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R. W. ANKNEY

2,961,132

DISPENSING CONTAINER CLOSING DEVICE

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Fig. 1

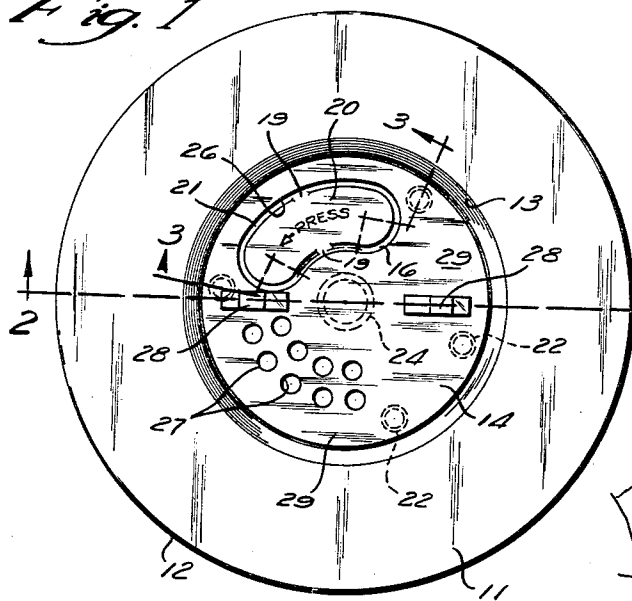


Fig. 5



Fig. 2

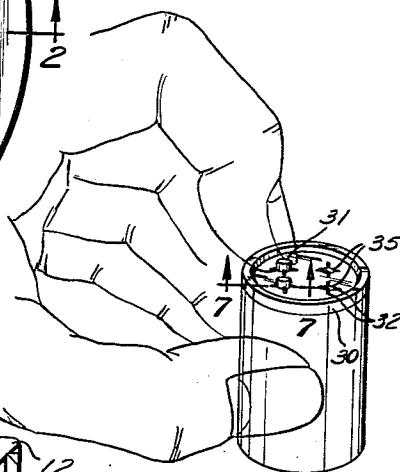
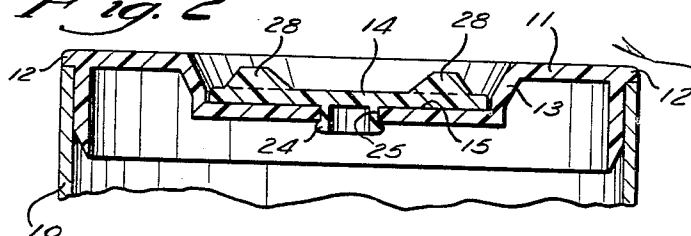


Fig. 6

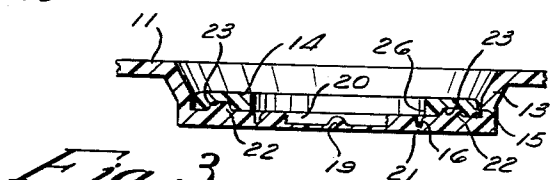


Fig. 3

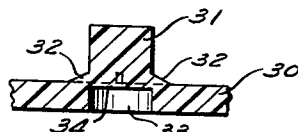


Fig. 7

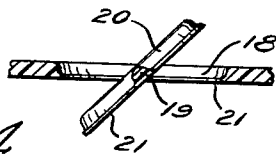


Fig. 4

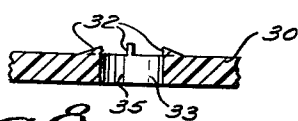


Fig. 8

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1

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DISPENSING CONTAINER CLOSING DEVICE

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1 Claim. (Cl. 222—480)

This invention relates broadly to plastic caps for small domestic containers, such as condiment receptacles, and more specifically to improvements in caps designed to effectively seal containers when on display in a store or in warehouse storage.

The invention further contemplates a cap that is adapted for use as a shaker or a container from which the contents may be poured.

One of the objects of the invention is to provide a plastic cap having a scored outline in the upper face thereof defining an arcuate tab, a pair of opposed unscored segments in the center of the tab outline forming hinge pins, and a thin homogeneous film or web subjacent the scored outline that closes and seals the container. The pins are of the same thickness as the top of the cap and provide a fulcrum for the tab when sufficient pressure is applied upon one end thereof to break the web and facilitate rotational movement of the tab. After the sealing web is broken, the opposed elevated end of the tab may be grasped, and the unscored segments or pins may be torn away and the tab discarded, thus clearing the opening defined by the tab and preventing it from falling into the container.

Another object of the invention is to provide a circular depression in the top of the cap for the reception of a pivoted disc having an opening therein of the same size and outline as the tab, and disposed for registration therewith.

Another object of the invention is to provide a set of small spaced openings in the disc forming a shaker head arranged for registration with the scored opening in the cap upon rotation of the disc.

Another object of the invention is to provide a series of mating lugs and detents in the cap and disc for holding the rotatable disc in indexed position.

A further object of the invention is to provide upwardly protruding lugs on the upper face of the disc constituting finger grips to accommodate rotation thereof.

Another object of the invention is to provide a tubular plastic hub on the disc for insertion in an opening in the center of the cap, and when flared after assembly, to provide a pivotal connection.

Another object of the invention is to provide a cap for a container that embodies a series of sealing webs similar to the web heretofore described, but formed with a plurality of spaced integral lugs superjacent the webs that may be readily torn off to provide spaced openings in the cap.

Further objects of the invention reside in the provision of a cap which is economic of production, efficient of operation and designed to prevent the deleterious effect of moisture to the contents of the containers, such as salt, while the receptacle is in storage.

Other objects and advantages more or less ancillary to the foregoing, and the manner in which all the various objects are realized, will appear in the following description, which considered in connection with the accompanying drawings, sets forth the preferred embodiment of the invention.

2

Referring to the drawings:

Fig. 1 is a plan view of the cap assembly;

Fig. 2 is a transverse vertical sectional view thereof, the section being taken on a plane indicated by the line 2—2 in Fig. 1;

Fig. 3 is a sectional view indicated by the line 3—3 in Fig. 1;

Fig. 4 is an elevational view, partly in section, of the tab that forms the center portion of the scored outline after the sealing web is broken and the tab is rotated about its hinge pins;

Fig. 5 is a view in perspective of the tab defined by the scored outline after it is removed from the cap;

Fig. 6 is a view in perspective of a container embodying a cap with a modified form of the sealing web and associated parts;

Fig. 7 is a transverse sectional view, shown upon an enlarged scale, the section being taken on a plane indicated by the line 7—7 in Fig. 6; and

Fig. 8 is a similar sectional view illustrating the appearance of the cap of Fig. 7 after the web is broken and the lugs are removed therefrom.

Referring first to Fig. 2, the containers comprise a cylinder 10 closed in the base and provided with a plastic cap 11 sealed on the upper end thereof. The cap is preferably formed with a circumferential flange 12 on the upper face thereof disposed in abutting engagement with the wall of the cylinder to assure rigidity of the cap. The central portion 13 of the cap is depressed and a plastic disc 14 is mounted for pivotal movement therein. The floor or base 15 of the depressed portion of the cap is molded with a depressed score line 16 in the upper face thereof configured generally with arcuate sides and ends and defining the outline of an opening 18 (Fig. 4). The score lines 16 are broken intermediate the ends of the outline to provide pins 19 integral with the material of the cap, and serving as a fulcrum for limited rotational movement of the tab 20. The portion of the cap below the scored outline is relatively thin and constitutes an integral sealing web 21. The base 15 of the depressed portion of the cap is provided with spaced frusto-conical lugs 22 disposed for engagement in detents 23 in the disc 14. The disc is preferably formed with a tubular depending hub 24 mounted in a central opening 25 in the base 15 of the depressed portion of the cap, and the hub is flared after assembly to perform the function of a rivet for the pivotal support of the disc.

The disc 14 is formed with an opening 26 in eccentric relation to the hub 24. The configuration of the opening 26 conforms to the scored outline for the opening 18. The disc is further provided with a series of small apertures 27 arranged in spaced relation with each other and with the pattern of the grouped apertures spaced from the opening 26. The center line through the major axis of the series of apertures overlies the center line of the major axis of the opening 18. The upper face of the disc 14 is provided with upwardly protruding bosses 28 to accommodate rotation of the disc. The plastic disc is flexible and the lugs 22 are arranged for reentrance engagement in the detents 23 to hold the disc in indexed registration of the opening 26 with the opening 18 in the cap, the indexed rotation of the set of apertures 27 with opening 18 or the closure of the opening 18 by the indexed rotation of the disc to the impermeate area 29 in the disc.

In the modified form illustrated in Fig. 6, the cap 30 is formed with a plurality of vertically disposed cylindrical bosses 31 integral with the material of the cap, and united thereto by thin webs 32. The lower face of the cap is formed with recesses 33 therein, each forming a sealing member 34 aligned with the superjacent boss 31, and each approximately of the same diameter as the boss.

3

The webs 32 seal the receptacle while in storage, but when the use of the contents of the container is desired, sufficient finger pressure is applied to the bosses 31 to break the webs 32 and seal 34 to expose the openings 35 defined by the recesses 33.

Although the foregoing description is necessarily of a detailed character, in order that the invention may be completely set forth, it is to be understood that the specific terminology is not intended to be restrictive or confining, and that various rearrangements of parts and modifications of detail may be resorted to without departing from the scope or spirit of the invention as herein claimed.

What is claimed is:

A container cap comprising a plastic plate adapted to seal the top of a container, said plate having a depression provided with a central opening and with a removable, generally arc shaped portion remote from said central opening, said removable portion being partly defined by score lines and having fulcrums connecting it to the plate for turning movement of the portion after rupture of the plate along said score lines, said fulcrums being breakable for ready removal of said removable portion after it has been turned around the fulcrums and preparatory to removal of the contents of the container, a

4

disc in said depression and having a central portion projecting through the said central opening of said plate and being secured to the plate for rotational movement of the disc relative to the plate; said disc having an arcuate opening therethrough corresponding in size and shape with, and being alignable with, said removable portion and having a plurality of small holes through said disc arranged in an area circumferentially spaced from said opening in the disc and corresponding in size and shape with, and being alignable with, said removable portion of the plate, and interengaging means on the plate and disc for restraining free rotation of the disc.

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