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Ames

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[54] **CONTAINER CONSTRUCTION**

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[52] **U.S. Cl.** .....**220/31 S,** 229/7, 222/143, 222/545, 220/38.5

[51] **Int. Cl.** **B65d 43/16**

[58] **Field of Search** .....229/7, 17 R, 51; 220/31 S, 38.5, 30; 222/143, 480, 484, 545, 567

[56] **References Cited**

UNITED STATES PATENTS

3,106,328	10/1963	Locke	229/7 R
3,217,949	11/1965	Davis	222/545 X
3,542,235	10/1968	Hidding	220/38.5 X
3,317,109	5/1967	Palmer	229/2.5
2,152,322	3/1939	Moore	229/7 R
3,387,749	6/1968	Godshalk et al.	222/143

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[57] **ABSTRACT**

A dispensing container comprising a generally sleeve-shaped main body of cardboard or the like, and top and bottom plastic plugs which are interfitted with the opposed ends of the container and bonded thereto. The top plastic plug has mounted thereon a dispensing lid formed with a living hinge for closing a discharge opening formed in the top plug. The top and bottom plugs are constructed and arranged to permit stacking of the containers, one on top of the other.

4 Claims, 3 Drawing Figures

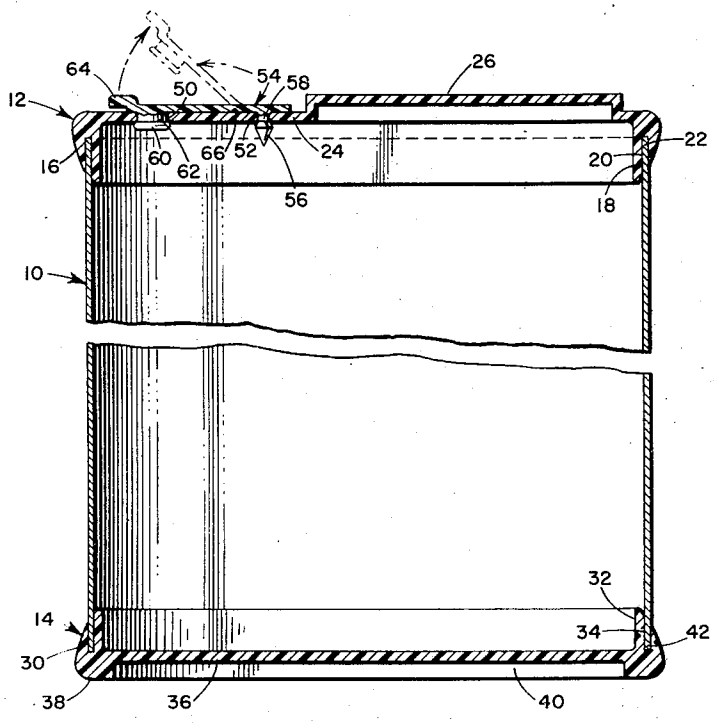


FIG. 1

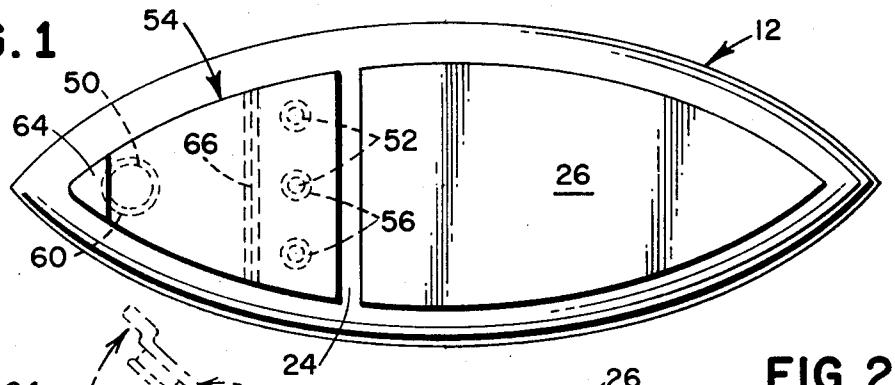
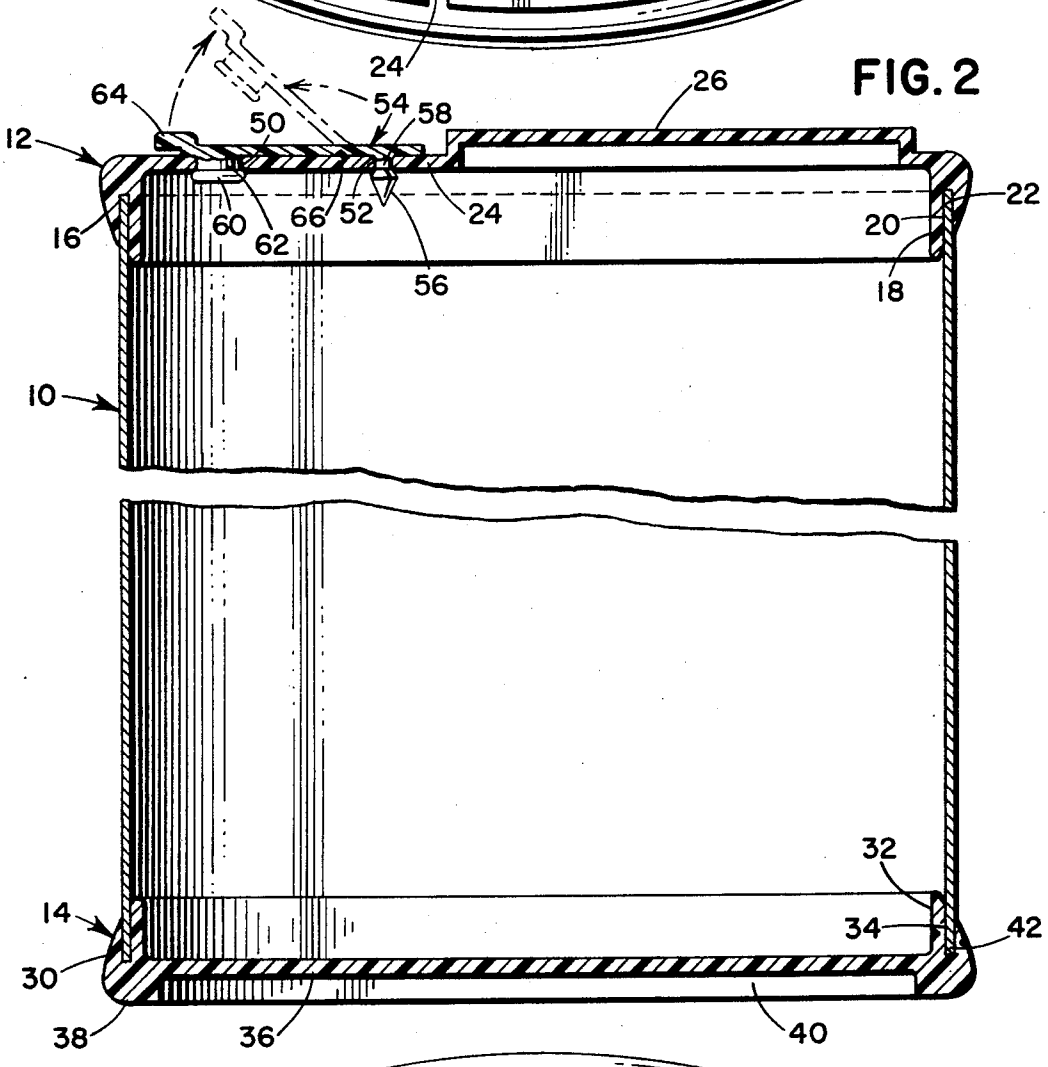


FIG. 2



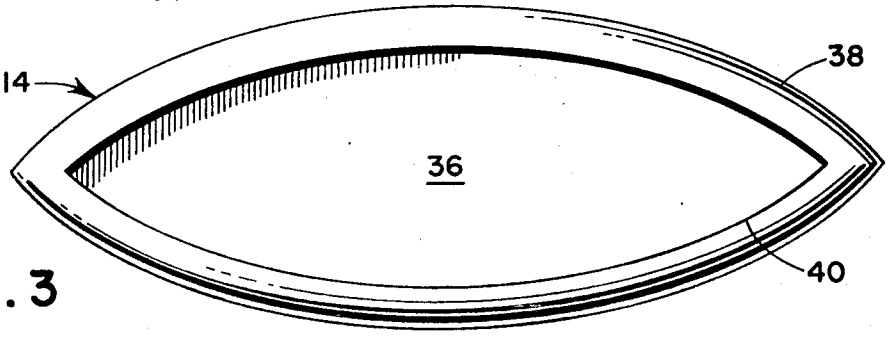


FIG. 3

CONTAINER CONSTRUCTION

BACKGROUND OF THE INVENTION

The present invention relates as indicated to a new container construction, and relates more particularly to a container for dispensing granular materials or the like.

A multitude of containers have been designed and are currently being marketed for dispensing solid, granular material such as soaps, detergent, and the like. Such containers have in the past been commonly made of cellulosic material, such as cardboard, with dispensing containers made entirely of plastic material being more recently in use. Although both cardboard and plastic dispensing containers have been generally satisfactory for the purpose intended, certain drawbacks are characteristically encountered, either in the manufacture, or use, or both, of presently available containers of this type. For example, cardboard dispensing containers are typically rectangular in shape, thereby making difficult the total dispensing of the granular material from the container. In addition, cardboard containers are susceptible to the absorption of moisture, which is objectionable due both to the loss of strength and integrity of the cardboard material and the possible caking of the granular material in the presence of such moisture, with such caking impeding the dispensing of the material from the container.

The use of plastics has essentially eliminated the problem of moisture, but not without the attendant disadvantage of being relatively expensive to manufacture.

SUMMARY OF THE INVENTION

With the above in mind, the primary object of the present invention is to provide a dispensing container comprised both of cardboard and plastic construction. In accordance with the invention, the body of the container is of cardboard, with the bottom and top thereof being of molded plastic material, suitably configured to tightly fit over the opposed ends of the body of the container to complete the container assembly.

A more specific object of the present invention is to provide such a container wherein the cardboard body section comprises a sleeve which can be expanded from a flat, stored condition to an expanded, generally elliptical shape adapted to receive top and bottom plastic sections to complete the container assembly. The plastic sections are molded to tightly receive the container body when expanded, with the plastic sections and the body being preferably maintained in such assembled position by suitable means such as adhesive bonding or the like.

A further object of the invention is to provide a container of the type described in which a dispensing lid is securely attached to the top plastic section and adapted to cover a dispensing opening formed in such top plastic section. In accordance with the invention, the dispensing lid is formed with a "living" hinge, that is, a hinge formed by the material itself by reducing the transverse cross section thereof, with the dispensing lid being pivoted about an axis through such reduced cross section for uncovering the dispensing opening, and thereafter, when released, returning to a position covering the dispensing opening. The dispensing lid is preferably formed on the underside thereof with a closure stud which is received by the dispensing opening for

frictionally retaining the dispensing lid in a position closing the dispensing opening.

Yet another object of the present invention is to provide a dispensing container wherein the top and bottom plastic sections are molded so as to permit nesting of the containers, one on top of the other, in stable fashion. This permits neat and attractive stacking of the containers, with the stability provided by tne nesting arrangement reducing the likelihood of inadvertent tipping of the containers from the display shelves and consequent damage thereto.

These and other objects of the invention will be apparent from the following description in particular reference to the application drawing.

BRIEF DESCRIPTION OF THE APPLICATION DRAWING

FIG. 1 is a top plan view of the dispensing container constructed in accordance with the present invention;

FIG. 2 is a vertical sectional view through the dispensing container, and

FIG. 3 is a bottom plan view of the container.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now in more detail to the application drawing, wherein like parts are indicated by like reference numerals, the dispensing container constructed in accordance with the present invention comprises a main body portion generally indicated at **10**, and top and bottom plastic sections generally indicated at **12** and **14**, respectively. In view of the interfitting relation of the top and bottom plastic sections **12** and **14**, respectively, with the main body section **10**, the sections **12** and **14** will be hereinafter referred to as the top and bottom plugs.

The main body section **10** is preferably of cardboard material and is in the form of an open sleeve which can be expanded from a flat, stored condition to a generally elliptical shape, as can be seen in the overall container configuration as illustrated in FIGS. **1** and **3**.

The top plug **12** can be formed of any suitable material, such as polyethylene, polypropylene, propylene, or the like, with propylene being the preferred material. The top plug **12** is preferably molded in the shape thereof illustrated in FIG. **2**, comprising a continuous outer peripheral wall **16** and a continuous inner wall **18** spaced therefrom to define a continuous slot **20**. In the form shown, the top plug **12** is generally elliptical in shape, with the upper end **22** of the main body portion **10** being tightly received in the groove **20** when the body portion has been expanded to its elliptical shape as above described. Although the thickness of the body portion of the container and the width of the groove **20** are such that the body is snugly received within the top plug when these members are interfitted, the connection is preferably positively secured by means of adhesive or the like. This not only insures the retention of the members in assembled relation but prevents the entrance of moisture through the connection into the interior of the container.

The top plug **12** further comprises a generally flat top section **24** which merges with the exterior wall **16** at the periphery of the plug, and a raised portion **26** of generally truncated elliptical form, as seen in FIG. **1**. The raised portion **26** permits nesting of superimposed con-

tainers as will be hereinafter more specifically described.

The bottom plug 14 likewise comprises an outer wall 30, an inner wall 32 spaced from the outer wall to define therebetween a groove or slot 34, with the bottom plug being formed with a depressed flat section 36 relatively below the peripheral corner 38 of the bottom plug which comprises a curved continuation of the outer continuous wall 30. As seen in FIGS. 3, the continuous corner or bead 38 and the depressed section 36 of the bottom plug define an elliptical recess 40 slightly larger in dimension than the projection 26 formed on the top plug 12 to permit nesting of the containers as above described.

Referring to FIG. 2, it will be seen that the bottom 42 of the housing 10 is received in the groove 34, with this connection being preferably sealed by adhesive or the like in the same manner as above described with reference to the interconnection of the top plug and the upper end of the container body.

The wall 24 of the top plug 12 is formed with a dispensing opening 50 and a plurality of relatively smaller, transversely aligned openings 52 for securely mounting on the top plug a dispensing lid generally indicated at 54. The latter is provided with a plurality of snap fittings commonly designated at 56 which are adapted to be snapped through the openings 52 for retaining the dispensing lid in assembled position on the wall 24. It will be noted that each of the snap fittings 56, there being three in the form shown as well as three openings 52 therefor, are generally conical shaped at their leading ends, and are further formed with neck portions 58 which are received within the openings 52 when the lid is assembled. The lid 54 is of course separately molded, preferably from the same plastic materials above mentioned, with propylene being the preferred material. The resiliency of such material permits the snap fittings 56 to be pressed through the openings 52 for mounting and retention of the lid on the top plug 12 as above described.

The lid 54 further includes a closure portion 60 the enlarged end of which is slightly larger than the dispensing opening 50 to permit the lid to be retained in its solid, FIG. 2 position when the closure 60 is pressed through the dispensing opening 50. The closure 60 includes a neck portion 62 which is disposed in the dispensing opening 50 when the lid is closed.

The lid 54 further includes a raised tab 64 to facilitate lifting of the lid to its dashed line, FIG. 2 position, to expose the dispensing opening 50 for discharging the material from the container. The upper surface of the tab 64 is in the same plane as the top surface of the raised portion 26 of the top plug 12 to stabilize the nesting of the one container on top of the other.

A living hinge is formed in the dispensing lid through the provision of a groove 66 formed in the lid on the underside thereof, with the reduced cross section of the lid immediately above the groove serving as the pivotal axis for the lid when the same is raised as shown in dashed lines in FIG. 2. The resiliency of the material is such that release of the hinge from its dashed line position affects return of the lid toward the wall 24 of the plug, with positive closure of the lid being effected by pressing the lid downwardly to seat the closure 60 below the wall 24, as shown in solid lines.

The use of the container should be apparent from the above description. When the lid 54 is closed, a relatively moisture-proof assembly is provided, with the main body portion 10 being sealed at the interconnection thereof to the top and bottom plug members 12 and 14, respectively. The mounting of the lid 54 on the wall 24 of the top plug 12 is such as to substantially eliminate the problem of moisture entering the interior of the container. To dispense the contents of the container, the dispensing lid 54 is raised by grasping the tab 64 to uncover the dispensing opening 50, after which the container can be oriented to gravity dispense the container contents in the desired amounts. The lid 54 can thereafter be closed as above described.

The advantages of the container of the present invention should be apparent from the above description. The main body portion 10 is entirely separate from the top and bottom plug members and can be stored in flat condition prior to assembly of the container. To assemble the container, the body portion, which comprises an expandable sleeve, is expanded to its generally elliptical shape and the top and bottom plugs interfitted over the open ends of the body section. To facilitate the connection, the plugs are preferably bonded, through epoxy adhesive or the like, to the main body section, with such adhesive serving also to seal the container interior from moisture. Prior to the assembly of the top plug, the container can be filled and the dispensing lid 54 assembled on the top plug.

The contents of the container can be dispensed quickly and conveniently, with the shape of the container facilitating dispensing of essentially all of the container contents.

Through the provision of the top projection 26 and complemental bottom recess 36, the containers can be conveniently stacked one on top of the other, with comparative stability. The top surface of the tab 64 is at the same elevation as the top of the projection 26 thereby serving to support a superimposed container at both ends thereof thus eliminating any tendency of such superimposed containers to top or cant if otherwise supported solely by the projection 26.

Although propylene has been described as being the preferred material both for the top and bottom plugs and the dispensing lid, it will be understood that other suitable plastic materials could also be employed. It will also be understood that the cardboard from which the main body section is formed can be treated to improve the moisture resistent characteristics thereof.

I claim:

1. A dispensing container for dispensing granular materials comprising

a. a main body portion of cellulosic material and generally elliptical shape having open ends and adapted to be expanded from a flat, stored position to an elliptical, use position;

b. an elliptically shaped bottom plug of molded plastic material adapted to fit tightly over the bottom of said body portion, said bottom plug being formed with inner and outer spaced walls between which the bottom of said body portion is tightly received, said bottom plug being formed with an exposed generally elliptical bottom recess;

c. an elliptically shaped top plug of molded plastic material adapted to tightly fit over the top of said body portion, said top plug similarly being formed with inner and outer spaced walls between which the top of said body portion is tightly received, said top plug further including a generally elliptical

raised section at one end thereof adapted to be received by said recess in said bottom plug when containers are nested in superimposed relation, said top plug further including a dispensing opening adjacent one end thereof, and

d. a separate dispensing lid securely attached to said top plug at the other end thereof, said lid, when closed, covering said dispensing opening, said lid being formed with a transversely extending living hinge spaced longitudinally from the line of attachment of said lid to said top plug, said lid when pivoted upwardly about an axis through said living hinge uncovering said dispensing opening for permitting discharge of such granular material from said container, said lid being formed on the underside thereof with a closure stud for engagement in said dispensing opening when said lid is closed for frictionally retaining the same in a closed position covering said dispensing opening, said dispensing lid being further formed with a raised tab at the free end thereof to facilitate pivoting of said lid to uncover said dispensing opening, the upper surface of said tab being generally co-planar with the top surface of said raised portion of said top plug thereby to provide further support for the nesting of superimposed similar shaped containers.

2. The dispensing container of claim **1** wherein said top and bottom plugs are of plastic materials selected from the group consisting of polyethylene, polypropylene, and propylene.

3. The dispensing container of claim **2** wherein said plastic material is propylene.

4. The dispensing container of claim **3** wherein said dispensing lid is separately molded and is of propylene.

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