CHELD-PROOF PILL BOTTLE
Frank J. Turecek, Byers, Colo. 80103
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ABSTRACT OF THE DISCLOSURE
A child-proof pill bottle comprising an access opening at the bottom and an upstanding boss on the top. A cap is mounted on the boss to simulate a lid for access to the bottle interior. The access opening is closed by a bottom lid which has means engageable by the cap to remove the bottom lid.

This invention relates to bottles and containers which are commonly kept in a medicine cabinet to hold pills and encapsulated medicines, and more particularly to containers which are of the type rendered difficult for small children to open. As such, the invention will be hereinafter sometimes called a "child-proof pill bottle." Accordingly, the primary object of the invention is to provide a novel and improved construction of a container or bottle which may be easily opened by any adult understanding its basic construction, but which cannot be opened by small children.

There is a constant need to prevent children from appropriating and swallowing pills and encapsulated medicines which are ordinarily kept in bottles in a medicine cabinet. A small child is frequently encouraged to take medicines, usually in the form of pills, when he needs them. The child will watch the entire operation of opening the bottles to obtain the pills, taking them and then being praised for doing so. Later, in play, a child is tempted to repeat the process, should be accidentally find a bottle of pills. He will open the bottle and will often swallow an excessive number of them. Serious illnesses and even fatalities occur each year from such accidents. Where the medicines are powerful and even dangerous to adults, if more than one or two pills or capsules are taken at one time, it is especially desirable to prevent a child from ever obtaining the same. Nevertheless, children are able to obtain access to medicine cabinets and storage places, and there exists a real and definite need for an effective child-proof pill bottle.

The present invention was conceived and developed with such need in view and comprises, in essence, a bottle which has the appearance of an ordinary bottle, a container with a lid at the top, but which, in actuality, has a false top, and with the actual opening being an inset lid at the bottom of the bottle. Preferably, this inset bottom lid is adapted to be removed only by fitting the top cap into or with a spur or socket arrangement in the lid, as will hereinafter described.

It follows that another object of the invention is to provide a novel and improved child-proof pill bottle which will appear as an ordinary type of container with a simple cap at the top of the bottle, but which will not be opened when this cap is removed.

Another object of the invention is to provide, in a child-proof pill bottle, a deceptively appearing opening at the top of the bottle and a true opening at the bottom of the bottle in an arrangement which is easily fathomed by an adult with a minimum of instruction, but which will be beyond the comprehension of a child in that age level who will learn by imitation an adult who has learned that to open a bottle, it is necessary to remove the cap or lid.

Another object of the invention is to provide a novel and improved child-proof pill bottle which may be formed with a false top and an unusual opening at the bottom as a safety device for other purposes, as well as for use in a medicine cabinet.

Further objects of the invention are to provide a novel and improved child-proof pill bottle which is a simple, low cost, easy to use, rugged and durable item.

With the foregoing and other objects in view, all of which more fully hereinafter appear, my invention comprises certain constructions, combinations and arrangements of parts and elements as hereinafter described, defined in the appended claims, and illustrated in preferred embodiment in the accompanying drawings, in which:

FIG. 1 is a side elevational view of a preferred construction of the child-proof pill bottle;
FIG. 2 is a top plan view of the bottle shown in FIG. 1;
FIG. 3 is a bottom view thereof;
FIG. 4 is an isometric, exploded view of the bottle with portions of certain components being broken away, and with other components being in section, to better show the constructions thereof;
FIG. 5 is a bottom view of the cap of the unit removed from the body portion;
FIG. 6 is a bottom view of the bottom lid of the bottle;
FIG. 7 is a bottom view similar to FIG. 5, but with the cap being inserted into the socket at the bottom and distorted in a manner which permits the lid to be removed by the cap;
FIG. 8 is a side elevational view, similar to FIG. 1, but of a modified embodiment of the bottle;
FIG. 9 is a top plan view of the unit shown in FIG. 8;
FIG. 10 is a bottom view thereof;
FIG. 11 is a transverse sectional, isometric, exploded view of the bottle shown in FIG. 8;
FIG. 12 is an isometric view of the bottle turned upside down with the top cap removed and being used to remove the bottom closure thereof;
FIG. 13 is an isometric view of another form of a top cap which may be used with the bottle; and
FIG. 14 is an isometric view of the bottom of a bottom lid which may be used with the cap shown in FIG. 13.

Referring more particularly to the drawings, the bottle illustrated in FIGS. 1—7 is an innocuous appearing unit having a simple cylindrical flat bottom body 20 and a closure cap 21 at the top thereof. Its appearance, when standing on a shelf, as in the manner illustrated in FIG. 1, would suggest that the cap 21 may be removed to open the bottle.

The cylindrical body 20 has an internal, cylindrical body cavity 22 which is open at the bottom, but closed at the top end 23. This top closure 23 is flat and normal to the cylinder walls. A flat, circular boss 24, having a diameter corresponding with the base of the cap 21, upstands from the top end 23 and is formed with a peripheral bead 25 and a groove 26 below the bead, for holding the cap, as will be hereinafter described. The open bottom is formed as a threaded socket 27 with the threads terminating at an internal shoulder 28 to complete this body member.

This body member may be of any substantially rigid material, such as a synthetic resin or glass, wood or metal, the preferred substances being any of a number of rigid thermoplastic or thermosetting synthetic resins, such, for example, as high-impact polystyrene. The unit may be of transparent or opaque material, although opaque material is preferred for a bottle having a concealed opening.

A bottom lid 29 is formed as a moderately thick disc having its edge threaded, as at 30, to fit into the threaded bottom socket 27. The depth of the socket exceeds the thickness of the lid 29 a distance such that the lid will be inserted and turned into the socket 27 beyond the bottom of the cylindrical body and provide room for a central knob 31 and diametrically opposing pairs of...
rim lugs 32 at the underside of the lid. The knob 31 may be gripped to facilitate turning the lid into place in the socket. The lugs are used to tighten and loosen the lid, when fully turned into the socket.

The top cap 21 may be formed in any suitable, decorative manner, to enhance the deception that removal of this cap will provide access to the bottle. As illustrated, the cap has a hemispherical base 23 having an intermed-outward conical flange 34b about its base. The cap 21 will also include a simple crest 35, ornamental in appearance, but also suitable for gripping the cap. This cap 21, and the top boss 24, are so proportioned as to snugly fit the intermed-outward conical flange 34a into a groove 26 of the boss. Accordingly, it is necessary that the top be formed of a less rigid, more resilient material than that which forms the body, such as rubber or any suitable resilient synthetic resin, such as polyurethane, which will yield sufficiently to permit the intermed-outward conical flange 34a to snap into place in the groove 26.

It is further contemplated that this cap 21 can be used as a simple key for turning the bottom lid 29 out of the bottom socket 27, and the outturned flange portion 34d is formed with a pair of diametrically opposing notches 36 which, when properly adjusted, will fit into any pair of diametrically opposing lugs 32 at the underside of the lid 29. Thus, the width of the circular slot 46a is such as to permit the flange 54a to be moved into it and to be then seated in the groove 46b. The bottom lid 49, threaded at its periphery 50, is adapted to be turned into a threaded socket 47 at the bottom of the body 40 and against a shoulder 48, the same as hereinbefore described. However, in contrast with the aforesaid construction, the bottom lid 49 is of sufficient thickness as to provide a socket slot 51 at its underside, which is shaped to receive and fit the crest 55 of the lid. Accordingly, the bottom lid 49 is removed and replaced in the socket 47 with the cap 41, as is the manner illustrated in FIG. 12. To open the bottle, it is turned upright down so that the crest of the lid is inserted into the socket slot 51 to engage the same, and then turned to remove the lid. Closing the bottle involves the reverse to this operation.

FIGS. 13 and 14 illustrate a cap 41a and a bottom lid 49a, which may be used in lieu of the cap 41 and bottom lid 49 heretofore described. The difference in construction resides in the fact that the crest 65 is formed as a widened member, in the form of a regular polygon or the like. The bottom lid 49a is likewise modified to provide a socket 61 at its underside which correlates with the form of the crest 65. By making the crest 65 and socket 61 of any regular polygonal form or irregular polygonal or circular form of a substantial width, it is apparent that the lid 49a cannot be removed from the body socket 47 with any device other than the cap 41a. This provides an advantage over the construction above described, wherein the bottom lid 49 could conceivably be removed by inserting the flat end of a spatula or the like into the socket slot 51.

While I have now described my invention in considerable detail, it is obvious that others skilled in the art can build and device alternate and equivalent constructions which are nevertheless within the spirit and scope of my invention. Hence, I desire that my protection be limited, not by the constructions illustrated and described, but only by the proper scope of the appended claims.

I claim:
1. A child-proof pill bottle, comprising:
   (a) a container body having an internal cavity and a socket rimmed opening at the bottom thereof to provide access to the cavity and a boss standing up from the top surface thereof;
   (b) a cap mounted upon the boss and adapted to be removed therefrom to simulate, in appearance and function, the absence of access to the internal cavity of the container body;
   (c) a bottom lid adapted to be fitted into the bottom opening socket to close the container; and
   (d) engaging means at the underside of the lid and on the cap adapted to permit the lid to be engaged by the cap to facilitate removing the lid from the opening.
2. In the organization set forth in claim 1, wherein said socket is circular and is threaded, said bottom lid is disc shaped and correspondingly threaded at its periphery to be turned into the socket, and wherein said engaging means include diametrically opposing notches in the cap and diametrically opposing spurs at the underside of the lid adapted to engage the notches to interconnect the cap and lid to permit the lid to be turned into and out of the socket by the cap.
3. In the organization set forth in claim 2, wherein the spacing of the notches in the cap is less than the spacing of the spurs at the underside of the lid, and the cap is of a resilient material which may be distorted by squeezing to spread the said notches apart to engage them with the spurs.
4. In the organization set forth in claim 1, wherein said socket is circular and is threaded, said bottom lid is disc shaped and correspondingly threaded at its periphery to be turned into the socket and wherein said engaging
means include a crest at the top of said cap and said lid is formed with a socket at its underside formed similar to the crest and being adapted to receive the crest, whereby the cap crest may be inserted into the lid socket to facilitate turning the lid into and out of the bottom opening socket.

5. In the organization set forth in claim 4, wherein said crest and socket is formed substantially as a polygonal figure.

6. In the organization set forth in claim 1, wherein said boss is formed with an outstanding peripheral bead and the body of said cap is formed substantially as a hollow hemispherical member having an inturned rim at its base, said member being adapted to fit over the boss with the rim embracing the boss below the bead, and wherein said cap is formed of resilient material adapted to permit the rim to stretch to snap the cap onto and off from the boss.

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DONALD F. NORTON, Primary Examiner.