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BOTTLE AND SAFETY SNAP CAP THEREFOR

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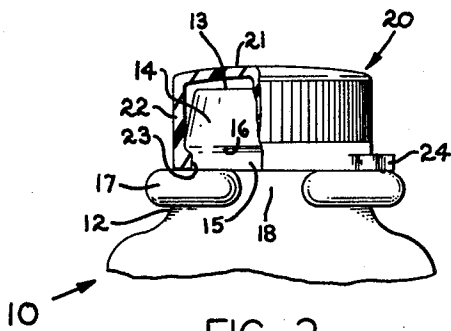


FIG. 2

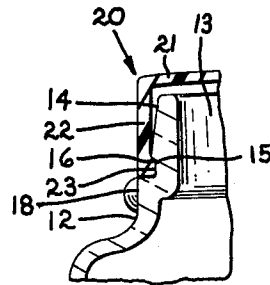


FIG. 3

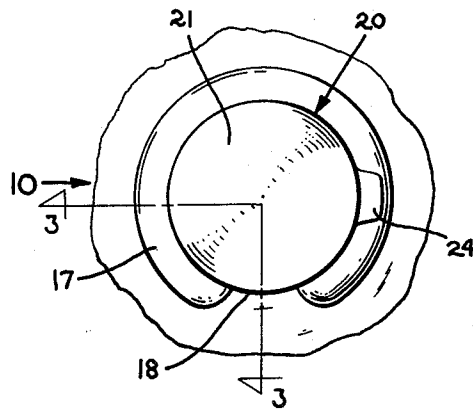


FIG. 4

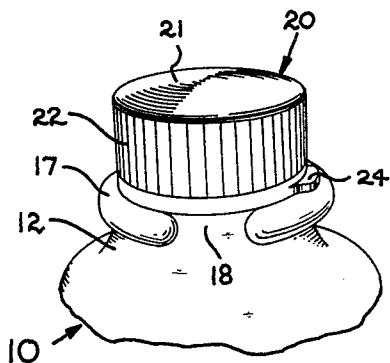


FIG. 1

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BOTTLE AND SAFETY SNAP CAP THEREFOR
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This invention relates generally to bottles and closures therefor and more particularly to a bottle and closure combination of such construction as to prevent or retard the removal of the closure from the bottle.

The dangers of small children getting into medicine cabinets and removing dangerous pills from bottles is one that is very familiar to all parents. The ease with which most closures may be removed from bottles gives youngsters virtually unimpeded access to the contents once they have reached the bottle.

Accordingly, it is an object of this invention to provide a closure-container combination constructed so as to make removal of the closure from the container by small children exceedingly difficult and highly unlikely but one which will permit ready removal by an adult.

A further object of this invention is to provide a closure-container combination permitting removal of the closure from the container only after the combined steps of first rotating the closure relative to the container to obtain proper alignment of various elements and then axially moving the closure relative to the container.

Other objects and advantages of this invention will become readily apparent from the following detailed description taken in conjunction with the annexed sheet of drawings on which:

FIGURE 1 is a perspective view of the closure-container combination of the present invention.

FIGURE 2 is an elevational view of a bottle and closure incorporating the present invention with a portion of the closure broken away to illustrate the neck and closure structure and relationship.

FIGURE 3 is a sectional elevational view taken through line 3-3 of FIGURE 4.

FIGURE 4 is a top plan view of the closure-container combination of the present invention.

Referring now to the drawings, there is shown a bottle generally designated 10 having a reduced neck portion 12 terminating at its upper end in an open mouth 13. Preferably, a substantial upper portion of the neck diminishes in diameter in a direction axially outward or upward from the body, thereby providing a tapered guiding surface 14. Immediately below the tapered guiding surface 14 is an annular groove 15, the upper wall of which provides an abutment 16. Below the groove 15 and spaced from the abutment 16 is a radially enlarged bead 17 extending circumferentially around the neck 12. The bead 17 is interrupted to provide a transverse opening or notch 18. The radial extent of the notch 18 is greater than that of the abutment 16 but less than that of the bead 17.

Secured to the bottle 10 is a closure generally designated 20 having a top panel portion 21 and an annular skirt 22 depending from the periphery of said top panel 21. The lower margin of the skirt 22 is formed with an inwardly projecting annular bead 23 adapted to snap into the groove 15 for releasable holding engagement with the abutment 16. The skirt has a removal tab 24 extending outwardly from the lower margin of the skirt 22. The radial extent of the tab 24 is such that it extends radially outwardly a greater distance than the notch 18 but does not extend radially outwardly a greater distance than the bead 17. As may be seen by viewing FIGURE 3, the notch extends radially outwardly a distance which is at least as great as that of the lower marginal portion of the skirt 22.

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As noted above, the tab 24, if aligned with the notch 18, will project outwardly therefrom. If the tab is not aligned with the notch 18, no part of the closure will extend outwardly from the bead 17. Thus, in order to remove the closure from the bottle, it is necessary to first rotate the closure 20 on the neck 12 until the tab 24 is aligned with the notch 18. After achieving such alignment, the user may then push upwardly on the tab 24 to remove the resilient closure from the neck 12.

The closure may be formed of any preferred plastic material having sufficient resiliency to permit its being snapped over the guiding surface 14. While the notch 18 is described as being an interruption of the bead and is shown in the drawings as being cut back fully to the surface of the neck 12, it could, if desired, extend radially outwardly from said neck provided only that such radial extent be less than that of the tab 24 so that the tab, when aligned, extends outwardly therefrom.

It is obvious from the foregoing description that the present invention provides a novel closure-container combination which is extremely effective in preventing small children from gaining access to the contents of the container.

Many changes and modifications may be made in this combination without departing from its spirit and scope which is to be limited only by the following claims.

I claim:

1. In combination, a bottle having a mouth defining neck rising therefrom, said neck formed with an annular downwardly facing closure retaining abutment spaced from the mouth end, a circumferentially extending radial bead externally of the neck immediately below said abutment and of greater radial extent than said closure retaining abutment, said bead being of reduced radial extent in at least one area to provide a transverse notch of radial extent greater than said closure retaining abutment but less than the radial extent of the remainder of said bead, a resilient closure telescoped over said neck, said closure including a top panel portion, an annular skirt depending from said top panel, the radial extent of said skirt being not greater than the radial extent of said transverse notch, said skirt having an inwardly directed bead formed integrally therewith for holding engagement with said abutment and projecting into the space between said abutment and said bead, a tab extending radially outwardly from the lower margin of said skirt, the radial extent of said tab being greater than the radial extent of said transverse notch but not greater than the radial extent of the remainder of said bead, said closure being rotatable relative to the neck to effect registration of the tab with said transverse notch.

2. In combination, a container and a resilient closure therefor, said closure including a top panel portion and an annular skirt depending from said top panel, said skirt having an inwardly directed bead formed integrally therewith and a tab extending radially outwardly from the lower margin of said skirt, said container including a neck having an annular groove adapted to receive said inwardly directed bead, a circumferentially extending bead projecting radially outwardly from said neck immediately below the lower margin of said skirt, the radial extent of said bead being at least as great as that of said tab, said bead being of reduced radial extent in at least one area to provide a notch of radial extent at least as great as that of said skirt lower margin but less than that of said tab, said closure being rotatable relative to the neck to effect registration of the tab with said notch.

3. In combination, a container having a neck, an externally disposed annular groove encircling said neck and an enlarged, externally disposed annular bead immediately below said groove, said annular bead having a notched portion extending radially outwardly from the longitu-

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dinal axis of said neck a lesser distance than the remainder of said bead, and a resilient closure affixed to said neck comprising a top panel, an annular skirt depending from said top panel, said skirt extending radially outwardly from said longitudinal axis a distance not greater than said 5 notched portion, an inwardly directed annular bead on said skirt engaging said annular groove, and a tab extending radially outwardly from the lower portion of said skirt a greater distance from said longitudinal axis than said notch but not greater than the remainder of said bead, said closure being rotatable relative to the neck to effect registration of the tab with said notch.

4. In combination a bottle having a neck, an externally disposed groove encircling said neck, and an enlarged externally disposed annular bead immediately below said 15 groove, said bead being of reduced radial extent in at least one area to provide a notch of lesser radial extent than the remainder of said bead, and a resilient closure

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affixed to said neck comprising a top panel, an annular skirt depending from said top panel, said skirt being of lesser radial extent than said notch, an inwardly directed annular bead on said skirt engaging said annular groove, and a tab extending radially outwardly from the lower portion of said skirt, the radial extent of said tab being greater than the radial extent of said notch but less than the radial extent of the remainder of said bead, said closure being rotatable relative to the neck to effect 10 registration of the tab with said notch.

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