July 2, 1940. P. M. THORN 2,206,209

CLOSURE FOR RECEPTACLES

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Fig. 1.

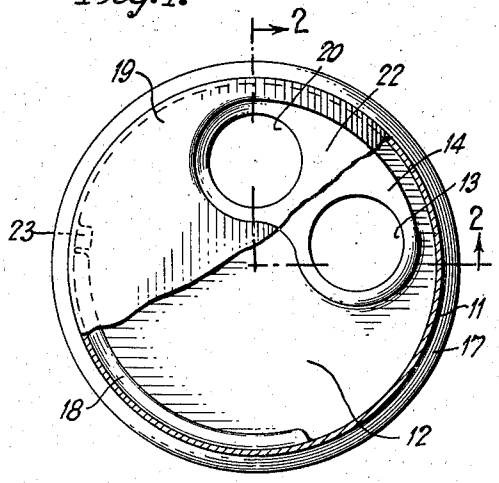


Fig. 3.

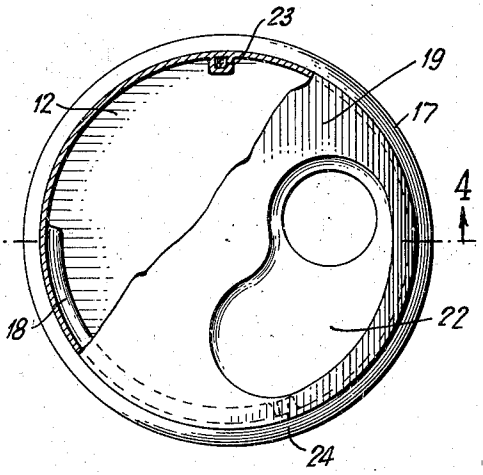


Fig. 2.

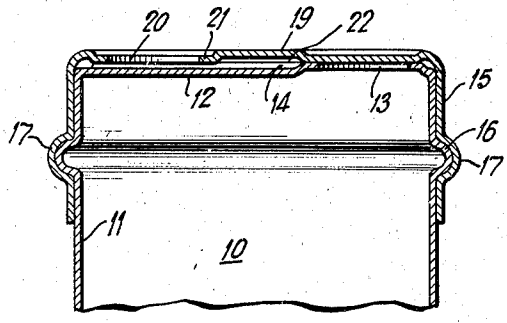


Fig. 4.

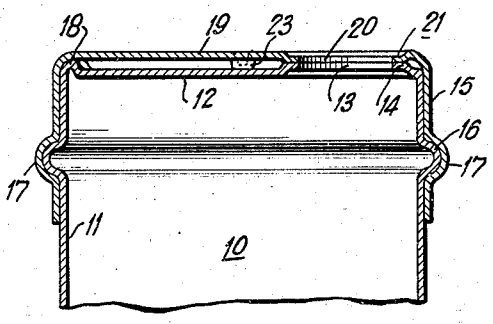
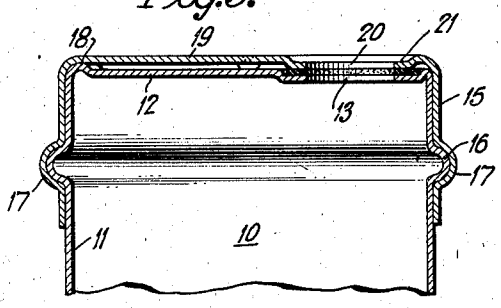


Fig. 5.



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Fig. 6.

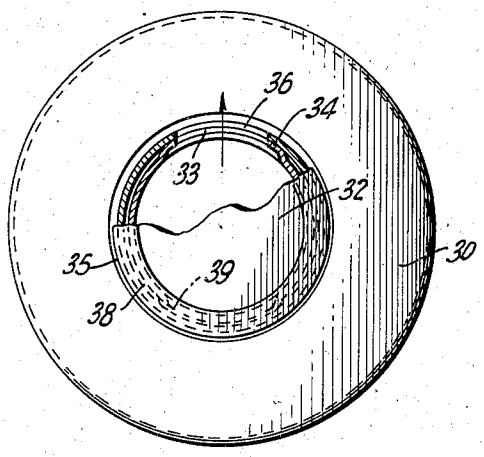


Fig. 7.

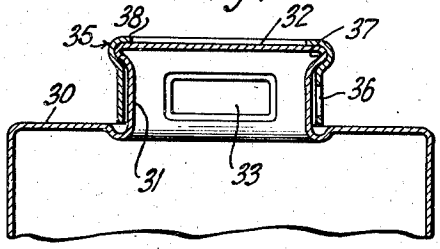


Fig. 8.

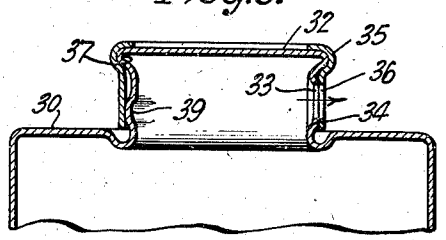


Fig. 9.

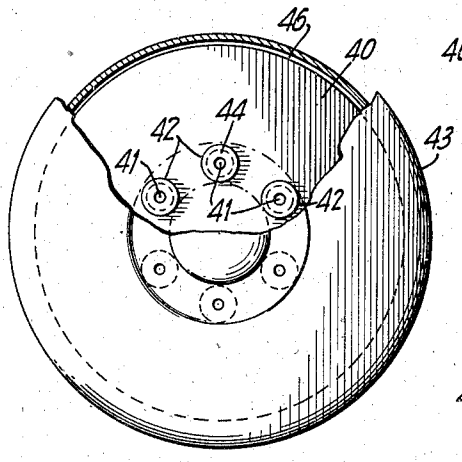


Fig. 10.

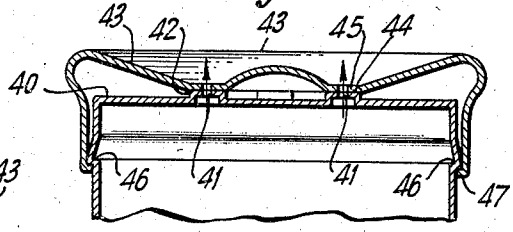
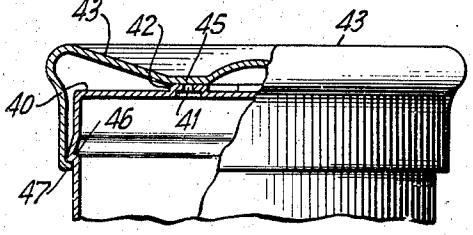


Fig. 11.



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UNITED STATES PATENT OFFICE

2,206,209

CLOSURE FOR RECEPTACLES

Percy M. Thorn, New Rochelle, N. Y.

Application March 2, 1938, Serial No. 193,454

2 Claims. (Cl. 221—64)

This invention relates to closures for containers such as bottles and the like.

It is an object of this invention to provide a two piece closure which will be simple in construction and which nevertheless will maintain a tight joint at all times.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description, taken in connection with the accompanying drawings, in which:

Figure 1 is a plan view partly in section to a device embodying this invention with the parts shown in closed position.

Figure 2 is a central section therethrough.

Figures 3 and 4 are similar to Figures 1 and 2 except that they show the device in the open position.

Figure 5 is a central section through a modified form of the device.

Figure 6 is a top plan view, parts being broken away, of a third embodiment with the closure open.

Figures 7 and 8 are central sections through the closure of Figure 6, Figure 7 showing the closure closed and Figure 8 showing the closure open.

Figure 9 shows a top plan view, parts being broken away, of a fourth embodiment.

Figure 10 is a central section showing the closure open.

Figure 11 is a figure similar to Figure 10, with the closure in closed position.

In the drawings the numeral 10 designates a base portion having a circumferential wall 11 and an end wall 12, such end wall being provided with an opening 13, which opening is completely surrounded by a raised portion 14. Upon the base there is mounted a cap 15 rotatable upon the base and retained upon it by a bead 16 in the base, mating with a bead 17 in the cap.

Upon one of these members, as preferably upon the base portion there is formed, on the side opposite the opening, a raised portion 18 as high or slightly higher than the raised portion 14.

The cap itself has an end wall 19 provided with an opening 20 corresponding in size, shape and position to the opening 13 and, if desired, this opening 20 may also have a depressed portion 21 immediately surrounding the opening 20 so as to make a tight joint with the raised portion 14 of the opening 13 when the cap is in closed position. In order to provide a tight closure when the cap is closed, the end wall 19 has an imperforate depression 22 of size and shape to come into registry with the raised portion 14 around the opening 13 when the cap is in closed position. As will be understood any convenient means may be provided for limiting the rotation of the cap so that it will move only between the fully closed position and the fully open position. As illustrated this may take the form of depressions 23 and 24 in the cap, positioned so that one of them will engage one side of the raised portion 15 when the cap is fully open and the other will engage the other side of the raised portion 15 when the cap is fully closed.

In the form of the invention shown in Figure 5, the raised portion 14 around the opening 13 is provided by means of an inset washer of cork or other suitable composition. The end wall 12 of the member 11 being depressed to receive the said washer.

In Figures 6, 7 and 8, the invention is shown as embodied in a side opening turret top, the breast 30 of the container is provided with a cylindrical dome 31 having an imperforate end 32 and a side cylindrical wall provided with an opening 33. Completely surrounding the opening 33 is a raised portion 34 having its extreme peripheral edges flat to provide a bearing surface for the cap. A cap 35 fits completely over the dome and has an opening 36 adapted to be brought into and out of registry with the opening 33 by rotating the cap. The dome and the cap are provided with mating bearing surfaces to hold the cap for rotation and prevent tilting or movement in either direction along the axis of the dome. As shown, the dome is provided with a peripheral rim 37 fitting into a corresponding groove in the interior of the cap. The outer face of the cap 38 may be left open or closed, as desired. In the drawings it is shown as open. A projection 39 extending outwardly from the side of the base on the side opposite the opening 33 bears against the cap to help retain it in place to assist in holding the opening 36 tightly against the raised portion 34.

In Figures 9, 10 and 11 the invention is shown as embodied in a sifter top in which the dome 40 on the breast of the container is provided with a plurality of openings 41 arranged in circular form about the center, each opening having a

raised surface 42 completely surrounding its periphery. A cap 43 fits over the dome 40 and has a circumferential bearing surface 44 adapted to engage all of the bearing surfaces 42 in all positions of the cap. The cap is provided with openings through the bearing surface 45 which, in one position of the cap, are designed to mate with the openings 41 and to give a considerable amount of resilient pressure between the bearing surface 44 and the surfaces 42. Each of the peripheral edges of the cap slopes upwardly and away from the openings 45, making the outer face of the cap concave with the openings at the bottom of the concavity. In this embodiment the bearing surfaces between the cap and the dome are formed by providing a shoulder 46 upon the dome over which is formed an internal peripheral projection 47 on the cap.

In any of these embodiments of the invention there is provided a two piece top of economical construction which will give a tight closure and which is of neat appearance and rugged construction.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention, which as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A closure for containers and the like comprising a base portion, a cap rotatable upon said base portion, there being openings in said cap and base portion between the center and the periphery adapted to be moved into and out of registry by rotation of the cap, confined to an arcuately narrow area of the base and a raised portion upon the base immediately surrounding the opening in the base for localizing the contact between the base and the cap, of such size and shape as to effect a tight joint in both the open and closed positions and imperforate inter-engaging surfaces disposed diametrically from said openings for preventing tilting of the cap.

2. A closure for containers and the like comprising a base portion, a cap rotatable upon said base portion, there being openings in said cap and base portion between the center and the periphery adapted to be moved into and out of registry by rotation of the cap confined to an arcuately narrow area of the base and a raised portion upon the base immediately surrounding the opening in the base for localizing the contact between the base and the cap to effect a tight joint and imperforate inter-engaging surfaces disposed diametrically from said openings for preventing tilting of the cap, and a depression on said cap immediately surrounding the opening therein and a second imperforate depression thereon adapted to effect a tight joint with the raised portion on said base in open and closed position.

PERCY M. THORN.