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SPOUT-CLOSURE FOR CONTAINER WITH REVERSIBLE
MOUNTING MEANS THEREFOR
Filed May 27, 1959

3,021,037

FIG. 1.

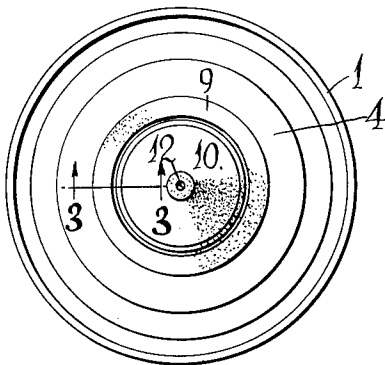


FIG. 3.

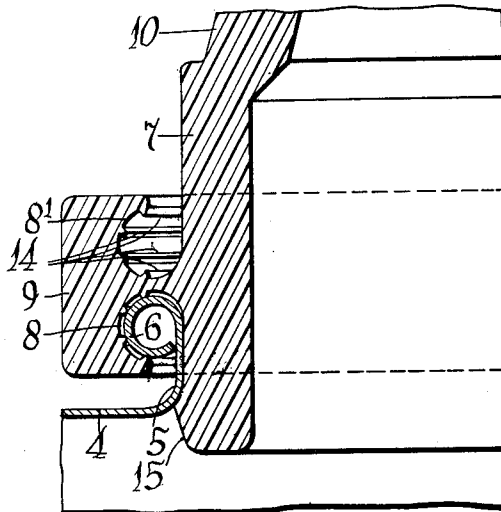


FIG. 2.

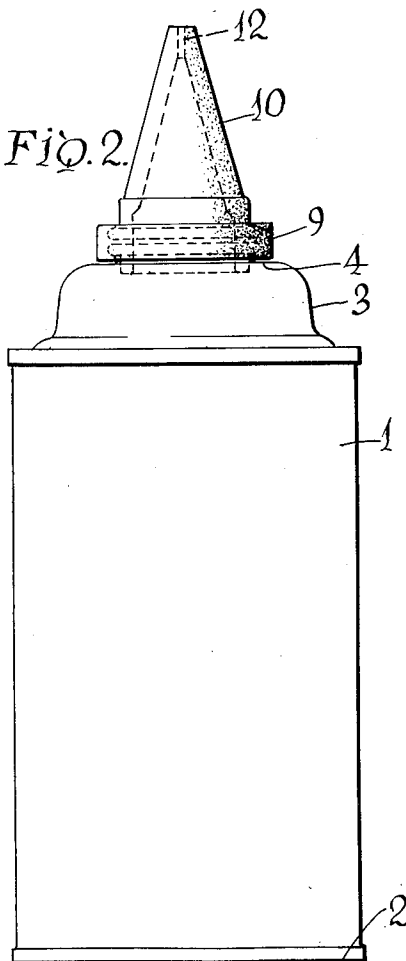


FIG. 4.

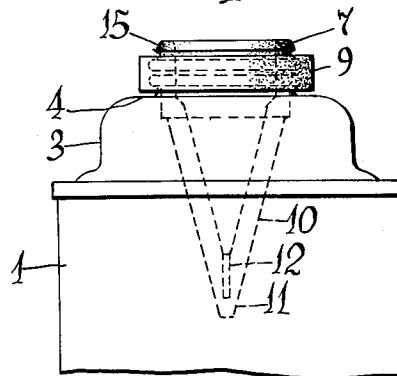
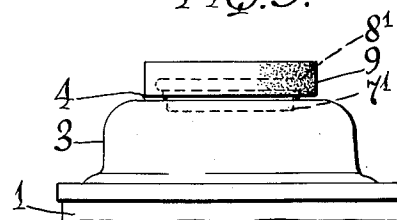


FIG. 5.



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SPOUT-CLOSURE FOR CONTAINER WITH REVERSIBLE MOUNTING MEANS THEREFOR
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This invention relates to the closure art, and more particularly to a new and useful container closure.

A particular object of this invention is to provide a container closure of the snap fit type, which can be opened and closed time and time again without damage to either the container or the closure member.

Another object of this invention is to provide a container closure enabling the use of a container top, to which the closure member is applied, comprising but a single piece of material.

Still another important object of this invention is to provide a closure member having a spout portion, which member is reversible, thereby enabling the spout portion to be inserted into the container, as when shipping and storing the same, and enabling placement of the closure member with the spout portion projecting outwardly of the container for dispensing purposes.

In one aspect thereof, a container closure constructed in accord with my invention is characterized by the provision of a closure member having a body portion of resiliently yieldable material formed with a bead-receiving groove having a cross sectional configuration substantially complementing the cross sectional configuration of the beaded neck around the container opening, either the neck bead or the groove having several annular ribs engaging the other, and the closure body having a snap fit over the bead and extending around and under the same in liquid tight sealing relation thereto.

In still another aspect thereof, a container closure constructed in accord with my invention is characterized by the provision of a body formed with a dispensing spout and a pair of oppositely facing annular grooves each generally complementing the beaded neck of the container, whereby the closure body can be applied to the container with the dispensing spout in a first position, within the container, and whereby the closure body can be positionally reversed on the container neck with the spout extending outwardly for dispensing purposes.

The foregoing and other objects, advantages and characterizing features of a container closure constructed in accord with my invention will become clearly apparent from the ensuing detailed description of certain presently preferred embodiments thereof, in conjunction with the accompanying drawing illustrating the same wherein like reference numerals denote like parts throughout the various views and wherein:

FIG. 1 is a top plan view of a container having a dispensing closure of my invention applied thereto, with the spout in dispensing position;

FIG. 2 is a side elevational view thereof;

FIG. 3 is an enlarged, fragmentary, transverse sectional view thereof, taken about on line 3-3 of FIG. 1;

FIG. 4 is a fragmentary, side elevational view thereof, but with the closure member inverted; and

FIG. 5 is a view similar to FIG. 2, but showing a simple plug type of closure member in accord with my invention.

Referring in detail to the accompanying drawing, the closure of my invention is particularly intended for use with containers such as that illustrated having, for example, a cylindrical body 1, a bottom wall 2, and a top wall 3, which top and bottom walls have peripheral flange portions engaging the opposite ends of the body 1. The container top wall 3 includes a relatively flat central por-

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tion 4 formed to provide a generally annular, upstanding neck 5 terminating in a rolled, laterally positioned, annular bead or lip 6 (FIG. 3).

In containers of this type, except for those having small diameter necks, the fitting for receiving the closure customarily is stamped separately from the container top wall and then soldered thereto, and when a screw type closure is utilized an additional operation is involved in forming the threads in the neck. However, it is a particular feature of my invention that the entire container top wall 3 can be formed as a single member in any diameter. This eliminates the separate soldering operation, heretofore required, and with my closure any necessity for screw threads is obviated, all of which offers obvious economies and other advantages.

The closure member of my invention comprises a molded member, of resiliently yieldable, preferably synthetic plastic material, such as for example polyethylene, preferably throughout. In the embodiment of FIGS. 1-4, which show a closure having a dispensing spout, it will be seen that the closure member comprises a body 7 of generally cylindrically annular configuration closely fitting within the upstanding neck 5 and formed with an annular groove 8 therearound, which groove 8 has a cross sectional configuration generally corresponding to and complementing the cross sectional configuration of the lip or bead 6. The body 7 includes a skirt portion 9, containing the groove 8, which extends over, around and under the bead 6, with the resiliently yieldable material comprising the body and its skirt portion enabling snap fitting of the same over the rolled bead 6 of the neck.

The closure member is hollow, and is provided at one end with a tapered dispensing spout portion 10 formed with a closed tip end 11 (FIG. 4), which tip 11 subsequently is cut off to open a passage 12 for dispensing purposes. It is contemplated that the closure member of FIGS. 1-4 will occupy the position illustrated in FIG. 4 upon initial manufacture, being inverted to the position shown in FIGS. 1-3 only when it is desired to dispense the container contents, and to this end body 7 is provided with a second annular groove 8' corresponding to groove 8 but axially spaced therefrom and facing in the opposite direction.

Thus, upon initial manufacture and assembly the closure member will be applied to the container in the position shown in FIG. 4, with groove 8' receiving bead 6. Skirt 9 has a snap fit over and around bead 6, as above described, and in this position the closure member, with its closed end 11, completely closes and seals the container opening. However, when it is desired to use the closure as a dispensing spout, it is removed from the container and inverted, to the position shown in FIGS. 1-3, and then reapplied. In this position it is the groove 8 which receives the bead 6, over which skirt 9 snap fits, and when the tip end 11 is cut off, as shown in FIGS. 1 and 2, the spout is ready for dispensing. This is a high-up advantageous arrangement, because when the closure member is in the position shown in FIG. 4 it projects very little above the container, as compared to the position thereof shown in FIGS. 1-3, and therefore the container can be packaged, transported and stored more easily and economically. At the same time, the closure is readily converted to a dispensing spout, when desired.

Where a dispensing spout is not desired, a simple closure member such as shown in FIG. 5 is provided, which member has a body 7' formed with a groove 8'' to receive the neck bead 6, and a skirt portion 9 adapted to snap fit thereover. In operation the closure of FIG. 5 is the same as that of FIGS. 1-4, except that it is not reversible.

Where it is essential that the closure have a very tight seal, that is provided in accord with my invention by

having the body 7 extend below neck 5, and formed with an annular rib 15, slightly larger than the inner diameter of neck 5, which rib bears against the underside of cover 4 adjacent neck 5.

To ensure a liquid tight seal, the body 7 preferably is provided with multiple annular embossments or ribs 14 within the grooves 8, 8', which ribs bear against the bead 6 and, being of a resiliently compressible nature, are pulled tightly thereagainst by the skirt portion 9 as it engages beneath the bead. While this is the preferred arrangement, if desired the bead itself could be embossed to provide such ribs, and the material of body 7 would yield and seal thereagainst. In either case, the resiliently compressible material of the closure member and the snap fit thereof with the skirt extending under the bead cooperate to provide a liquid tight seal. While four ribs 14 are shown, obviously a lesser or a larger number could be provided, as desired.

Accordingly, it is seen that my invention fully accomplishes its intended objects, providing a snap fit type of closure which is readily applied and removed, which can be used time and again, which can comprise either a simple plug or a dispensing spout adapted initially to function as a complete closure plug. A very strong grip is provided, along with a fluid tight seal, all in a device characterized by its relative simplicity. In addition the container top wall can comprise a single member, as contrasted with multiple parts secured together, and in this connection it will be appreciated that the bead 6 could be internally of the neck portion, as well as externally thereof. Also, the neck of the container can be relatively low, and of course the container top wall can be flat, or otherwise shaped, and need not be dome shaped as illustrated. It is contemplated that the bead will be approximately 1/8 inch in diameter, regardless of the size of the container opening.

If desired, the simple closure member of my invention (FIG. 5) can have an opening and a plug therein (not illustrated) to enable dispensing when desired and a complete plug type of closure at other times. Also, the plug, if externally threaded and of sufficiently hard material, could cut the threads in the opening through the closure.

While only certain presently preferred forms of my invention are disclosed herein, it will be appreciated that the same are intended for illustrative purposes only, and not by way of limitation.

Having completely disclosed my invention, together with its mode of operation, what I claim as new is:

1. A closure for a container comprising, in combination with a container neck portion having an annular lateral bead, a closure member having a body formed with a dispensing spout portion extending generally axially thereof, said closure member body being of resiliently yieldable material and having a pair of annular grooves

spaced apart along said body and facing in opposite directions generally axially thereof, said grooves each having a cross sectional configuration generally complementing that of said bead for alternately receiving the same in snap fitting relation thereto; whereby said closure member can be applied to said neck portion with said dispensing spout portion in one position, and whereby upon removal of said closure member from said neck portion the former can be inverted and re-applied to the latter in inverted position.

2. A closure for a container of the type having a neck portion formed with a lateral bead comprising, an annular body of resiliently yieldable material, a dispensing spout portion extending from said body generally axially thereof, and a pair of bead receiving annular grooves around said body, said grooves being spaced apart along said body and facing in opposite directions axially thereof, wherein said body is formed with plural annular ribs within the confines of each of said grooves for sealing contact with a container neck bead.

3. A closure for a container comprising, in combination with a container neck portion having an annular lateral bead, a closure member having a body formed with a dispensing spout portion extending generally axially thereof, said closure member body being of resiliently yieldable material and having a pair of annular grooves spaced apart along said body and facing in opposite directions generally axially thereof, said grooves each having a cross sectional configuration generally complementing that of said bead for alternately receiving the same in snap fitting relation thereto, wherein said body is formed with plural annular ribs within the confines of each of said grooves for sealing contact with said container neck bead, and said body having a portion extending below said neck portion and formed with an annular bead having an outer diameter slightly larger than the inner diameter of said neck portion, whereby said closure member can be applied to said neck portion with said dispensing spout portion in one position, and whereby upon removal of said closure member from said neck portion the former can be inverted and re-applied to the latter in inverted position.

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