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2,258,115

DISPENSING CONTAINER

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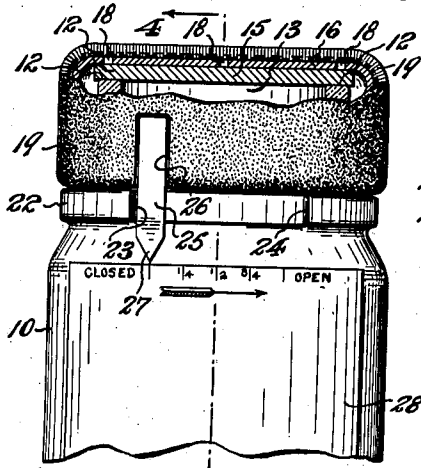


Fig. 1

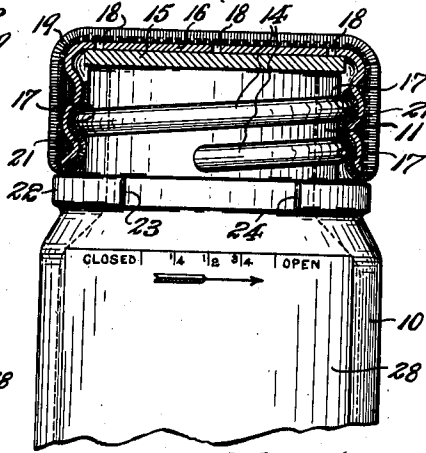


Fig. 2

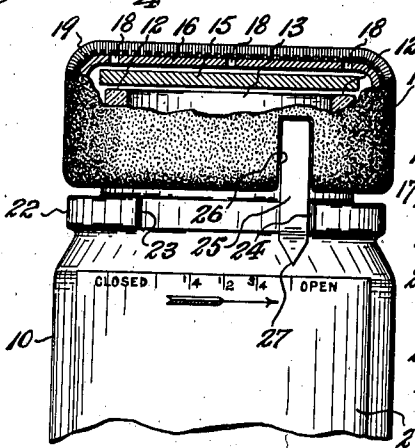


Fig. 3

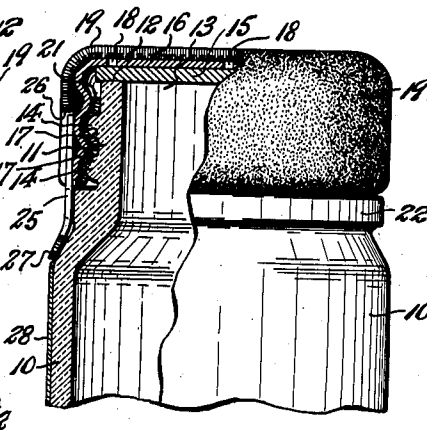


Fig. 4

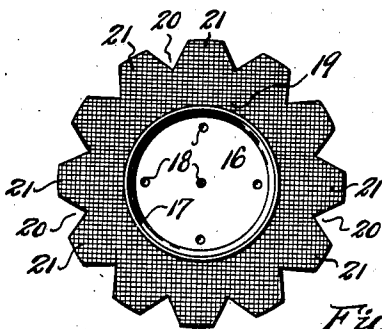


Fig. 5

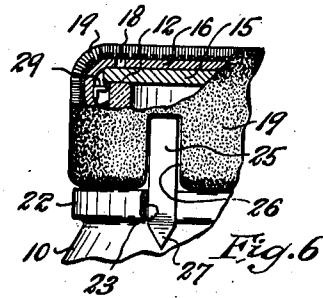


Fig. 6

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DISPENSING CONTAINER

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3 Claims. (Cl. 15—134)

This invention relates to improvements in dispensing containers equipped with a combined closure and discharge applicator means which is manipulatable at will to either close and seal the container against outward passage of the content therefrom, or to open the same for emission of said content to the applicator means, whereby said content may be operatively applied to a surface desired to be treated thereby; a container so characterized being of advantage in dispensing and applying spot cleaner fluids and for similar purposes.

This invention has for its principal object to provide a container, for the purposes mentioned, having a novel, inexpensive and yet highly efficient construction of combined closure and dispensing applicator means of great simplicity and involving a minimum number of parts, which parts, however, are combined in such novel relation as to provide a readily manipulatable means for closing or opening the container at will. To this end the container comprises a body having a neck provided with external screw-threads, an oversized cap having internal screw-threads formed on its skirt or side walls, and an applicator body of absorbent fabric, or any other pervious or porous material, arranged to externally envelop said cap with its marginal portions upturned into the cap interior so as to be wedged between the external screw-threads of the container body neck and the internal screw-threads of the cap skirt, thus serving as an intermediate key means to both operatively interengage the cap in rotative threaded relation to the container neck, as well as to anchor said applicator body in secured assembled relation to the cap, together with sealing means cooperative with the container mouth, adapted, when the cap is screwed down tightly home on the container neck, to close and seal the container mouth, but subject, when the cap is rotatively loosened, to permit flow of the container content therearound; said cap top having one or more perforations adapted to permit such flow to pass to the external applicator body.

The invention has for another object to provide, in cooperation with the cap and container, means to limit the rotative loosening movement of the cap.

Another object of the invention is to provide means to visibly indicate the tightened or loosened condition of the cap as the case may be.

Other objects of this invention, not at this time more particularly enumerated, will be understood from the following detailed description of the same.

Illustrative embodiments of the invention are shown in the accompanying drawing, in which:

Fig. 1 is a front elevation of the upper end portion of a dispensing container according to this invention, with the combined closure cap and discharge applicator means in container closing and sealing condition, parts of the latter structure being shown in section; Fig. 2 is a similar view with the combined closure cap and discharge applicator means, together with the cooperating sealing disc, shown in vertical section; Fig. 3 is a view similar to that of Fig. 1, but with the combined closure cap discharge applicator means open for the emission of the container content; Fig. 4 is in part a side elevation and in part a vertical longitudinal section, taken on line 4—4 in Fig. 1.

Fig. 5 is a plan view, on a reduced scale, showing the closure cap and applicator body ready for assembly of the latter to the former.

Fig. 6 is a fragmentary view with parts in section showing modified detail construction of the closure cap and sealing disk assembly.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

In the drawing, the reference character 10 indicates a container for holding a supply of fluent material desired to be dispensed; illustratively said material may be a liquid cleaning fluid such as commonly used for removing soil spots from garments and other materials. It will be understood, however, that any fluent material, capable of passing from the container interior to and through the pervious material of the applicator means later described, may be dispensed from the container. Said container 10 is illustratively shown in the form of a glass bottle or jar, but it will be obvious that the same may comprise a can, box or other receptacle form which may be made of metal, paper, plastics or any other suitable material.

The container 10 is provided at its open end with a neck portion 11 of cylindrical shape, and which is adapted to provide an annular rim 12 defining the open mouth 13 thereof. Formed on the neck portion 11 are external or male screw-threads 14.

Cooperative with open end of said container neck portion 11 is a sealing disc 15 of any suitable composition or material. This sealing disc is adapted to seat itself upon the annular rim 12 so as to bridge over and thus close and seal the open mouth 13 of the container.

The reference character 16 indicates the top

wall of an oversized cap, the skirt of which somewhat exceeds in diameter the diameter of the screw-threaded container neck portion 11. The cap skirt is provided with internal or female screw-threads 17 corresponding in pitch to the pitch of the external or male screw-threads 14 of said container neck portion. One or more suitably disposed perforations 18 are provided in the cap top wall 16, for purposes presently to be made known.

The reference character 19 indicates an applicator member with which the cap is jacketed. This applicator member may be made of any suitable flexible pervious material, fabric or the like. Preferably a pile textile fabric is used. When the applicator member is employed in connection with a container for dispensing and applying a liquid cleaning fluid, it has been found most advantageous to use a pile fabric having a comparatively stiff brush-like pile, such, e. g. as a mohair fabric.

The applicator member 19 initially comprises a substantially circular body of suitable size, the marginal portions of which are cut to provide V-shape indentations 20, thereby to form an annular row of radial tongues 21 coincident with the said marginal portions of the body (see Fig. 5).

In assembling the applicator member 19 with the cap 16-17, the latter is deposited centrally upon the rear face side of the former, so that the central portion of the applicator member overlies the exterior face of the cap top wall 16. Then, by means of suitable tools, outlying portions of the applicator member are turned to extend in overlying relation to the external surfaces of the cap skirt, and thereupon the marginal portions of the applicator member, including the tongues 21, are turned around the free edge of the cap skirt to extend in overlying relation to the internal cap skirt surface and over the internal or female screw-threads 17 with which the same is provided.

The sealing disc 15 having been first inserted within the cap interior, and while the applicator member 19 is held in the above described assembled relation to the cap, the assembly is pushed down over the neck portion 11 of the filled container 10, until the external or male screw-threads of the latter register with the internal or female screw-threads of the cap, whereby the intumed portions of the applicator member, including the tongues 21, are wedged between said male and female screw-threads, thus forming an intermediate key means for cooperatively relating these screw-threads so as to establish a desired rotative threaded relation between the applicator member enveloped cap and the container neck-portion, while at the same time also serving to anchor against displacement the applicator member in secured operative assembled enveloping relation to the cap.

With the applicator member, cap and container neck-portion thus assembled in operative relation, it will be obvious that manipulated rotation of the cap in one direction (i. e. from right to left as shown) will screw down the combined cap and applicator member on the container neck portion so that the sealing disc 15 will be forced by the cap down upon the rim 12 of said neck portion in closing and sealing relation to the mouth 13 thereof (see Figs. 1, 2 and 4). On the other hand, if the cap is rotatively manipulated in the opposite direction (i. e. from left to right as shown), the combined cap and applicator mem-

ber will be raised on the container neck portion so that the sealing disc 15 will be released (see Fig. 3), and consequently when the container is inverted the liquid therein is permitted to flow around the loosened sealing disc 15, whereupon it will find its way to and through the perforations 18 in the cap top wall 16, and emitted there-through in saturating contact with the applicator member 19, whereupon the latter may be applied and rubbed over material to be treated, and thus apply the fluid to the latter with cleaning effect.

From an inspection of the drawing, together with a consideration of the above description, it will be apparent that the combined applicator member and cap, sealing disc and container provides an exceedingly simple structure involving but four simple parts, which, by reason of their novel cooperation in their described operative assembled relation, not only provide a very efficient means for closing and sealing or opening the container for dispensing at will, but also a structure of minimum cost, both intrinsically as well as with respect to assembling labor costs. For this reason, a very practical, low cost dispensing container is provided, which is a desideratum, since the container cost is ordinarily the larger factor in the cost of producing and commercially distributing cleaning fluids and similar materials.

In a dispensing container capable of being opened or closed at will, it is desirable to provide means which will visibly indicate these respective conditions. It is therefore an additional feature of the instant invention to provide means for this purpose, as well as to also provide means for effectively limiting the loosening or opening movement of the combined applicator member and cap, to the end that undesired or accidental separation thereof from the container or disorganization of the operative assembled relation of the parts is prevented. As a preferred means for accomplishing these purposes, the container 10 is provided intermediate its body and the neck portion 11 thereof with an annular laterally projecting external flange or bead 22. At a properly located area, this flange or bead 22 is cut away to provide a recess bounded at one end by a left hand stop shoulder 23 and at the other end by a right hand stop shoulder 24. The cap is provided with a stop finger 25 dependent from the skirt thereof which, when the cap is in assembled relation to the container neck portion, will cross said cutaway recess. This stop-finger 25 may be provided as a separate part suitably secured to the cap, or it may be formed as an integral part of the latter. As shown, the stop-finger comprises a separate part which is affixed to the exterior side of the cap skirt by soldering, spot-welding or brazing the same thereto, or by any other suitable or convenient means of fixed attachment. The applicator member 19, at the point of location of said stop-finger, is suitably cut away, as e. g. at 26, to expose the cap skirt for the attached engagement of the stop finger thereto, and so that the free end portion of the latter will freely project for cooperative relation with said recess and stop shoulders. The stop finger 25 is so positioned on the cap that, when the latter is turned down on the container neck portion to sealing disc seating position, said stop finger 25 will substantially abut the left hand stop shoulder 23 (see Fig. 1). When loosening the cap to unseat said sealing disc 15, the cap may be turned until said stop finger abuts the right hand stop shoulder 24, whereby any further loosening movement is arrested (see Fig. 3).

If desired the free end portion of the stop finger 25 may terminate in a pointer portion 27 which may be arranged to cooperate with indicia on the container body denoting closed and open positions of the cap. Said indicia may be suitably formed on the body of the container itself, or inscribed upon a label 28 applied and secured thereto as shown.

It may be desirable in some instances, especially if the fluid dispensed is of a character likely to cause the sealing disc 15 to adhere to the rim 12 of the container neck portion, to provide means operative when the combined applicator member and cap is loosened, to positively engage and unseat or lift said sealing disc from said rim. One arrangement suitable for such purpose, as shown in Fig. 6, comprises one or more inwardly and radially projecting lift projection lugs or the like 29 which extend from the interior side of the cap skirt, and in such position as to lie beneath the marginal portions of said sealing disc 15. When the cap rises, upon rotative manipulation thereof, said projection or projections 29 will be carried upwardly into lifting engagement with the sealing disc 15, thereby unseating the same from the rim 12 of the container neck portion, and consequently assuring the opening of the container mouth 13.

It may be here pointed out that in certain types of dispensing containers wherein a sealing disc is omitted because pressure responsive or other automatic valve means are provided, and wherein, in consequence, no rotative or vertical movements of the cap would be required, the advantages of this invention with respect to the simple and novel method of assembling and affixing the applicator member in enveloping relation to the cap and in attached assembled relation to a container neck-portion by wedging internal marginal portions of said applicator member intermediate male and female parts of the container neck-portion and cap may still be resorted to.

Having thus described my invention, I claim:

1. A dispensing container comprising, a container body having a neck-portion terminating in a mouth, said neck-portion having male screw-threads projecting from its exterior surfaces, an oversized cap having female screw-threads in its skirt wall to oppose said neck-portion male screw-threads, a pervious applicator member externally enveloping said cap with marginal portions thereof up-turned

into the cap interior so as to be wedged between said neck-portion male screw-threads and said cap female screw-threads, thus serving as an intermediate key means to both operatively interengage the cap in rotative threaded relation to said neck-portion as well as to anchor said applicator member to the cap and to serve as a leak-proofing medium between said cap and the external sides of said neck-portion, said cap having fluid passage means communicating with said applicator member, and a loose sealing disc intermediate said cap and neck-portion mouth adapted to be forced into sealing relation to the latter by down-screwing movement of said cap.

2. A dispensing container comprising, a container body having a neck-portion terminating in a mouth, said neck-portion having male screw-threads projecting from its exterior surfaces, an oversized cap having female screw-threads in its skirt wall to oppose said neck-portion male screw-threads, a pervious applicator member externally enveloping said cap with marginal portions thereof up-turned into the cap interior so as to be wedged between said neck-portion male screw-threads and said cap female screw-threads, thus serving as an intermediate key means to both operatively interengage the cap in rotative threaded relation to said neck-portion as well as to anchor said applicator member to the cap and to serve as a leak-proofing medium between said cap and the external sides of said neck-portion, said cap having fluid passage means communicating with said applicator member, a loose sealing disc intermediate said cap and neck-portion mouth adapted to be forced into sealing relation to the latter by down-screwing movement of said cap, and means to limit rotative movement of said cap in sealing disc releasing direction.

3. A dispensing container as defined in claim 2 wherein said means to limit rotative movement of the cap in sealing disc releasing direction comprises, a stop-finger affixed to and dependent from the cap to extend over portions of the container body below the latter, stop means formed on the container body for cooperation with said stop finger, and means on the container body cooperative with said stop finger to indicate closed and open conditions of said cap and sealing disc.

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