March 28, 1939. R. NYDEN 2,152,270

DISPENSING CONTAINER

Filed May 24, 1938

Fig. 1.

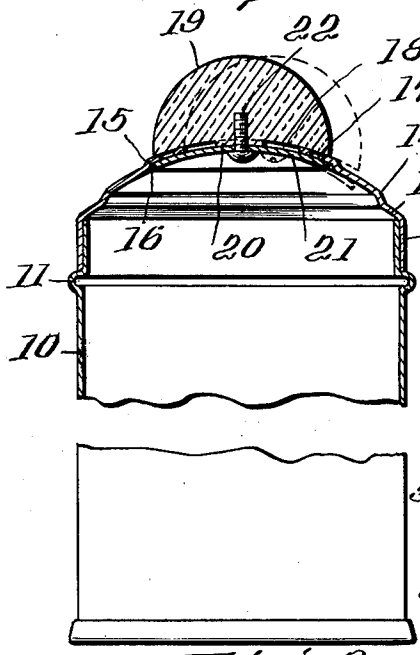


Fig. 4.

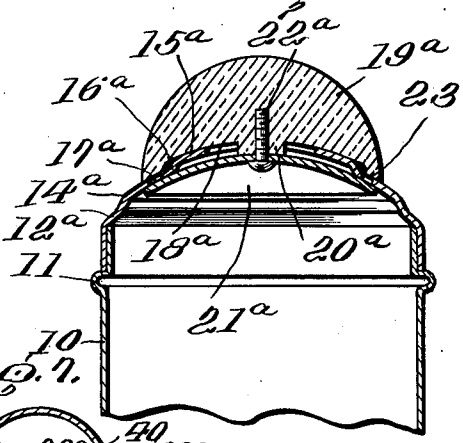


Fig. 7.

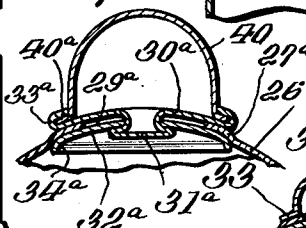


Fig. 5.

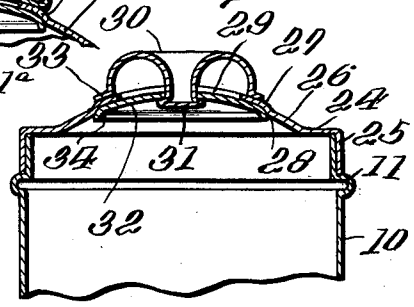


Fig. 2.

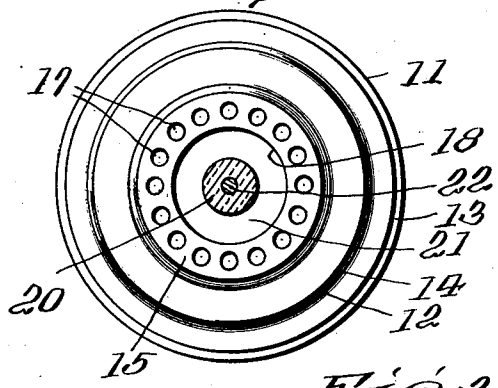


Fig. 3.

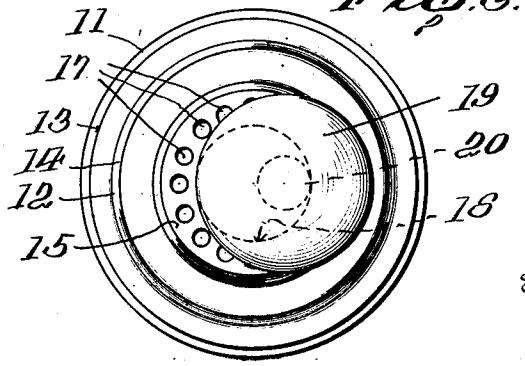
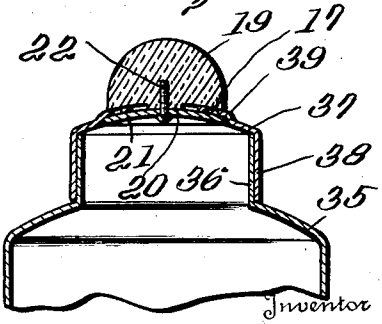


Fig. 6.



Inventor

Robert Nyden

By Mason + Porter

Attorneys

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DISPENSING CONTAINER

Robert Nyden, New York, N. Y., assignor to Continental Can Company, Inc., New York, N. Y., a corporation of New York

Application May 24, 1938, Serial No. 209,817

11 Claims. (Cl. 221—62)

The present invention relates to new and useful improvements in dispensing containers, and more particularly to improvements in a dispensing container having a closure which is attached to the container and which is shiftable in all directions over the adjacent surface of the container for opening or closing the same.

An object of the invention is to provide a dispensing container of the above type wherein the closure is resiliently maintained in contact with the adjacent surface of the container in order to effect a tight seal.

A further object of the invention is to provide a dispensing container of the above type wherein the closure, when shifted to a closed position, is positively maintained in such position relative to the adjacent surface of the container.

A further object of the invention is to provide a dispensing container of the above type, wherein the container wall adjacent the closure is shouldered in order to maintain the closure in a closed position.

A still further object of the invention is to provide a container of the above type wherein the closure includes inner and outer closure members, one of which is in the form of a resilient or spring disc which serves to resiliently maintain the closure in tight sealing contact with the intermediate wall portion of the container.

A still further object of the invention is to provide a container of the above type, wherein the shouldered portion on the container provides an internal recess within which the spring closure member is adapted to fit in order to maintain the closure in a closed position.

The invention still further aims to provide a closure of the above type, which is particularly adapted for use with a container having a rounded dispensing end substantially spherical in shape.

The above and other objects of the invention will in part be obvious, and will be hereinafter more fully pointed out.

In the accompanying drawing,

Figure 1 is a fragmentary side elevation, partly in section, showing a container with one form of closure means associated therewith.

Figure 2 is a top view, in section, taken substantially along the outer surface of the dispensing end of the container.

Figure 3 is a top plan view showing the closure means in an open position.

Figure 4 is a fragmentary side view, in section, showing a modified form of closure means.

Figure 5 is a fragmentary side view, in section, showing a further modified form of closure means.

Figure 6 is a fragmentary side view, in section, showing a modified form of container with the closure means of Figure 1 associated therewith.

Figure 7 is a fragmentary side view, in section, showing a further modified form of closure.

Referring more in detail to the accompanying drawing, and particularly to Figures 1, 2 and 3, the container, shown for purposes of illustration, includes a cylindrical body portion 10 having an outward bead 11 spaced from the upper edge thereof. The closing top 12 of the container is provided with a depending skirt portion 13 which fits over the body portion of the container 10 and abuts against the outward bead 11, although the top 12 may be secured to the body portion 10 in any suitable manner. As shown in the accompanying drawing, the top 12 is outwardly curved or dome-shaped and is offset outwardly at 14 to provide a strengthening rib. The end is further offset outwardly at 15, and this offset portion provides an internal recess defined by slightly tapered shoulders 16. The offset portion 15 is provided with an annular ring of apertures 17, and with a relatively large central aperture 18. The apertures or perforations 17 provide the dispensing openings in the form of the invention shown in Figures 1, 2 and 3.

The closure means of Figures 1, 2 and 3 includes an outer closure member 19 which is in the form of a knob. This knob may be made of Bakelite or other suitable material and the surface contacting with the curved surface of the end of the container is similarly curved. As shown in Figure 1, the closing surface of the knob 19 is large enough to overlie and to close the ring of apertures 17, thus preventing the escape of the contents of the container. The knob 19 is provided with a depending boss 20 which extends into the central aperture 18 in the portion 15 of the container top and is of a thickness substantially equal to the thickness of the metal forming the container top.

An inner closure member 21 is disposed within the container and is secured to the knob 19 by a screw 22 or the like, which passes through the depending boss 20. In the illustrated form of the invention, this inner closure member 21 is in the form of a resilient or spring metal disc which is also adapted to overlie and close the ring of apertures 17 when the closure means is in the position shown in Figure 1. In this position of the closure means, the spring closure 21 is disposed within the recess provided beneath the outwardly

offset portion 15 on the top 12, and the shoulder 16 serves to prevent accidental shifting of the closure members. Thus, the closure members are positively maintained in a closed position, and a double closure is provided, that is, the dispensing apertures 17 are sealed both outside and inside of the intermediate container wall.

When it is desired to open the container for dispensing the contents thereof, the knob 19 may be readily shifted by finger pressure in any direction over the surface of the container end. When the knob is shifted to the position shown in dotted lines in Figure 1, or to the full line position shown in Figure 3, a few of the dispensing apertures 17 will be uncovered. During this movement of the closure members, the inner spring closure 21 is caused to ride over the shoulder 16, as particularly shown in Figure 1. The depending boss 20 on the knob 19 will ultimately abut against the edge of the central relatively large opening 18 so as to limit movement of the closure members. When the container is to be again closed, the knob 19 is again shifted back to the position shown in Figure 1, and during this movement, the elevated portion of the spring closure 21 will spring back into the recess. Thus, the closure members will be held by the shoulder 16 against accidental uncovering of the dispensing apertures.

In the modified form of the invention shown in Figure 4, the container top 12*a* is secured to the container 10 in the same manner described in connection with Figure 1. The top 12*a* is similarly offset to provide a reinforcing rib 14*a*. The end is further offset outwardly to provide an elevated portion 15*a* which has a relatively large central aperture 18*a*. The dispensing apertures 17*a* are disposed between the rib 14*a* and the offset portion 15*a* and not within the elevated portion 15, as in Figure 1.

The outer closure member or knob 19*a* is provided with a depending central boss 20*a* which extends through the aperture 18*a* in the outwardly offset portion 15*a*. Entirely around the periphery of the knob 19*a*, there is provided a depending skirt 23 which, in the position shown, overlies the annular ring of the dispensing apertures 17*a*. In this form of the invention, the depending boss 20*a* is of substantially twice the thickness of the boss shown in Figure 1, and the inner spring closure member 21*a* is secured to the boss 20*a* by a screw 22*a* or the like. The inner and outer closure members are substantially coextensive so that the inner closure member underlies the dispensing apertures 17*a*, thus affording a double closure therefor when the closure members are in the position shown. It will be seen that the depending skirt 23 on the knob 19*a* is disposed adjacent the elevated edge 16*a* of the offset portion 15*a* so that the closure members are held thereby in a closed position against accidental opening.

In order to dispense the contents from the container shown in Figure 4, it is simply necessary to press the knob 19*a* in the manner described in connection with Figure 1. This pressure will cause a portion of the skirt 23 to ride up on the shoulder or elevated edge 16*a*, thus uncovering a few of the dispensing apertures 17*a*. During this movement of the knob 19*a*, the inner spring closure member 21*a* will be flexed substantially in order to permit the movement thereof. As before, the boss 20*a* will abut against the edge of the central aperture 18*a* so as to limit movement of the closure member to a dispensing position.

In the form of the invention shown in Figure 5, the container top 24 is provided with a depending flange 25 which is secured to the container 10 in substantially the same manner described in connection with Figure 1, although the top may be secured to the container body in any suitable manner. The top 24 is provided with a central dome-shaped portion 26 which is outwardly offset, as at 27, thus providing an internal recess and an internal shoulder 28. The outwardly offset portion 27 is provided with a large aperture 29.

Still referring to Figure 5, the outer closure member 30 is made of sheet metal and is drawn to provide a central depending lug 31 which extends through the aperture 29 and through an aperture in an inner spring closure 32. The inner end of the lug 31 is upset so as to secure the two closure members together. The lug 31 of the outer closure member merges into a continuous outer peripheral wall portion, the lower end of which is shaped, as at 33, to intimately contact with the outer surface of the portion 27 of the container end. The peripheral edge of the inner spring closure 32 is turned downwardly, as at 34, to facilitate the riding thereof over the shoulder 28 defined around the internal recess beneath the portion 27 on the container end.

In this form of the invention, both closure members are made of sheet metal and no separate dispensing apertures are utilized. In the position shown in Figure 5, the closure members effectively seal the contents of the container. When it is desired to dispense the contents of the container, pressure is applied to the outer closure member 30 in the same manner described in connection with Figures 1 and 4. Movement of the closure members in any direction from their closed position will cause the depending portion 34 on the inner spring closure 32 to ride over the shoulder 28 for the greater part of its periphery. The lug 31 moving with the inner closure 32 will ultimately abut against the edge of the aperture 29 and thus limit movement of the closure members. The aperture 29 is large enough to permit a portion thereof to be uncovered, thus permitting the contents of the container 10 to be dispensed therethrough.

In the form of the invention shown in Figure 6, the closure means shown in Figure 1 is illustrated as being applied to a modified form of container. In this form of container, the container top 35 is provided with an upstanding neck portion 36. A cap 37 is provided with a depending flange 38 which fits over the neck portion 36. The central portion of the cap 37 is offset outwardly as at 39 and this outwardly offset portion is centrally apertured and provided with an outer ring of dispensing apertures. The closure members 19, 21 are secured together in the manner shown in Figure 1 and operate in substantially the same manner.

Referring to Figure 7 of the accompanying drawing, there is shown a sheet metal closure somewhat similar to the form of closure shown in Figure 5. In this form of the invention, the closer member 30*a* has the peripheral edge 33*a* thereof curled upwardly over a flange 40*a* on a dome-shaped knob 40. The knob 40 and the closure 30*a* are thus secured together and the knob prevents the accumulation of dust on the closure. The closure member 30*a* is provided with a depending lug 31*a* which extends through an opening in the inner spring closure member 37*a* and is upset so that both closure members

are secured together. As described in connection with Figure 5, the lug 31*a* extends through an opening 29*a* in the offset portion 27*a* of the container. Thus, when it is desirable to dispense the contents of the container, pressure is applied to the knob 40 so that the closure members 30*a* and 32*a* can be moved in any direction. The depending portion 34*a* on the inner closure member 32*a* will ride over the shoulder formed beneath the outwardly offset portion 21*a*. The lug 31*a* will ultimately abut against the edge of the aperture 29*a*, thus limiting movement of the closure members. The aperture 29*a* is large enough to permit a portion thereof to be uncovered, thus permitting the contents of the container to be dispensed therethrough.

From the foregoing description, it will be seen that a highly efficient dispensing container is herewith provided, and one wherein the closure may be moved in all directions over the surface of the dispensing end of the container for opening or closing the same. Furthermore, a double closure is afforded so that the opening or openings through which the contents of the container are dispensed are tightly sealed both inside and outside of the container by resilient means which may consist of a spring disc forming one of the closure members. An annular ring of dispensing apertures is shown in Figures 1 and 4, although in the form of the invention shown in Figure 5, the enlarged central aperture is partially uncovered when the closure members are shifted to permit dispensing of the contents of the container. Various forms of openings may be provided in the dispensing end of the container, and the illustrated forms may be interchanged. The closure members are maintained in a closing position so as to prevent accidental movement thereof to a dispensing position, thus protecting and sealing the contents of the container.

It will be further noted that the resilient means or the inner spring closure member, shown in Figures 1 and 5, will fit within the recess formed beneath the outwardly offset portion on the container top. The edges of the spring or spring closure will cooperate with the shoulder formed by the bounding wall of this recess to center the closure members with respect to the container top. This centering of the closure will be indicated to the operator and will thus assure that the dispensing openings will be closed when the parts are in this position. In connection with Figure 4, the depending skirt on the outer closure member will similarly cooperate with the shoulder formed at the edge of the elevated portion in order to properly locate the closure members in position for completely shutting off the dispensing openings. Thus, the invention provides a dispensing container wherein the closure means is properly centered for closing the container and for preventing accidental opening thereof.

It is to be clearly understood that various changes in the details of construction and arrangement of parts may be made without departing from the scope of the invention as set forth in the appended claims.

I claim:

1. A dispensing container comprising a body portion, a can top therefor, said can top having a central opening therethrough, a closure member disposed on one face of the can top, a resilient member bearing against the opposite face of the can top, and means extending through the central opening for connecting said resilient member to said closure member for maintaining the said closure member in sealing contact with the face of the can top, said central opening being dimensioned relative to said connecting means for permitting movement of said closure member in any direction over the face of the can top for controlling a passage through which the contents of the container is dispensed.

2. A dispensing container comprising a body portion, a can top therefor, a closure member disposed on the outer face of the can top, a resilient member bearing against the inner face of the can top, and means for connecting said resilient member to said closure member, said can top being constructed to permit the dispensing of the contents of the container therethrough and including a central opening through which said connecting means extends and being dimensioned for permitting movement of said closure member in any direction over the face of said can top whereby to control dispensing of the contents of the container.

3. A dispensing container comprising a body portion, a can top therefor, said can top having a central opening therethrough and dispensing openings disposed around the edge of the central opening, a closure member disposed on the outer face of the can top and normally overlying and closing said openings, a resilient member bearing against the inner face of the can top, and means extending through said central opening for connecting said resilient member to said closure member, said central opening being dimensioned relative to said connecting means for permitting movement of the closure member in any direction over the face of the can top for uncovering the dispensing openings.

4. A dispensing container comprising a body portion, a can top therefor, said can top having an offset portion providing a shoulder around the edge thereof and said offset portion having a central opening therethrough, dispensing openings disposed around the central opening, a closure member disposed on the outer face of the can top and normally overlying said openings, a resilient member bearing against the inner face of the can top, and means extending through the central opening for connecting said resilient member to said closure member, said central opening being dimensioned relative to said connecting means for permitting movement of the closure member in any direction over the face of the can top for uncovering the dispensing openings, and the shoulder formed around said offset portion in the can top operating to normally maintain the closure member centered and covering all of said openings.

5. A dispensing container comprising a body portion, a can top therefor, said can top having an outwardly offset portion providing an internal recess the edge of which forms an inner shoulder therearound, said outwardly offset portion having a central opening and dispensing openings disposed around the edge of the central opening, a closure member disposed on the outer face of the can top and normally overlying the openings in said outwardly offset portion, a resilient member bearing against the inner face of the can top and normally disposed within said shoulder and cooperating therewith for maintaining the closure member centered and covering all of said openings, and means extending through the central opening for connecting said resilient member to said closure member, said central opening being dimensioned relative to said connecting means

for permitting movement of the closure member and the resilient member in unison in any direction in substantially the plane of the can top for uncovering the dispensing openings, and said resilient member being adapted to ride over said shoulder when the closure member is moved to a dispensing position.

6. A dispensing container comprising a body portion, a can top therefor, said can top having an outwardly offset portion providing an internal recess the edge of which forms an inner shoulder therearound, said outwardly offset portion having a central opening and dispensing openings disposed around the edge of the central opening, an outer closure member disposed on the outer face of the can top and normally overlying the openings in said outwardly offset portion, an inner spring closure member bearing against the inner face of the can top and normally disposed within said shoulder and cooperating therewith for maintaining said closure members centered and covering all of the said openings, and means extending through the central opening for connecting said inner spring closure member to said outer closure member, said central opening being dimensioned relative to said connecting means for permitting movement of the closure members in unison in any direction in substantially the plane of the can top for uncovering the dispensing openings and said inner spring closure member being adapted to ride over said shoulder when the closure members are moved to a dispensing position.

7. A dispensing container comprising a body portion, a can top therefor, said can top having an outwardly offset portion providing an internal recess the edge of which forms an inner shoulder therearound, said outwardly offset portion having a central opening and dispensing openings disposed around the edge of the central opening, an outer closure member disposed on the outer face of the can top and normally overlying the openings in said outwardly offset portion, an inner spring closure member bearing against the inner face of the can top and normally disposed within said shoulder and cooperating therewith for maintaining the closure members centered and covering all of said openings, and means includng a depending boss on said outer closure member extending through the central opening for connecting said inner closure member thereto, said central opening being dimensioned relative to said boss for permitting movement of the closure members in unison in any direction in substantially the plane of the can top for uncovering the dispensing openings, said inner spring closure member being adapted to ride over said shoulder when the closure members are moved to a dispensing position and said boss abutting against the edge of said central opening for limiting opening movement of said closure members.

8. A dispensing container comprising a body portion, a can top therefor, said can top having an outwardly offset portion providing an external shoulder therearound and having a central opening therethrough, dispensing openings in the can top disposed around said external shoulder, an outer closure member disposed on the outer face of the can top and having a depending peripheral portion normally overlying and closing said dispensing openings, an inner spring closure member having the outer edge thereof normally overlying said dispensing openings for closing the same, and means including a boss on said outer closure member extending through the central opening for spacing and connecting said inner closure member thereto, the inner edge of the peripheral portion on said outer closure member cooperating with said external shoulder for normally centering and maintaining the closure members covering all of said openings, said central opening being dimensioned relative to said boss for permitting movement of the closure members in unison in any direction in substantially the plane of the can top for uncovering the dispensing openings, the inner spring closure member permitting the peripheral portion of said outer closure member to ride over said shoulder in order to uncover a portion of said dispensing openings and said boss cooperating with the edge of the central opening for limiting opening movement of said closure members.

9. A dispensing container comprising a body portion, a can top therefor, said can top having an outwardly offset portion provided with an enlarged central opening therethrough, an outer sheet metal closure member having a peripheral flange in sealing contact with said outwardly offset portion, an inner spring closure member normally abutting against the inner face of said outwardly offset portion for closing the central opening therethrough, said inner closure member having an aperture therethrough, and means for connecting said outer closure member to said inner closure member and including a depending lug on said outer closure member extending through the said central opening and the aperture in said inner closure member and upset thereunder, said central opening being dimensioned relative to said connecting means for permitting movement of the closure members in unison in any direction in substantially the plane of the can top for uncovering a portion of said central opening to permit dispensing of the contents of the container, and said depending lug on said outer closure member adapted to abut against the edge of said central opening for limiting opening movement of said closure members.

10. A dispensing container comprising a body portion, a can top therefor, said can top having an upstanding neck portion, a cap having a depending flange secured to said neck portion and provided with an outwardly offset central portion, said outwardly offset portion having a central opening therethrough and dispensing openings disposed around the edge of the central opening, an inner spring closure member normally fitting against the under surface of said outwardly offset portion, an outer closure member disposed on the outer face of the can top and normally overlying and closing the openings in said outwardly offset portion, and means extending through said central opening for connecting said inner closure member to said outer closure member, said central opening being dimensioned to said connecting means for permitting movement of the closure members in unison in any direction in substantially the plane of the outwardly offset portion for uncovering the dispensing openings.

11. A dispensing container comprising a body portion, a can top therefor, said can top having an outwardly offset dome-shaped portion provided with a central opening therethrough and dispensing openings disposed around the edge of the central opening, an outer closure member disposed on the outer face of the can top and having the inner closing surface thereof shaped

symmetrically with respect to said dome-shaped portion and normally overlying and closing said openings, resilient means bearing against the inner face of the dome-shaped portion, and means extending through said central opening for connecting said resilient means to said outer closure member, said central opening being dimensioned relative to said connecting means for permitting movement of the closure member in any direction over the face of the dome-shaped portion for uncovering dispensing openings.

ROBERT NYDEN.