

[54] **SNAP-ON CLOSURE OPENING DEVICE**

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[51] Int. Cl. **B65d 43/16, B65d 51/10**

[58] Field of Search **220/36, 38.5, 43, 60 R, 47, 220/31.5; 215/46 R, 41**

[56] **References Cited**

UNITED STATES PATENTS

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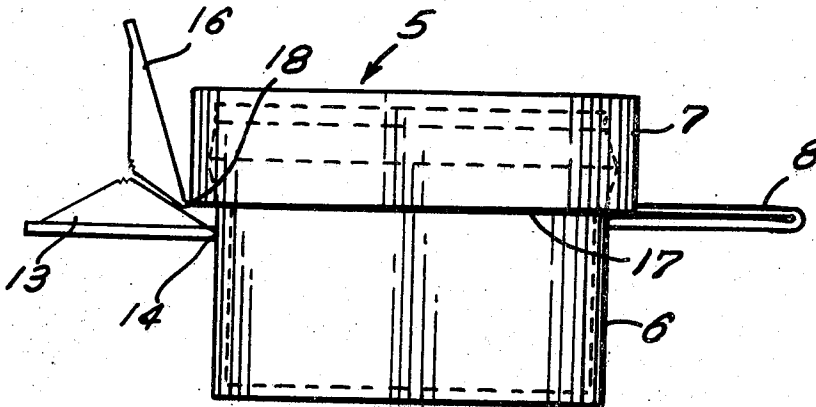
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[57] **ABSTRACT**

An opening device for removable, snap-on container closures comprising a pair of pivotably associated tabs, one tab being hingedly connected to a container part and the other tab connected to the container closure whereby the container and the closure attached ends of the tabs work away from each other to open the container when the opposed free ends of said tabs are manual moved toward one another.

4 Claims, 3 Drawing Figures



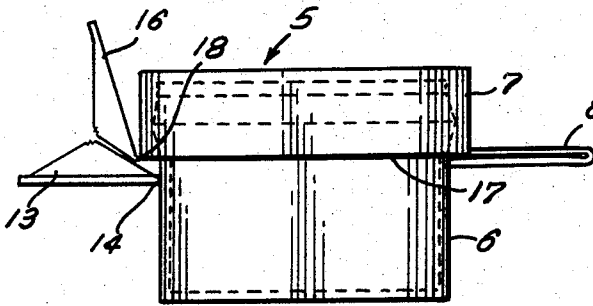


Fig. 1

Fig. 2

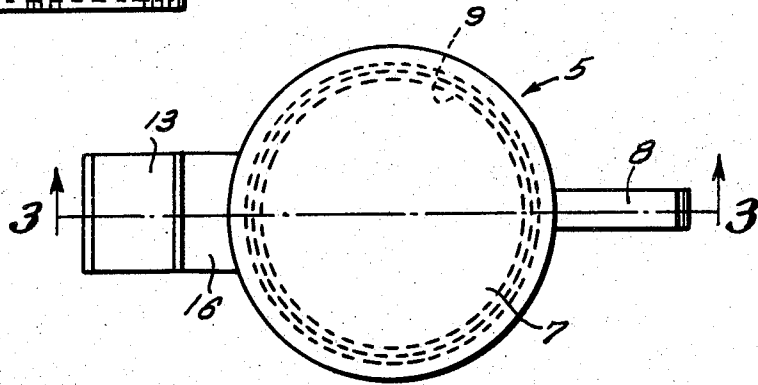
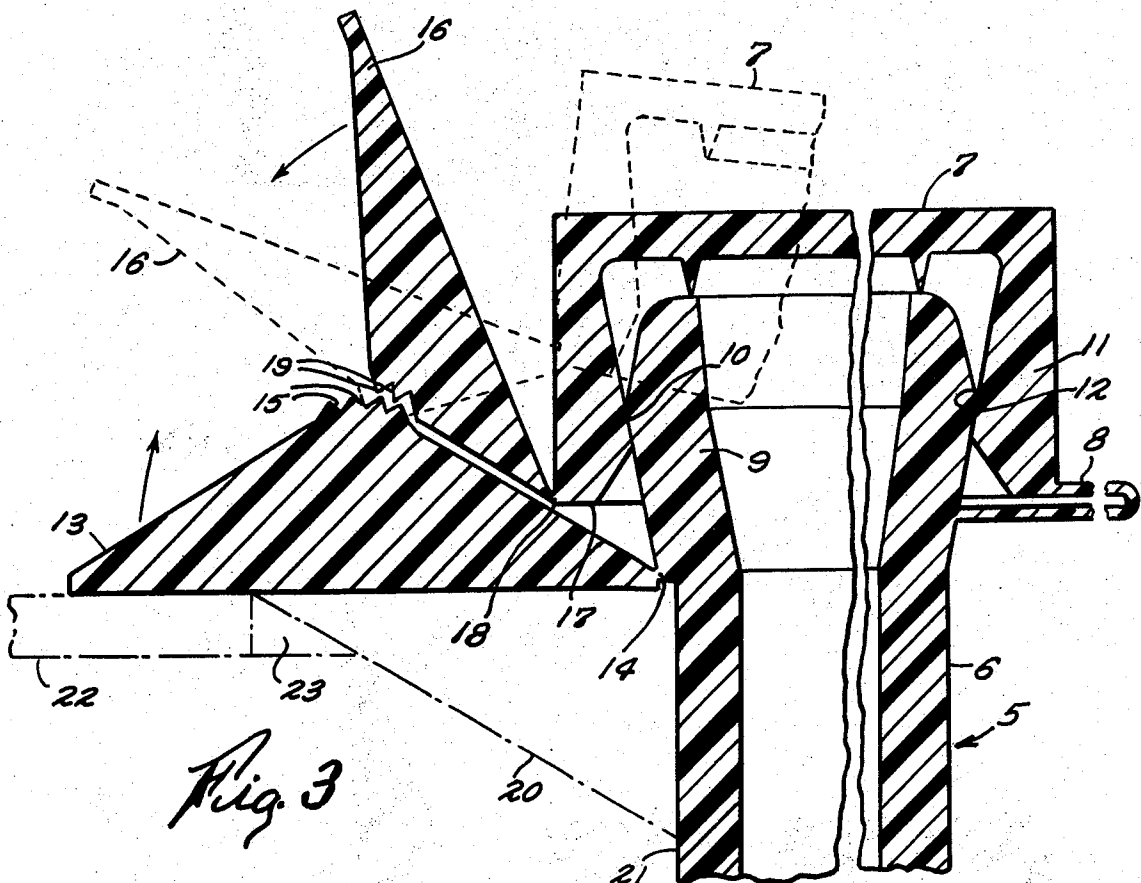


Fig. 3

SNAP-ON CLOSURE OPENING DEVICE

This invention relates to opening devices for removable, snap-on container closures and is particularly directed to container closures of this character that are molded, one-piece with the container from somewhat flexible plastic materials.

An object of the invention is to provide a manually operable closure opening device for the snap-on type caps of containers which requires relatively little manual pressure to open a tightly sealed container.

Another object of the invention is to provide a simplified, yet rugged opening device for the closures of sealed containers.

A further object of the invention is to provide a conveniently accessible closure opening device having the foregoing characteristics that is integrally attached to and particularly adapted for use with one-piece plastic containers.

Further objects and advantages of the invention will become apparent from the following specification, taken in conjunction with the accompanying drawings.

In the drawings:

FIG. 1 is a side elevational view of a molded plastic container in closed position with the closure opening device of this invention incorporated therewith.

FIG. 2 is a top plan view of the container shown in FIG. 1.

FIG. 3 is a greatly enlarged, fragmental section taken on line 3—3 of FIG. 2, the dotted lines indicating the initially released position of the closure, and the dot-and-dash lines illustrating a slightly modified form of the invention.

Referring more in detail to the drawings a container 5, preferably useful as a small paint pot for childrens painting sets comprises two dish-shaped parts 6 and 7, the part 6 serving as the main container body and part 7 the closure cap for said body. The container is ideally made from a single molded piece of a somewhat flexible synthetic resinous material and the parts 6 and 7 are hingedly connected together by an integrally formed tether 8.

As best shown in FIG. 3 the container part 6 has a circular flange 9 provided at its central exterior portion with an outwardly projected ridge 10 and the container cap part 7 has a circular flange 11 which telescopes with the flange 9 and has an internal rib 12 that tightly snaps over the shoulder 10 and provides a tightly fitted releasable seal between said parts when the parts are manually pressed together.

The body part 6 has an elongated closure cap opening tab 13 connected to the body 6 at the base of the flange 9 and opposite the tether 8 preferably by a thin, reduced portion 14 of the container formed between the tab 13 and the body part 6. This tab projects from the side of the body part 6 and has the general shape of an isosceles triangle in the direction of its elongated extension from the body. The tab is provided with a number of laterally extending teeth 15 at its apex portion. An opening tab 16 projects from the side of the part 7 opposite the tether and, is hingedly connected to the lower edge portion 17 of the flange 11 by a thin reduced portion 18 provided between said edge and the

tab 16. This tab 16 is also triangularly shaped in the direction of its elongated extension from the cap, the apex of it's body portion having lateral teeth 19 formed therein which cooperate with the teeth 15 on the tab 13, as will be more fully set forth hereinafter.

In operation when it is desired to open the container for access to it's contents the sides of the parts 6 and 7, opposed to the tether 8, are moved apart to release the sealed connection between the flange 11 of the cap 7 and the flange 9 of the body 6 by hand pressure exerted inwardly on the free ends of the tabs 13 and 16 in the direction of the arrows shown in FIG. 3 of the drawings. This pressure will initially bring the teeth 15 and 19 on the apices of the tabs 13 and 16, respectively, into engagement with each other to provide a positive fulcrum means whereby upon continued manual pressure on the free ends of the tab the hinged inner ends of the tabs will be moved apart to separate the cap from the body and then move said cap away from the flange 9 of the container body 6, as indicated by the dotted lines in FIG. 3.

It is also contemplated that the opening tab 13 may be fixedly mounted on the container body 6 by means of an integral rib 20 depicted in dot-and-dash lines in FIG. 3, said rib being integrally joined to the underside of the tab 13 and to the exterior surface 21 of the body 6. In this modification the container 5 may be supported on a horizontally disposed top wall 22 by the expedient of forming a keyhole slot 23 in the top 22 to receive and support the circular body 6 of the container and the rib 20. In this instance only the tab 16 need be manually depressed to lift the closure cap 7 from the flange 9 of the body 6 as the body and the tab 13 are supported by the top 22.

It will therefore be understood that I have provided a pair of cooperative tabs each hingedly connected to the snapon parts of a capped container, said tabs being so pivoted together that their common container attached ends work away from each other to open the parts when the opposed free ends of the tabs are manually pressed together.

What is claimed is:

1. An opening device for snap-on plastic closures for containers having two dish-shaped parts each with telescoping fitted flanges comprising a pair of cooperative opening tabs, hinge means connecting at least one tab to an external edge portion of a flange for a part, said tabs having triangularly shaped body portions in their direction of extension from their flanges respectively, the apices of the tabs being disposed in confronting relationship whereby upon pressing together of the free ends of the tabs the tab apices form a fulcrum on which the tabs rock to move apart the flanges and open the closure parts.

2. An opening device set forth in claim 1 wherein the apex of each tab has cooperative laterally extending teeth to provide a positive fulcrum for the tabs thereof anchored against relative longitudinal movement.

3. An opening device set forth in claim 1 wherein a hinge means connects each tab to a flange for it's respective container part.

4. An opening device as set forth in claim 1 wherein one said tab is fixedly connected to a container part.

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