April 23, 1935. H. D. ALLEN 1,999,001

TOY TELEPHONE

Filed July 20, 1933

Fig. 1.

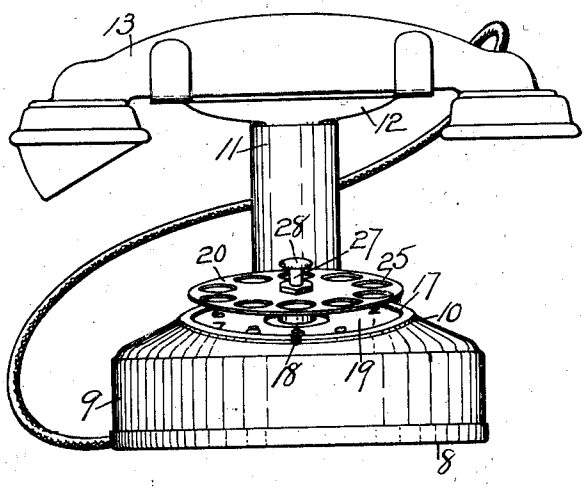


Fig. 2.

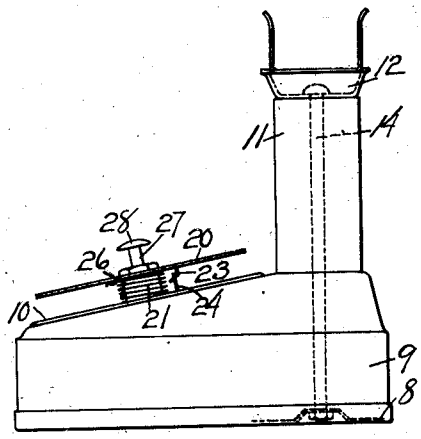


Fig. 3.

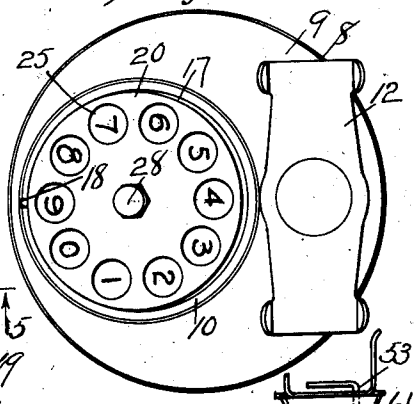


Fig. 2a.

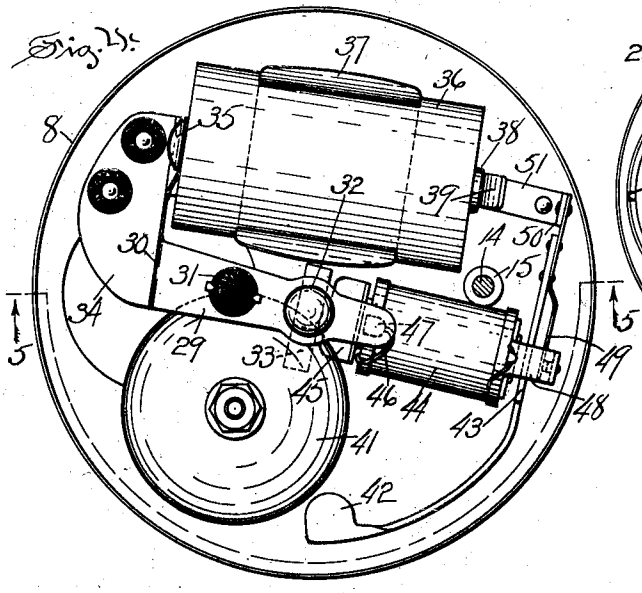


Fig. 5.

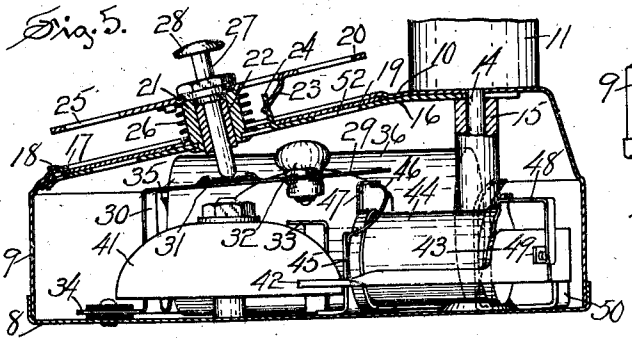
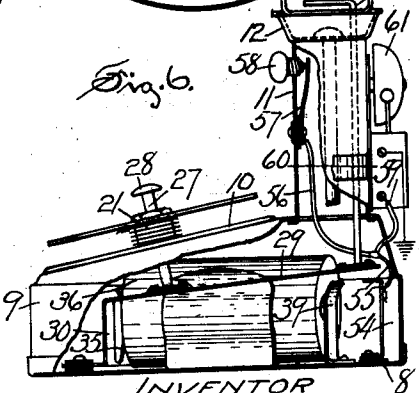


Fig. 6.



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Patented Apr. 23, 1935 1,999,001

UNITED STATES PATENT OFFICE

1,999,001

TOY TELEPHONE

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Application July 20, 1933, Serial No. 681,290

8 Claims. (Cl. 46—46)

My invention relates to that class of toys which are made in imitation of telephone instruments, and an object of my invention, among others, is the production of a toy of this type having means for the electrical operation of signals of various sorts which may be taken as calling signals to show to the child playing with the toy that the operation of the calling devices has produced results.

One form of a toy embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained is illustrated in the accompanying drawing, in which—

Figure 1 is a front view of my improved toy telephone.

Figure 2 is a side view of the same.

Figure 3 is a top view of the same.

Figure 4 is a top view on enlarged scale of the base plate of my improved toy telephone with the operative parts mounted thereon.

Figure 5 is a view on enlarged scale in central vertical section through the base of my improved toy telephone on a plane denoted by the dotted line 5—5 of Figure 4.

Figure 6 is a detail side view with parts broken away to illustrate a modified form of my improved toy.

The purpose of this invention is to provide a toy telephone having means for clearly showing to a child playing with the toy that its efforts in operating the telephone signalling devices are effective in operating signals which may be of various sorts and which may be arranged in various places upon the toy and which may be operated in different ways, my improved toy, as shown in the drawing herein, embodying a base composed of a base plate 8 and a shell or case 9, the base preferably having an upturned flange within which the lower edge of the shell or case is located, and as shown in Fig. 5 of the drawing. The case is made to resemble the base portion of a regular telephone instrument and comprises a table 10 that slopes downwardly toward the front. A post 11 is secured to the top of the case at the back thereof said post supporting a bracket 12 to receive the hand set or monophone 13 of the so-called "French" type of instrument. The bracket is secured to the post and the post to the case as by means of a rod 14, headed at its upper end, and passing through the bracket and post into the chamber in the case, through a spacer 15 in said chamber and through the base plate 8, a nut being secured to the lower end of the post to secure and fasten said parts together.

A bridge 16 in the form of a strip of metal extends across an opening 17 in the top of the base, the back end of said strip being slotted to receive the rod 14 whereby this end of the bridge is clamped between the spacer 15 and the upper part of the case 9. The opposite end of the bridge has a clip 18 which is upturned through a hole near the edge of the opening 17 and as shown in Fig. 5 of the drawing. A transparent disk 19 covers the opening 17 in the base, this disk being clamped at its edges between the bridge 16 and the table 10 of the case, the clip 18 passing through said disk on one side to secure the disk in place.

A dialing disk 20 is rotatably supported above the table 10, in the construction herein shown a spacing post 21 being riveted at its lower end to the bridge 16, extending upwardly therefrom, and the disk 20 being supported on the upper end of said post. Said disk is rotatably secured as by means of a sleeve 22 extending downwardly through the post 21 and secured to the bridge in any suitable manner, the opposite end of said head being shouldered to provide a space for the disk 20 between said shoulder and a securing nut to enable the latter to be freely rotated. Said disk has a stop finger 23 bent downwardly to engage a stop 24 bent upwardly from the bridge 16, and as shown in Fig. 5 of the drawing. The disk 20 is provided with finger openings 25 and a returning spring 26 surrounds the post 21, said spring being secured at one end to the bridge 16 and at its opposite end to the dialing disk 20 as a means for returning said disk to its position of rest when it has been moved from such position as by insertion of the fingers of the operator in the openings 25. An operating plunger 27 passes downwardly through the sleeve 22, the outer end of the plunger having a button 28 as a means for operating the plunger. A resilient switch blade 29, preferably integrally formed with a supporting post 30, extends underneath the inner end of the plunger 27, the post 30 being secured to the base plate 8 and insulated therefrom. An insulating disk 31 is secured to the blade to receive pressure of the plunger 27. An electric lamp 32 is secured to the blade 29 and a conductor 33 is located underneath the lamp to receive pressure of the central terminal thereof, the shell of the lamp being electrically connected with the blade 29. The conductor 33 is grounded on the base.

The post 30 is preferably formed integrally with and upstands from a conductor plate 34 having a contact finger 35 extending upwardly against that part of the end of a cell 36 that forms one pole

thereof. The cell is held in place as by means of spring clips 37 projecting upwardly from a base which is secured to the base plate 8. The opposite pole 38 of the battery is grounded on the base plate 8 as by means of a conducting finger 39 extending upwardly from a conducting strip 51 secured to said base plate.

A bell 41 or other sounding signal is mounted on the base plate and is sounded by means of a striker 42 located at one end of an armature 43 which extends across one pole of a magnet 44 which is secured to a magnet support 45 fastened to and projecting upwardly from the base. One end of the magnet winding 46 is secured to a contact 47 located in the path of movement of the switch blade 29. The other end of said winding is secured to a conductor 48 projecting from the cage of the magnet downwardly to a point opposite a spring finger 49 to which the armature 43 is attached, said finger being secured to a post 50 rising from the base plate 8, said post and the conducting finger 39 rising preferably from opposite ends of a strip 51 which is secured to the base.

In the operation of the device thus far explained the dialing disk 20 may be operated in a manner common to the dialing disks of ordinary telephones, the disk being moved in one direction by insertion of the fingers into the openings and upon release the spring 26 returning the disk to its normal position with the stop finger 23 resting against the stop 24.

The signalling mechanism is operated by means of the button 20 which is pushed downwardly causing the blade 29 to touch the contact 47, thereby connecting the opposite poles of the cell 36 by a circuit comprising the finger 35, plate 34, switch blade 29, contact 47, through the winding of the magnet and the conductor 48, to the spring finger 49, which, by its resiliency, is held against the contact on the conductor 48. From the spring 49 the circuit continues to the strip 51, or the base plate 8, and thence by the finger 39 to the pole 38 of the battery. This establishing of the circuit excites the magnet 44 and causes the armature to be rapidly vibrated in a manner that will be readily understood.

By pressing the button 20 further downwardly, which is permitted by the resiliency of the switch blade 29, the central terminal of the lamp 22 will contact with the conductor 33, thereby establishing the circuit by way of the finger 35, plate 34, and switch blade 29, as before described, to the lamp 32, through said lamp to the conductor 33 and thence to the base plate 8, thereby establishing a ground connection to the pole 38 of the battery. The bridge 10 is provided with openings 52, this to permit the light from the lamp 32 to shine through the transparent disk 19 at those portions of said disk not covered by said bridge.

In the arrangement shown in Fig. 6 the principal parts of the mechanism are as hereinbefore described, but are somewhat differently located, the switch blade 29 being operated by means of a plunger 53 movable lengthwise in the post 11 and supporting the bracket 12. The resiliency of the switch blade 29 holds the bracket 12 in a raised position and when the bracket is pushed down, as by pressure on the hand set, the rod 53 forces the switch blade 29 against a contact 54 secured to and rising from the base but insulated therefrom. A conductor 55 extends from the contact 54 and is branched, one branch 56 extending to a contact 57 for the lamp 58 which is supported on the post 11. One terminal of the lamp is grounded on the frame. Another branch 59 of the conductor 55 extends to one terminal of the magnet 60 supported by the post 11, the other terminal of the magnet being grounded on the post or frame. The magnet operates a bell 61 supported on the post and in the manner hereinbefore described with respect to the bell 41. The details of the ringing mechanism are not illustrated in connection with the device of Figure 6 as it will be understood readily by those skilled in the art and particularly from the foregoing description.

In the use of the device just described either the push button 28 or the plunger 53 may be made use of to operate the signals 58 or 61, the circuit constituting the finger 35, base 34, post 30, plate 29, contact 54, branch 59 to the magnet 60 which is grounded thereby and the finger 39 to the central terminal of the cell. The circuit to the lamp also further includes the branch 56, contact 57, lamp filament and shell to the post 11 which is grounded thereby and the finger 39 to the central terminal of the cell.

I claim:

1. A toy telephone instrument including a base, a post rising from the base for support of a simulation of a transmitter and an ear piece, an electric circuit including a switch member, a switch operating member movably mounted on said instrument, a plurality of electrical devices included in said circuit, and a contact appurtenant to each of said devices and positioned to be successively engaged by said switch member.

2. A toy telephone instrument including a base, a post rising from the base for support of a simulation of a transmitter and an ear piece, an electric circuit including a switch member located within said base, a switch operating member movably mounted in said base above other devices therein, and a lamp carried by said switch member above the bottom thereof for unrestricted illumination of the underside of the top of said base upon closing of said switch.

3. A toy telephone instrument including a base, a post rising from the base for support of a simulation of a transmitter and an ear piece, an electric circuit including a switch member located in said base, a switch operating member movably mounted within said base above the bottom thereof and, a transparent sheet to close an opening in the top of said base and overlying said member, and an electric lamp attached to said switch member above the bottom thereof and underneath said transparent sheet for unrestricted illumination by movement of said switch operating member of the under surface of the top of said base.

4. A toy telephone instrument including a base, a post rising from the base for support of a simulation of a transmitter and an ear piece, an electric circuit including a switch member located within said base above other devices therein, a transparent sheet to close an opening in said base, a simulation of a dialing disk rotatably mounted on said base over said transparent sheet, a lamp attached to said switch member above the bottom thereof for unrestricted illumination by the closing of the switch of the under surface of said sheet, and a switch operating member movably mounted on said instrument.

5. A toy telephone instrument including a base, a post rising from the base for support of a simulation of a transmitter and an ear piece, an electric circuit including a switch member, a trans-

parent sheet to close an opening in said base, a representation of a dialing disk rotatably mounted over said transparent sheet, a plunger extending through the base at the center of said disk to contact with said switch member, and a lamp secured to said switch member for illumination upon the closing of said switch.

6. A toy telephone instrument including a base, a post rising from the base for support of a simulation of a transmitter and an ear piece, an electric circuit including a movable switch member, a transparent sheet to close an opening in said base, a simulation of a dialing disk rotatably mounted on said base, a bell including a magnet for operation thereof located in the base and an electric circuit including said magnet, a contact appurtenant to said bell for engagement by said switch member, a lamp attached to said switch member, and a contact located in the path of movement of said lamp on said switch member.

7. An instrument of the telephone type including a base, a post rising from the base for support of a transmitter and an ear piece, an electric circuit including a switch member located in said base above other devices therein, a switch operating member movably mounted on said instrument, a transparent sheet bearing dialing numbers to close an opening in the top of said base, and an electric lamp attached to said switch member above the bottom thereof and underneath said transparent sheet for unrestricted illumination of said transparent sheet and dialing numbers by operation of said switch operating member.

8. An instrument of the telephone type including a base, a post rising from the base for support of a transmitter and an ear piece, an electric circuit including a switch member located in said base above other devices therein, a switch operating member movably mounted on said instrument, a transparent disk bearing dialing numbers carried by the instrument and an electric lamp attached to said switch member above the bottom thereof underneath said transparent disk for unobstructed illumination of the transparent disk and dialing numbers by operation of said switch operating member.

HAROLD D. ALLEN.