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QUICK-DETACHABLE MULTI-CONTAINER ASSEMBLY

Filed May 13, 1959

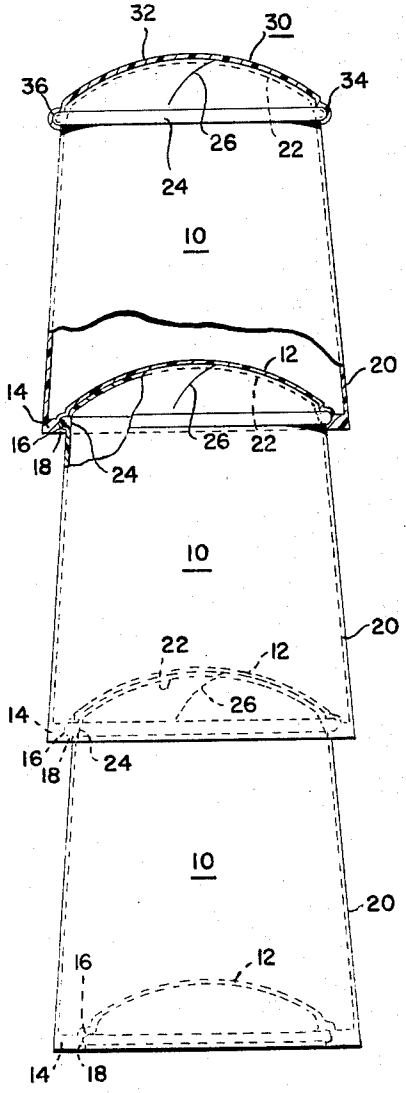


FIG. 1.

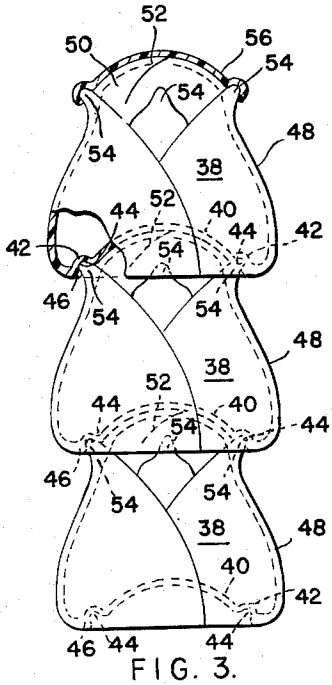


FIG. 3.

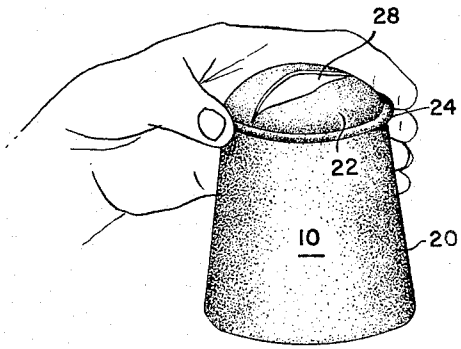


FIG. 2.

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QUICK-DETACHABLE MULTI-CONTAINER ASSEMBLY

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This invention relates generally to means for organizing a plurality of containers and more particularly to improved means for detachably securing together a plurality of individual containers in end-to-end relation.

Very often it is desired to store in one place a multiplicity of different materials or articles, and at the same time keep each of the same separate from the others, in which event it is common to employ a group of separate individual containers respectively for the different materials or articles, or a single container suitably partitioned to form a group of compartments respectively for the different materials or articles. In many circumstances the use of a group of separate individual containers is unsatisfactory because there are too many for convenient handling and there is nothing to keep the several containers in any predetermined order so that any particular one thereof may be readily located with a minimum expenditure of time and effort. In many circumstances, the use of a unitary container internally divided into a multiplicity of compartments is unsatisfactory because when one particular material or article is being placed in its compartment or withdrawn therefrom, that one compartment cannot be handled alone. Instead, the whole container must be handled and this can prove to be inconvenient and awkward.

Accordingly, an important object of the present invention is to provide improved means for detachably securing together a plurality of individual containers in end-to-end relation.

Another object of the present invention is to provide such means permitting snapping of said containers out of and back into engagement with one another so that the entire assembly may be handled as a unit or optionally each container may be handled individually.

Still another object of the present invention is to provide a one-piece self-closing container with such means.

Other objects of the present invention will appear more fully hereinafter.

In the accompanying drawing:

FIGURE 1 is an elevation, with parts broken away, of an assembly of containers constructed in accordance with and embodying the principles of the present invention;

FIGURE 2 is a perspective view showing one of the containers of FIGURE 1 alone and with finger pressure being applied thereto for opening the top thereof for access to the interior of the container; and

FIGURE 3 is similar to FIGURE 1, showing a modified form of container.

Referring particularly to FIGURES 1 and 2, the exemplary assembly of containers constructed in accordance with and embodying the principles of the present invention comprises three vertically stacked identical containers and a cover over the topmost container. Each container, generally designated **10**, is provided with a bottom end wall area **12** domical in shape and a bottom end wall area **14** extending about and radially outwardly from the wall area **12**. The inner periphery of the wall area **14** is provided with an annular recess **16**, and immediately below the latter is an annular radially inwardly extending lip **18**.

The container also is provided with an upwardly and inwardly tapering side wall **20** integrally formed with the wall area **14**.

At its crown the container is provided with a top end wall area **22** domical in shape and a top end wall area **24** extending about the wall area **22** in the form of a bead, generally semi-circular in transverse section and projecting radially outwardly from the side wall **20**, being integrally formed with the latter. The bead **24** and the recess **16** are complementary in size and shape. A slit **26** extends diametrically across the domical top end area **22**.

The containers may be formed by moulding or any other suitable means and may be made of a somewhat flexible plastic material, preferably polyethylene or an acetate. Other materials may be used, e.g., rubber, natural or synthetic, or any other rubber-like material having sufficient elasticity to return to a definite shape after being deformed.

Referring particularly to FIGURE 2, it may be noted that an individual container may be held in the hand and the top thereof squeezed by application of finger pressure at opposite ends of the slit **26** to afford an opening **28** for access to the interior of the container, whereupon the contents of the container may be emptied or the container filled. Upon releasing the top of the container, the opening **28** automatically closes, due to the inherent resilience of the material out of which the container is made. It may be noted that the bead **24** is a thickened wall area having a correspondingly greater tendency to return the container to its initial shape after it has been squeezed in the manner aforesaid. In addition, the bead **24** secures the slit in the crown of the container against undesirable tearing.

The containers **10** are connected together in one unitary assembly merely by placing them one upon the other and pressing them together, whereupon the annular lips **18** and the beads **24** of the containers **10** are deformed as required for passage of the lips **18** over the beads **24**, whereupon the latter snap into the recesses **16**. The containers **10** are disassembled merely by pulling them apart, whereupon the annular lips **18** and the beads **24** are deformed as required for passage of the lips **18** over the beads **24**, whereupon the latter snap out of the recesses **16**. Any one or more of the containers **10** may be snapped out of engagement with the others.

It may be noted that in the assembled condition of the containers, each domical wall area **22** is nested snugly in the domical wall area **12** of the overlying container **10**, whereby the latter wall area serves as an effective closure for the slit **26** in the wall area **22**. In this connection, a cover **30** is provided for the topmost container **10**, this cover having essentially the same shape as the bottom end wall of a container **10**, being provided with a domical wall area **32** and an annular wall area **34** extending about the wall area **32**, the inner periphery of the latter being provided with a recess **36**. Obviously, the cover **30**, preferably made of the same material as the containers **10**, may be snapped out of and back into engagement with the topmost container **10** and serves effectively as a closure for the slit **26** in the underlying wall area **22**.

Referring particularly to FIGURE 3, showing a modified exemplary form of the present invention, each container **38** is provided with a bottom end wall area **40** domical in shape and a bottom end wall area **42** extending about and radially outwardly from the wall area **40**. The inner periphery of the wall area **42** is provided with a recess **44**, and immediately below the latter is an annular radially inwardly extending lip **46**. Integrally formed with the wall area **42** is a side wall **48**, reversely curved and decorated to afford a pleasing appearance, as shown. At its crown, the container is provided with a top end wall area **50** domical in shape and slit, as at **52**. Circumferentially spaced equally about the wall area **50**

are four elements **54** projecting outwardly from the container, being integrally formed with the side wall **48** and wall area **50**. The tips of the elements **54** and the recess **44** are complementary in size and shape. A cover member **56** may be provided for the topmost container **38**, and the containers and the cover therefor may be formed in the same manner and of the same material as the containers **10** and the cover **30**.

The containers **38** may be disassembled and reassembled as in the case of the containers **10**, the essential difference between the two embodiments of the invention being that in lieu of the bead embracing the top of the container as in the case of the bead **24** of the container **10**, the container **38** is provided with the elements **54** circumferentially spaced equally about the top of the container.

In view of the detailed treatment of the assembly comprising the containers **10**, a more detailed treatment of the assembly comprising the containers **38** appears to be superfluous and, accordingly, is omitted.

It will be understood, of course, that the exemplary embodiments of the invention shown and described are susceptible of various changes and modifications which may be made without any departure from the general principles or real spirit of the invention. Accordingly, it is intended to claim the present invention broadly as well as specifically as indicated in the appended claims.

What is claimed is:

1. In a container for articles, a unitary envelope of material having elastic properties similar to those of soft rubber and defining a substantially fully closed interior volume comprising a cross-axially extending bottom wall having a raised central area and a marginal area with a radially inwardly facing recess extending about the inner periphery thereof, a cross-axially extending top wall having a through slit extending diametrically thereacross, an axially extending outer peripheral wall interconnecting said bottom and top walls, and means protruding radially outwardly from said container at the top thereof, said radially inwardly facing recess and radially outwardly protruding means being disposed approximately the same radial distance from the principal axis of said container, the bottom of said container being thereby adapted for being snapped over the top of a second identical container and thereby detachably seated thereon with the radially outwardly protruding means of the second identical container removably nested in said radially inwardly facing recess.

2. In a container for articles, an envelope as defined in claim 1 wherein both the bottom and top walls are domical in shape and said bottom wall is adapted for receiving the top wall of the second identical container closely fitted and nested therein with said bottom wall serving effectively as a closure for the slit in the top wall of the second identical container.

3. In a container for articles, an envelope as defined in claim 2 wherein the means protruding radially outwardly from the container is a bead extending about said container and semi-circular in transverse section.

4. In a container for articles, an envelope as defined in claim 2 wherein the means protruding radially outwardly from the container are a plurality of elements protruding respectively from a plurality of areas spaced circumferentially about said container.

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