest position after it has been manually rotated in a clockwise direction in the manner of an actual telephone instrument. This is achieved by providing the underside of dial 15 with an annular flange 33 which serves both to space the dial from the face of front wall 13 of housing 10 and to define a recess 34 for the reception of a coiled

return spring 35. One leg of return spring 35 is anchored in an aperture 36 formed in annular flange 33 while the other leg is fixed against an abutment 37 on the face of front wall 13. A stop 38 is also formed on the underside of dial 15, preferably integrally with flange 33 and said stop cooperates with abutment 37 to prevent more than one revolution of the dial in order to simulate the operation of an actual telephone instrument. A finger stop may also be secured to front wall 13 of housing 10 overhanging rotary dial 15 and limiting the rotation of the dial depending upon the particular finger opening 17 selected for manipulation of the dial.

The operation of the device can best be explained with reference to Fig. 3. As dial 15 is manually rotated, the projections 30 of bell 28 alternately contact opposite ends of striker 21 to reciprocate the striker in alternately opposite directions against bell skirt 29, thereby producing a bell-ringing sound. The ends of striker 21 are preferably rounded, as shown at 21*b*, in order to facilitate the reciprocation of the striker and the continuous ringing of bell 28 so long as dial 15 is caused to rotate. After the dial has been rotated in a clockwise direction and released, return spring 35 will operate to restore said dial in a counter-clockwise direction to its rest position, the bell-ringing sound being continued during the return motion of the dial. As has been previously pointed out there should be an odd number of regularly spaced projections 30 in order that the projections do not form opposed pairs preventing the reciprocation of striker 21.

Since certain modifications may be made in the device of the present invention without departing from the scope thereof, it is intended that all matter contained in the foregoing description and shown in the accompanying drawings be interpreted merely as illustrative and not in a limiting sense.

What is claimed is:

A toy telephone comprising a molded plastic housing, said housing having an internal boss

having a through-and-through aperture, a shaft extending turnably through said aperture transversely to said housing, a rotary dial mounted on said shaft outside said housing, a metal mounting frame positioned interiorly of said housing, said frame comprising a base member which is attached to said housing, a transverse plate which is integral with said base member, a support plate which is integral with said transverse plate and transverse to said shaft, said support plate having an aperture which is axially alined with said housing aperture and through which said shaft extends turnably, a dome-shaped bell carried by said shaft and turnable therewith, the top of said bell being supported by said support plate, said frame having opposed side walls which are integral with said transverse plate, lugs respectively integral with said side walls and positioned on opposite sides of and adjacent to said boss, a striker adapted to reciprocate transversely to said shaft, said side walls having respective slots therein through which said striker extends, said striker having an elongated central slot allowing passage of said shaft therethrough, said bell having a plurality of inwardly extending projections adapted to contact alternately opposite ends of said striker, said striker having a length slightly smaller than the internal diameter of said bell and extending substantially diametrically thereacross, whereby a continuous bell-ringing sound is produced during rotation of said dial.

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

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