

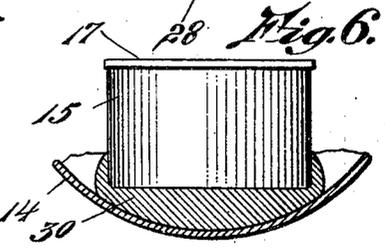
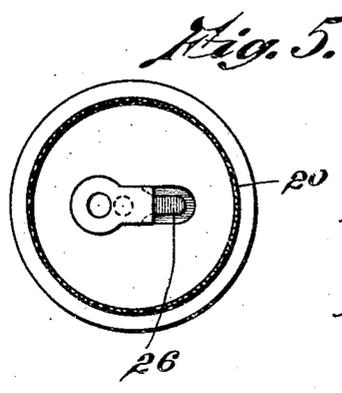
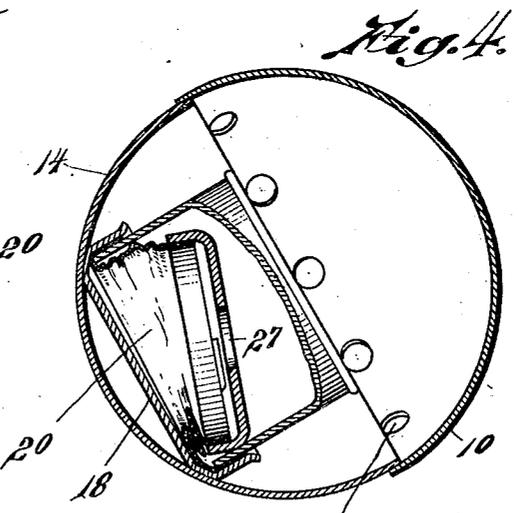
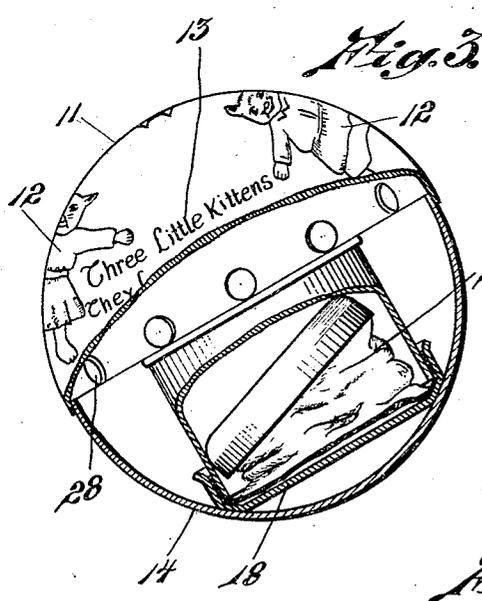
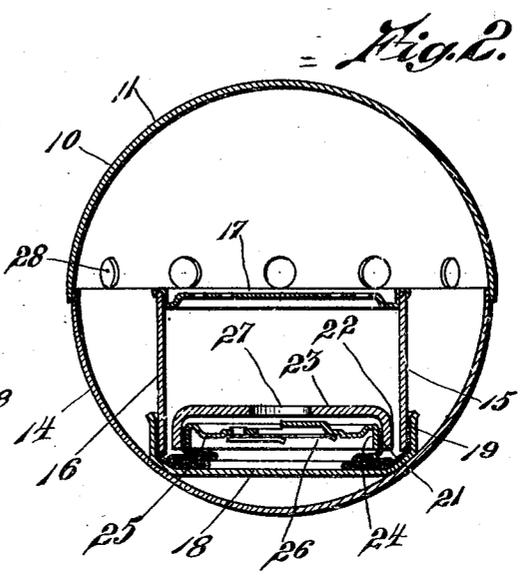
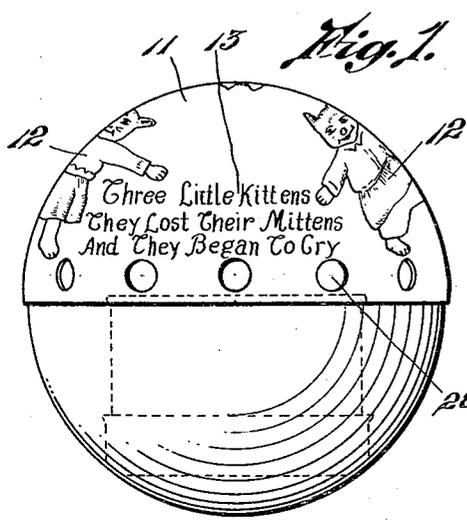
Jan. 20, 1931.

A. V. DA COSTA

1,789,333

TOY

Filed July 27, 1928



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# UNITED STATES PATENT OFFICE

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TOY

Application filed July 27, 1928. Serial No. 295,758.

This invention relates to improvements in toys, and one of the objects of this invention is to provide a toy which is adapted to produce a noise when moved from a designated stable position.

A further object of the invention is to form the toy with a bottom portion having a rounded supporting surface and having a tone-producing device mounted in this bottom portion, the tone device being actuated by the movement of a weight, means being provided for preventing the weight from passing a line thru the center of the shell whereby the weight will also serve to roll the shell back to its stable position when rolled from such position, while in other instances a separate weight may be positioned in the shell, if desired, and relied upon to perform the returning action of the ball to stable position.

A still further object of the invention is to provide this shell with a top portion having a broad display surface carrying designating characters thereon and to mount a weighted tone-producing device in the bottom portion of the shell, whereby the weight will serve to move the tone-producing mechanism and also to return the shell to its normal or stable position when rolled from such position to bring the display characters back into position to be advantageously observed.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings:

Fig. 1 is a view of the toy showing the upper portion as carrying designating characters.

Fig. 2 is a section thru the shell showing one form of tone-producing device mounted therein and resting in its normal or stable position.

Fig. 3 shows the toy partly broken away and rolled to one side; also showing the actuating weight as having moved the bellows from collapsed position.

Fig. 4 illustrates the toy in section show-

ing the tone-producing reed as secured to the weight to move therein.

Fig. 5 is a bottom view of the tone-producing device showing the reed as mounted on the under side of the weight.

Fig. 6 shows a fragmental portion of the shell with the voice device attached to the shell thru a flexible member such as rubber of the like.

It is found in practice of particular advantage in the construction of toys of this character to produce a toy having a shell in the shape of a sphere or one having a rounded supporting surface and to mount or produce, preferably in colors, the representations of such objects as will interest and attract the attention of small children such for instance as the representation of dancing kittens or other figures having fanciful colorful dresses or other attractive decoration and to produce a rounded supporting base portion for this shell. To the inner surface of this base portion I preferably mount a tone-producing device which is designed to imitate the cries of the objects represented when the ball is rolled about on the floor or tipped or rocked in the hand of the user, and I have weighted this tone-producing device so that after the ball or shell has been rolled from its normal or stable position this weight will cause the ball to roll back to return the display characters to observed position so that any reading matter upon this upper surface will be most advantageously displayed. Also, in the construction of my improved toy I arrange the tone-producing or voice device so that the weight altho loosely mounted is preferably so guided and limited in its movement that it cannot pass the center of the sphere thus insuring the ball being rolled back to its normal or stable position after having been rolled from such position. Also by so securing this weighted tone device to the inner surface of the shell to one side of the center, the device being in spherical shape when rolled about on the floor will produce a curious, wabbling motion, which again renders it attractive to children; and the following is a detailed description of the present embodiment of my

invention and showing one shape of toy by which these advantageous results may be accomplished.

With reference to the drawings, 10 designates a spherical shell which may be formed of celluloid or other suitable material and is preferably made in halves, the upper half 11 having an extended display surface on which characters such as illustrated at 12, to interest children, or reading matter such as illustrated at 13, or any other suitable productions may be formed on or applied to the surface of the shell.

The lower half 14 of the sphere is hollow and adapted to carry a tone-producing device 15 supported from its inner surface. This tone-producing device herein illustrated comprises essentially a tubular body 16 having a perforated head 17 at one end and an air-tight head 18 at its opposite end made in the form of a cap or hood.

Bellows 20 is formed preferably of rubberized fabric having its lower edge cemented between the flange 19 of the lower cap and the lower edge of the tube 16, which renders this joint air tight. The upper edge of the bellows fabric is cemented as at 21 between the down-turned flange 22 of the weight 23 and the down-turned flange 24 of the reed plate 25, whereby this edge is also hermetically sealed. On this reed plate is mounted a vibratory tongue 26 which when the air passes thru the opening controlled by this reed the reed is caused to vibrate and produce the tone required.

The cup-shaped weight 23 is provided with a top opening 27 and is loosely mounted to move freely in the tube 16, whereby when the shell is rolled to one side to a degree a little greater than that illustrated in Fig. 4, this weight will tip up and in moving back to the collapsed position of the bellows will cause the air trapped in the bellows to pass outwardly thru the reed opening and cause this reed to vibrate and produce a tone, the weight in this case performing a double function, first to open or lift the upper edge of the bellows which is secured thereto; and second as the movement of this weight is restricted so that it cannot cross the center of the shell the latter is bound to roll back under influence of the weight to its stable position, which effect has many advantages; first, by returning the shell to its stable or normal resting position it brings the upper portion of the sphere with its display characters back into the proper position to be observed advantageously.

This sphere is provided with suitable openings 28 to permit a circulation of air in the shell which is necessary for direct operation of the tone device and also these holes permit the tones to float outwardly therethrough.

By forming the lower head 18 of this tubu-

lar tone producing device of celluloid, I am enabled to readily and securely cement the same to the inner surface of the shell which is of particular advantage especially when this shell is formed of celluloid.

In other instances, it is found of importance to minimize the chances of rupture at this point of connection by providing a flexible or yieldable connecting member between the voice device and its point of attachment to the shell, and one means of accomplishing this result is to provide a flexible cup 30 as shown in Fig. 6 of the drawings, which may be formed of rubber or other suitable flexible material and thru which the voice device is connected to the inner wall of the shell 14, whereby when the ball is dropped this connection will yield and not be ruptured.

I have herein shown and described the actuating weight in the tone device as also serving as a counterbalance to return the shell to stable position, but in some instances a separate weight may be placed in the shell to roll the shell back to its stable position.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. A device comprising an apertured spherical shell, a resilient support having an imperforate base conforming to the curvature of said shell and secured to the inner wall thereof, an integral peripheral flange extending upwardly from said base, and a tone producing device mounted in said support and firmly engaged by said flange.

2. A device comprising an apertured spherical shell, a display surface on the outer portion of the shell comprising the upper half thereof, a resilient support mounted on the inner wall of the shell having an imperforate arcuate base conforming to the curvature of the shell and secured to the shell diametrically opposite the display surface, an integral peripheral flange extending upwardly from said arcuate base, and a tone producing device mounted in said support and firmly engaged by said flange, the tone producing device being positioned wholly in the lower half of the shell.

3. A device comprising an apertured spherical shell, a display surface on the outer portion of the shell comprising the upper half thereof, a tone producing device including a vibrator secured to the inner wall of the lower half of the shell at a point diametrically opposite the said display surface, a movable bellows for operating said vibrator, a movable weight for operating said bellows, and a wall located in the lower half of said

shell for confining said bellows and weight wholly to the lower half of the shell.

4. A device comprising an apertured spherical shell, a display surface on the outer portion of the shell comprising the upper half thereof, a tone producing device including a vibrator secured to the inner wall of the lower half of the shell at a point diametrically opposite the said display surface, a movable bellows for operating said vibrator, a movable weight for operating said bellows, and a cover secured to said tone producing device and located in the lower half of said shell for confining movement of said bellows and weight wholly to the lower half of the shell.

In testimony whereof I affix my signature.  
ARTHUR V. DA COSTA.

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