Oct. 28, 1941. R. B. KINGMAN 2,260,942

CONTAINER AND CLOSURE THEREFOR

Filed June 15, 1940

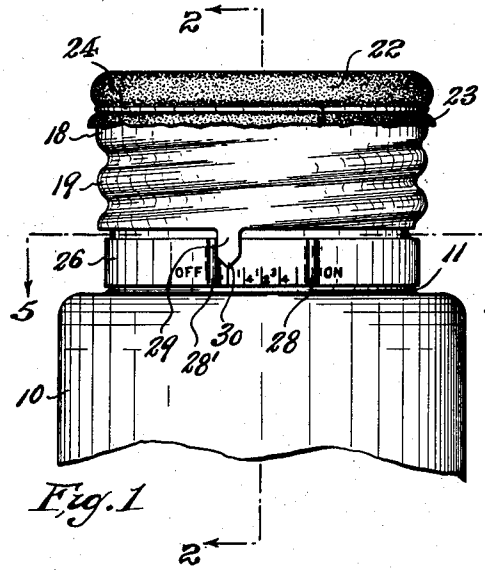


Fig. 1

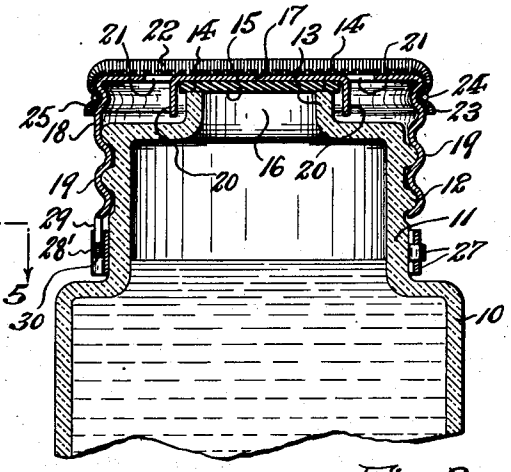


Fig. 2

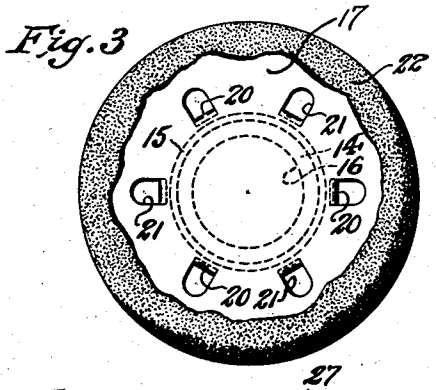


Fig. 3

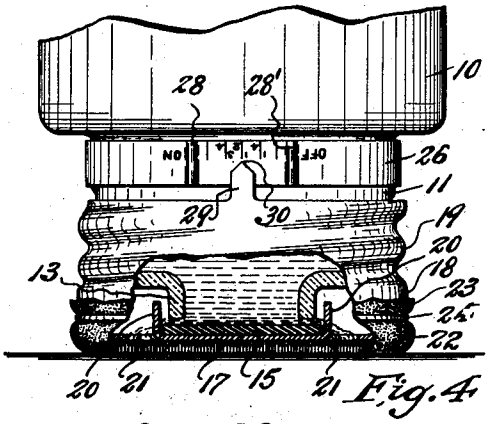


Fig. 4

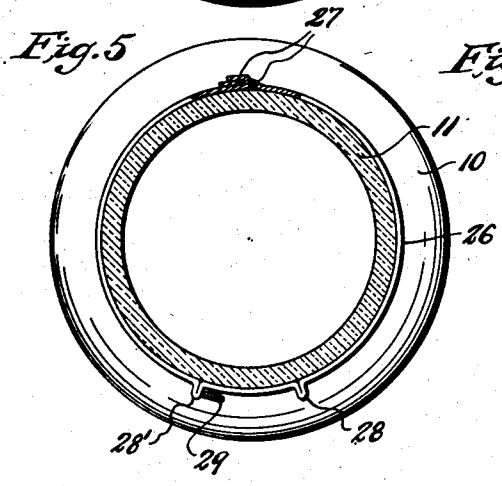


Fig. 5

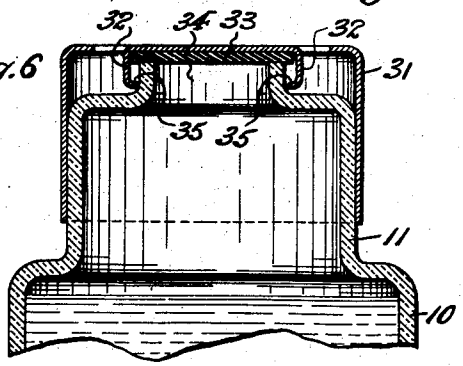


Fig. 6

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Patented Oct. 28, 1941 2,260,942

UNITED STATES PATENT OFFICE

2,260,942

CONTAINER AND CLOSURE THEREFOR

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Application June 15, 1940, Serial No. 340,656

5 Claims. (Cl. 15—133)

This invention relates to improvements in containers and closures therefor.

An object of this invention is to provide a novel closure cap for containers having an internal sealing disc to engage and seal the mouth of the container to which the cap is applied, said cap having means to embrace said sealing disc so as to maintain the same in central or axial aligned relation to the container mouth, whereby to hold the same at all times against displacement from registering relation to the container mouth.

Another object of this invention is to provide a novel container of the dispensing type having a closure cap of the kind described wherein the sealing disc retaining means comprises a plurality of guard tongues or lugs spaced around the periphery of the sealing disc, said tongues or lugs being struck out of the cap top wall so that the resultant apertures left therein provide discharge ports through which, when the cap is loosened with consequent loosening of the sealing disc relative to the container mouth, the content of the container may be discharged.

A still further object of this invention is to provide a dispensing container wherein the closure cap is threaded to the container body so that it may be rotatively loosened to release the sealing disc for content discharge, and wherein a stop band of novel character is affixed to the container body for cooperation with a stop tongue with which the cap is provided, whereby the loosening movement of the cap may be desirably limited; said stop band optionally including means to visibly indicate the tightened and variously loosened conditions of the cap.

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 this invention are shown in the accompanying drawing, in which:

Fig. 1 is a front elevation of the upper end portion of a container of the dispensing type equipped with the closure cap embodying features of this invention, said cap being shown in container closing and sealing condition; Fig. 2 is a vertical longitudinal sectional view, taken on line 2—2 in Fig. 1; Fig. 3 is a top plan view of the closure cap, with parts broken away to show underlying structure; Fig. 4 is a view similar to Fig. 1 but with the container inverted and the closure cap positioned for dispensing the container content, parts being broken away to show internal structure; and Fig. 5 is a transverse sectional view, taken on line 5—5 in Fig. 1.

Fig. 6 is a vertical longitudinal sectional view of a modified form of the container and closure cap.

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

Referring to Figs. 1 to 5 inclusive, the container 10 therein shown is of the dispensing type, and is adapted 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 obvious, however, that any other fluent substance may be dispensed from the container. The container 10 is illustratively shown in the form of a glass bottle or jar, but it will be understood that the same may alternatively comprise a can, box or other receptacle form which may be made of metal, paper, plastics or any other suitable material.

In the illustrated form thereof, the container 10 is provided at its upper end with a neck portion 11 having external screw threads 12 formed thereon. Said neck portion 11 terminates in an upstanding mouth defining portion or flange 13 of reduced diameter, the rim 14 of which serves as a seat to receive a sealing disc 15, which is adapted to bridge over and thus close and seal the open mouth 16 defined by said flange 13.

The reference character 17 indicates the top wall of a closure cap, the skirt 18 of which is provided with screw threads 19, whereby the cap may be threaded onto the container neck portion 11.

The sealing disc 15 is of diametric dimension somewhat larger than the external diameter of the container mouth defining portion or flange 13, whereby the same may fully seat upon the rim 14 of the latter in closing relation to the mouth 16, and with firm and adequate sealing effect. Said sealing disc 15 underlies the top wall 17 of the closure cap. In order to maintain the sealing disc 15 in central or axial alignment with the container mouth 16 in all positions of the closure cap, and securely retained against any possibility of shifting displacement from such aligned position in register with said mouth, a plurality of circumferentially spaced guard tongues or lugs 20 are struck out of and downwardly from the cap top wall 17, so as to depend therefrom around the periphery of the sealing disc 15, thus providing a keeper cage for holding the latter in place. When the container is employed as a dispensing container, the apertures

21, which are formed in the cap top wall 17 by the striking out of said guard tongues or lugs therefrom, will serve as discharge ports through which the fluent content of the container may be sprinkled when the cap and the sealing disc are loosened to permit outflow of said content through the container mouth 16.

When the container is employed for dispensing a spot-cleaning fluid therefrom, it is desirable to provide the closure cap with an applicator member. Such applicator member usually consists in a pervious material, fabric or the like. Preferably a pile textile fabric is used, such e. g. as a mohair fabric. An applicator member 22 is shown applied to and over the top wall 17 of the cap so as to overlie the discharge ports or apertures 21. The marginal portions 23 of said applicator member are folded down around the skirt of the cap and suitably secured thereto, as e. g. by an encircling anchor or binder wire 24. When so fastening the applicator member 22 to the cap, it is preferable to provide the skirt portion 18 of the latter with an indented annular seating channel or groove 25 to receive the binder wire and the marginal portion 23 of the applicator member embraced thereby, so that accidental displacement of the applicator member from operative assembled relation to the cap is prevented. It will be understood, however, that the applicator member may be secured to the cap in any other manner known to the art; or the same may be secured to the cap and container in the novel manner disclosed in my copending application for U. S. Letters Patent Ser. No. 330,820, filed April 22, 1940.

To seal the container against outflow of content therefrom, or loss of said content by evaporation or similar causes, the cap is rotated in one direction (e. g. from right to left as shown in Fig. 1), whereby the cap is screwed down the container neck portion 11 so that the sealing disc 15 will be forced down upon the rim 14 of the container mouth defining flange 13 in closing and sealing relation to the container mouth 16 (see Fig. 2). On the other hand, if the cap is rotatively manipulated in the opposite direction (i. e. from left to right as shown in Fig. 1), the cap will be caused to rise on the container neck portion 11, so that the sealing disc will be released or freed so as to be capable of moving outwardly away from the container mouth 16 when the container is inverted (see Fig. 4), and consequently the fluid is permitted to flow outwardly through the container mouth around the sealing disc and into the cap interior so as to discharge through the apertures or ports 21, and thereupon into the applicator member 22, when such element is employed, thus saturating the latter ready for use for scrubbing material to be cleaned with the fluid carried thereby.

In a dispensing container capable of being opened and closed at will in the manner described, it is desirable to provide means which will limit the rotative loosening movement of the cap, such means optionally including means to visibly indicate the closed and variously loosened conditions of the cap. A novel specific means for this purpose, which is independent of the container per se, but which may be fixedly applied thereto in proper adjusted position for cooperation with the cap, comprises, a band 26 of sheet metal or other suitable material adapted to be applied to the container neck portion 11 in encircling relation thereto below the closure cap. This band 26 is frictionally or otherwise firmly bound to the container neck portion against slipping displacement from an applied adjusted position thereof. If desired the meeting end portions of the band 26 may be joined by interengaging male and female coupling means 27. Formed in suitable manner in connection with the band 26 is at least one stop projection 28, which is adapted to cooperate with a finger 29 carried by the cap so as to limit rotative loosening movement of the cap. A similar stop projection 28' may be provided to cooperate with the cap finger 29 at or near the limit of cap closing and sealing movement, although this is not essential. The cap finger 29 may terminate at its free end in a pointer portion 30 adapted to cooperate with indicia suitably inscribed on the band 26 to denote closed and various degrees of open condition of the cap (as shown more especially in Figs. 1 and 4).

Referring to Fig. 6 of the drawing, there is shown therein, a simplified form of closure cap 31 of the kind adapted for sliding or telescopic application to the container neck portion, but wherein the dependent guard tongues or lugs 32 are provided for retaining a loose sealing disc 33 in register with the container mouth portion 34. Since this type of closure cap may wholly be removed from the container neck portion, the terminal portions of the guard tongues or lugs 32 may be in-turned to provide stop-projections 35 for preventing escape of the sealing disc 33 from the embrace of said tongues or lugs 32.

Since various changes in and widely different embodiments of the features of this invention could be made without departing from the scope thereof as defined in the following claims, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. The combination with a container body having an upstanding neck-portion terminating in a mouth portion of reduced diameter, a closure cap to engage said neck-portion, a sealing disc within and of less diameter than the cap adapted to close and seal the container mouth portion, and said cap having guard tongues struck out from its top wall to interiorly depend therefrom in circumferentially spaced relation around the sealing disc, thereby to hold the latter against displacement from aligned registration with said container mouth, and said cap top wall having discharge apertures outwardly of the margins of said neck-portion and sealing disc which are formed therein by displacement of said tongues therefrom.

2. A dispensing container comprising, a container body having an externally screw-threaded neck-portion, said neck-portion terminating in a mouth portion, a closure cap having an internally screw-threaded skirt portion to screw onto said container neck-portion, a sealing disc to close and seal the container mouth portion, said cap having guard tongues spaced circumferentially around the periphery of said sealing disc to hold the same against displacement from aligned registration with said container mouth, and said cap top wall having discharge apertures formed therein by displacement of said tongues therefrom, through which apertures the content of the container may flow when said cap is loosened to release said sealing disc from normal closing and sealing relation to said container mouth portion.

3. A dispensing container comprising, a container body having an externally screw-threaded neck-portion, said neck-portion terminating in a mouth portion, a closure cap having an internally screw-threaded skirt portion to screw onto said container neck-portion, a sealing disc to close and seal the container mouth portion, said cap having guard tongues spaced circumferentially around the periphery of said sealing disc to hold the same against displacement from aligned registration with said container mouth, said cap top wall having discharge apertures formed therein by displacement of said tongues therefrom, through which apertures the content of the container may flow when said cap is loosened to release said sealing disc from normal closing and sealing relation to said container mouth portion, and a pervious applicator member secured to said cap in overlying relation to its apertured top wall.

4. A dispensing container as defined in claim 2 including, a stop band affixed to the container neck-portion in encircling relation thereto, and a stop means carried by said cap to cooperate with said stop band for limiting rotative movement of said cap in sealing disc releasing direction.

5. A dispensing container as defined in claim 3 including, a stop band affixed to the container neck-portion in encircling relation thereto, a stop projection carried by said band, a stop finger carried by said cap to cooperate with said stop projection in limitation of the rotative movement of said cap in sealing disc releasing direction, and means on said band cooperative with said stop finger to indicate closed and open conditions of said cap and sealing disc.

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