

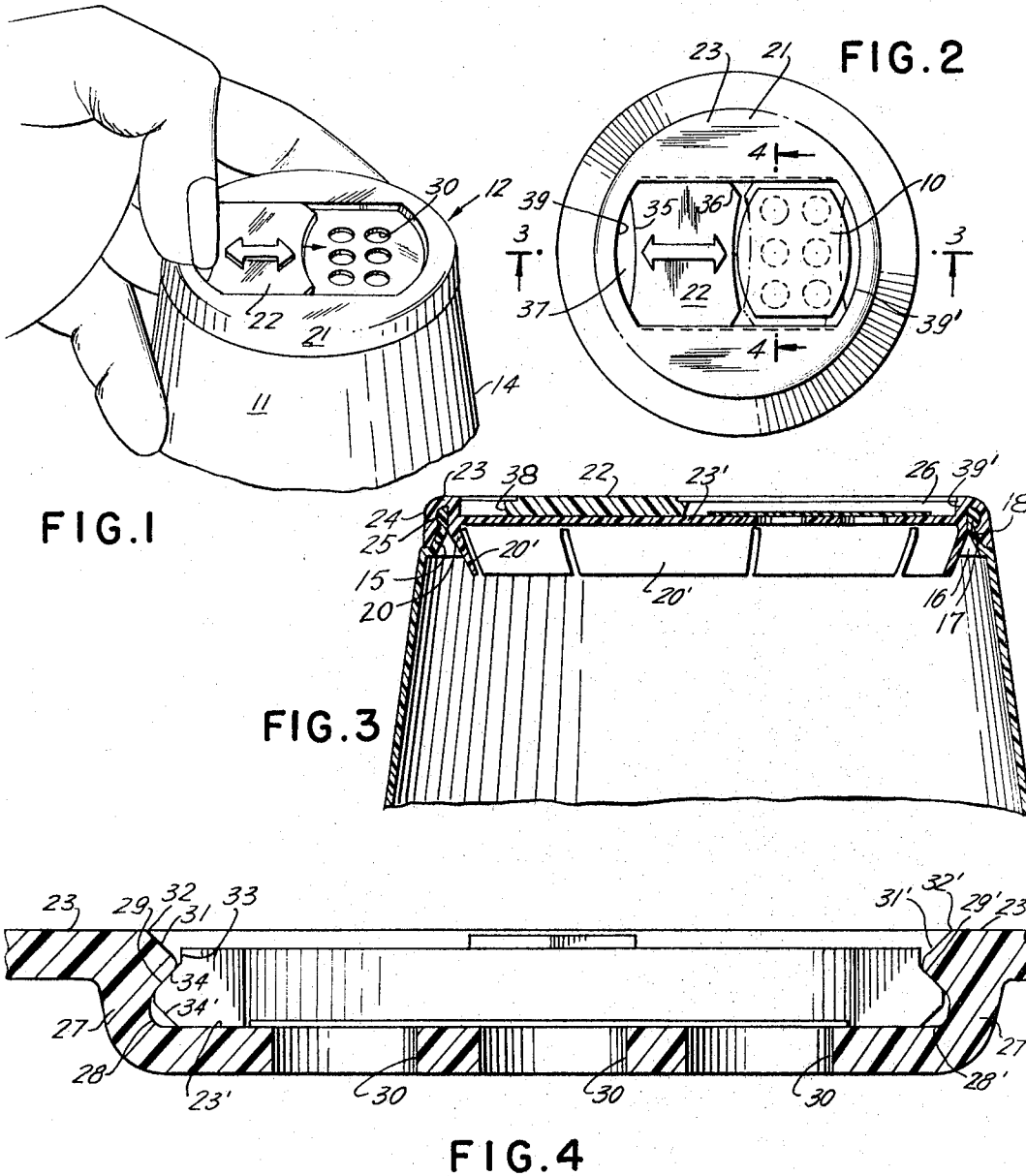
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DISPENSING CONTAINER CLOSURE

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DISPENSING CONTAINER CLOSURE

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ABSTRACT OF THE DISCLOSURE

A dispensing container closure for selectively dispensing particulate material from a container. The dispensing container closure comprises a cover member and a slide member of a shape adapted to provide for finger accessibility to provide a finger operable slider. The slide member is slidably mounted within a recess portion of the cover member and the slide member and recess portion provide a space so that the slide member can be readily operated by slight pressure for moving the slide member into and out of alignment with dispensing openings in the recess portion in order that the contents of the container may be selectively dispensed.

Broadly, this invention contemplates a dispensing container closure capable of selectively dispensing the contents of a container comprising a cover member having a top cover wall portion and a side wall portion having means for mating the same with and enclosing the top of said container, an open planar recess portion extending transversely within said top cover wall portion, said recess having ends of similar shape but faced opposite hand to each other and parallel side walls connecting said recessed portion with said top cover wall portion, said ends of said recess being adjacent to said wall portion, at least one dispensing aperture in said recessed portion contiguous to one of said ends, and a slide member slidably mounted within said recessed portion and adapted to be positioned into and out of alignment with said dispensing aperture, said slide member having sides in slidable co-operative arrangement with the sides of said recessed portion and said slide member having ends of similar shape but faced opposite hand to each other and in opposite sense to the respective ends of the recess whereby to form an area therebetween whereby, when the slide member covers the dispensing aperture, said area forms finger access means extending vertically with the planar recess portion and said slide member can be moved horizontally to uncover said dispensing aperture.

In accordance with the present invention, the dispensing container closure is constructed so that a slide member having curved-in ends for finger accessibility is slidably mounted within the top of the container closure in order to provide a traverse, finger operable slider where the end of a finger may be positioned in contact with a side of the slider. Accordingly, the slide member and closure top are formed so that the end of a finger or thumb will fit in a bi-convex space and can readily operate the slider by slight pressure in order that the contents of a container may be selectively dispensed.

The structural features and advantages of the invention will be better understood from the following detailed description taken in conjunction with the accompanying drawing in which:

FIGURE 1 is a broken perspective view showing the closure structure of the present invention according to a preferred embodiment installed on a flexible plastic container with a hand gripping the container and the thumb posted in position to operate the slider;

FIGURE 2 is a top plan view of the container closure

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of FIGURE 1 and showing the dispensing apertures covered with a tape closure strip;

FIGURE 3 is a broken sectional side view drawn to a larger scale and taken along the line 3-3 of FIGURE 2; and

FIGURE 4 is a fragmentary cross-sectional view drawn to a larger scale and taken along the line 4-4 of FIGURE 2.

Referring to the drawings wherein similar reference characters are used to designate identical parts, the top closure portion 12 is mounted on a container body 11.

The container body 11 is an integral structure preferably formed by blow molding of a suitable tough resilient plastic that is impervious and inert with respect to its contents. The body 11 may also be formed by other molding practices such as vacuum, compression or injection molding but blow molding is preferred as less expensive and entirely adequate. The body 11 is preferably composed of polyethylene, polypropylene, polyvinyl chloride or some such material having equivalent properties for the purpose.

As shown in FIGURES 1 and 3, the container body 11 comprises a resilient annular side wall 14 arising from an imperforate bottom wall (not shown) and terminating in a neck structure 15 surrounding a top opening 16. The neck structure 15 has an inwardly inclined body 17 with a conical rim 18.

As shown in FIGURES 1 and 2, the top closure portion 12 comprises a cover member or portion 21 and a slide member 22. As shown in FIGURE 3, the cover member 21 has a top cover wall portion 23 and an integral, dual closely spaced outer edge consisting of a continuous outer annular skirt 24 and a discontinuous inner annular skirt 20. The outer skirt 24 is formed with an undercut groove 25. The inner skirt 20 is the longer and it is formed as a cylindrical annulus projecting at a right angle to the cover wall portion 23 and terminating with inwardly inclined annuli 20'.

The cover member 21 is an integral, molded resilient plastic structure such as polypropylene or the like. The member is adapted to easily and rapidly "snap-on" the neck 15 of the container body 11. The longer inner skirt annuli 20' function as guides or pilots for quickly centering the cover member 21 and the member is thereafter snapped on through the outer skirt 24 slidably engaging the neck structure of the container 11 until the undercut groove 25 of the outer skirt 24 mates with the conical rim 18 of the container neck 15. The dimensions are such that after the cover member 21 and the container body 11 have been snap fitted, the lower portion of outer skirt 24 is juxtaposed with the junction of the container wall 14 and its neck 15 so that the container wall 14 and the outer skirt 24 provide a smooth substantially continuous outer surface contour in the container cover assembly.

In the embodiment shown, the cover wall 23 of the cover member 21 is formed with an integral open recess portion 26 having a recessed cover wall portion 23', sides 27, 27' and arcuate ends 39, 39' which conform to the contour of the adjacent portion of the annular skirt 24. As shown in FIG. 4, the sides 27, 27' are characterized respectively by the structural features of inwardly rounded ends 28, 28', outwardly sloping linear surfaces 29, 29' and inwardly projecting rounded surface ribs 31, 31' intersecting the cover wall 23 at 32, 32'. A series of pour apertures 30 are provided in a predetermined pattern in the cover wall portion 23' and they are positioned to co-operate with the slide member 22 so as to have a reclosable cover therefor. If desired, a patch of easily removable pressure sensitive tape 10 (FIG. 2) may be attached to the lower cover wall 23' covering pour apertures 30.

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The slide member 22 of the top closure portion 12 is of a molded resilient plastic structure such as polyethylene or the like. As shown in the drawings, the slide member 22 is formed with sides 33 which have beveled surfaces 34 and 34'. The upper bevel surface 34 is complementary to the outwardly sloping linear surfaces 29, 29' of sides 27, 27' of the cover member 21.

The slide member 22 is formed with inwardly sloping ends 38 (FIG. 3). The ends 38 of the slide member 21 include curved-in portions 35 and terminal angular portions or chamfers 36 (FIG. 2). The angular portions 36 cooperate with arcuate ends 39 of the recessed portion 26 to serve as a co-operative stopping means to limit the transverse movement of the slide 22 so as to define a bi-convex area 37 (FIG. 2).

The structural arrangement of the slide member 22 with the recessed portion 26 of the cover member 21 is such that a longitudinally slidable connection is provided between the moveable part (the slide 22) and the fixed part (the recessed portion 26) by the sides 33 of the slide 22 mating with, or snugly engaging, the sides 27, 27' of the recessed portion 26. The snug engagements of beveled surfaces 34 of the slide 22 and outwardly sloping linear surfaces 29, 29' of recess portion sides 27, 27' may form, in effect, a sliding joint of a dovetail character.

Thus, as shown in FIGS. 1 and 2, the slide member 22 is characterized by a substantially biconcave shape having an axial thickness sufficient to cover a plurality of pour apertures and having a radius of curvature sufficient to form, with the arcuate ends 29 of the open recessed portion 26, the bi-convex space 37 (FIG. 2). The slidable dovetail type arrangement and the bi-convex area 37, as shown in the drawings, enhances the execution of longitudinal or traversal movement for easily moving the slide member 22 into and out of alignment with apertures 30 by providing sufficient space for a portion of one's thumb or finger to start the smooth, longitudinal movement of the slide member 22.

The top cover portion 12 is made apart from the container. The separately molded cover portion 21 and the slide member 22 are operatively assembled by insertion of the slide member 22 into the recess portion 26. This is readily possible since the structure of the slide and the recessed portion are such that after one of the sides 33 of the flexible slide member 22 is positioned with its upper beveled portion 34 juxtaposed with the outwardly sloping linear surface 29 of a recess side 27, the other side of the flexible slide member 22 slidably rests upon a projection 31' of the opposite recess side 27' whereby it is snapped into the channel formed by the inwardly rounded end 28' and the outwardly sloping linear surface 29' so that the member 22 is slidably mounted within recess portion 26 between limits defined by surfaces 29 and 29' abutting upper bevels 34.

To assemble the top closure portion 12 and the container 11, the cover member or portion 21, with its inner skirt 20 centering the cover member, is snapped onto the neck 15 of the container body 11 by the mating of the conical rim 18 of the container neck 15 with the undercut groove 25 of the outer skirt 24. As shown in FIGURE 2, pour or dispensing apertures 30 may be closed by a patch of removable pressure sensitive tape 10. The tape 10 transversely engages the recessed cover wall portion 23' and may be attached to the lower cover wall 23' of the top cover or closure portion 12 either prior to, or after assembly with the container. With the use of the pressure sensitive tape 10, the dispensing container can be assembled and shipped without the necessity of checking each container to insure that the slide member 22 is positioned over the apertures 30. Additionally, the tape 10 prevents any leakage of container contents in case the shipping cartons are inverted, dropped or similarly abused. Thus, for a more satisfactory assembly and shipping, the top closure portion of the assembled dispensing container will consist of the cover member 21, a pressure sensitive tape 10 and the slide member 22.

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As a preparatory step for initial use, the pressure sensitive tape 10 is stripped from the cover wall portion 23'. Thereafter, to use the dispensing container the operator merely tilts the container until the powdered product or the like flows through the pour apertures 30. After the desired amount of product has been dispensed, the container is returned to an upright position and the index finger or thumb (as shown in FIGURE 1) is placed within the bi-convex space 37 and in contact with the curved-in portion 35 of the slide member 22. Then a slight lateral force by the finger or thumb is sufficient to longitudinally move the slide member 22 until the angular portions 36 (chamfers) contact the arcuate end 39' of the recessed portion 26. The slide member 22 covers the pour apertures 30 (as shown by dotted lines in FIG. 2) and provides a second bi-convex area whereby the slide member 22 can be restored readily to its dispensing position.

While the cover portion or member 21 of the top closure portion 12 is shown as having a dual edge in FIGURE 3, any suitable "snap-on" fit may be used between the cover member and the container neck. Other than the dual edge structure shown in FIGURE 3, some typical "snap-on" fitment structures include cover members having only one annular skirt or wall portion formed with an annular groove for snapping the cover member onto a conical rim, bead or the like of the container neck. In order to have the necessary slidability and flexibility for the cover to "snap-on" the container body neck, the wall structure of the cover member will have a wall thickness sufficient to provide relative stiffness in order to prevent inadvertent removal of the closure cap.

While ends 38 of the biconcave shaped slide member 22 are characterized by chamfered portions 36 connecting sides 33 with curved-in portion 35, the connecting portions could be arced, or in any corresponding shape, to provide a co-operative stopping means with arcuate ends 39, 39' of the recess portion 26. Additionally, curved-in portions 35 could be angular, or in any corresponding shape, provided space like, or similar to, bi-convex area 37 is definable and provided the slider will cover the apertures of the recessed portion in the closed position.

Although the invention has been described and illustrated by reference to certain specific embodiments of the invention representing the present modes contemplated for carrying out the invention, those skilled in the art will appreciate that modifications and variations in structure and materials of construction may be made without departing from the principles and true scope of the invention as defined in the claims hereof.

What is claimed is:

1. A dispensing container closure capable of selectively dispensing the contents of a container comprising a cover member having a top cover wall portion and a side wall portion having means for mating the same with and enclosing the top of said container, an open planar recess portion extending transversely within said top cover wall portion, said recess having ends of similar shape but faced opposite hand to each other and parallel side walls connecting said recessed portion with said top cover wall portion, said ends of said recess being adjacent to said side wall portion, at least one dispensing aperture in said recessed portion contiguous to one of said ends, and a slide member slidably mounted within said recessed portion and adapted to be positioned into and out of alignment with said dispensing aperture, said slide member having sides in slidable cooperative arrangement with the sides of said recessed portion and said slide member having ends of similar shape but faced opposite hand to each other and in opposite sense to the respective ends of the recess whereby to form an area therebetween whereby, when the slide member covers the dispensing aperture, said area forms finger access means extending vertically with the planar recess portion and said slide member can be moved horizontally to uncover said dispensing aperture.

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2. A dispensing container closure according to claim 1 wherein the slide member is of a substantially biconcave configuration having parallel sides and curved-in end portions, the parallel sides of said slide member are connected to the curved-in end portions by chamfer portions whereby the chamfer portions on one curved-in end portion are engageable with portions of one end of the planar recessed portion and the other chamfer portions are engageable with portions of the other end to provide stop means at each end thereof.

3. A dispenser-closure according to claim 1 wherein the ends of the recess are arcuate, the ends of the slide member are curved-in and are adapted to define a bi-convex area with the arcuate ends of the recessed portion whereby when the slide member covers the dispensing

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apertures said bi-convex area forms finger access means extending vertically with the planar recess portion and said slide member can be moved horizontally to uncover said dispensing apertures.

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