June 9, 1942. W. F. PUNTE 2,285,835

DISPENSING CONTAINER

Filed June 16, 1941

FIG. 1.

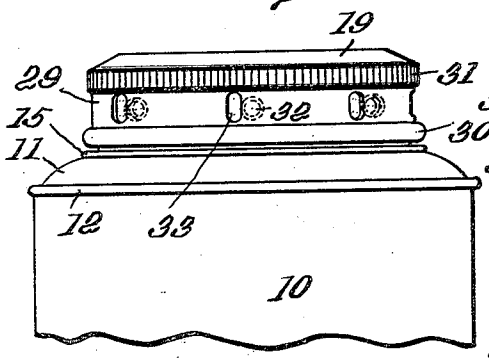


FIG. 2.

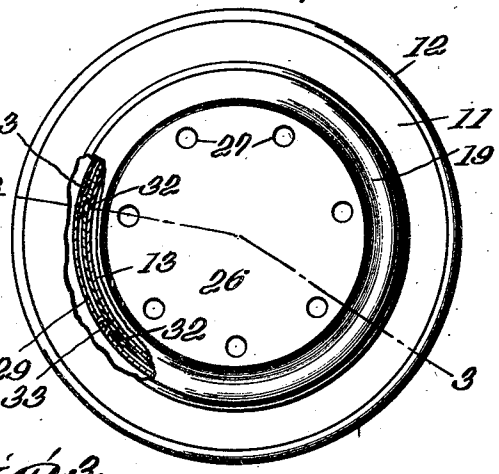


FIG. 3.

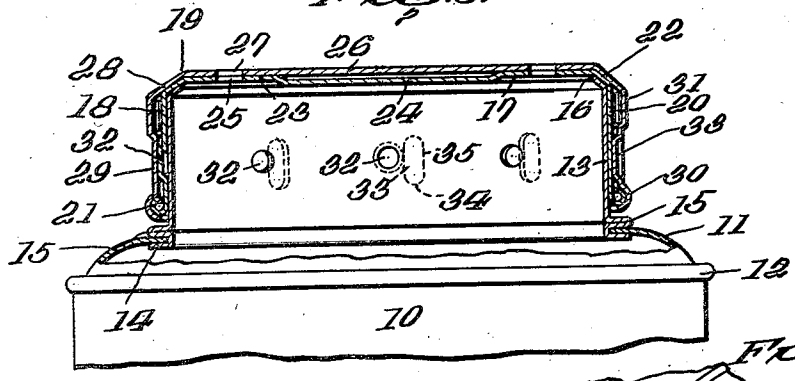


FIG. 4.

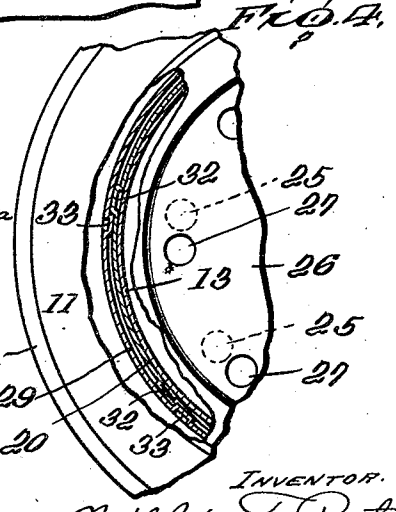
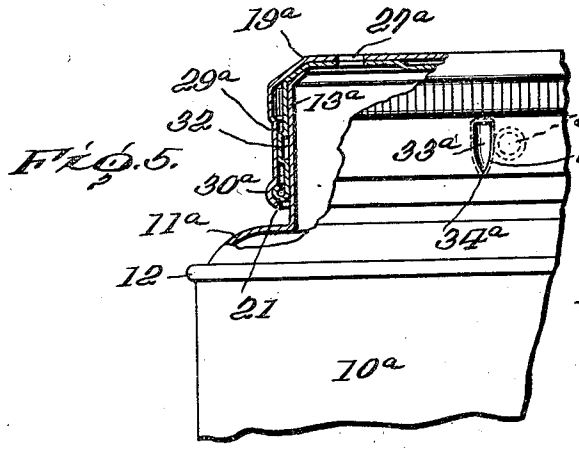


FIG. 5.



INVENTOR.
William F. Punte
By
Mason & Porter
ATTORNEYS

Patented June 9, 1942

2,285,835

UNITED STATES PATENT OFFICE

2,285,835

DISPENSING CONTAINER

William F. Punte, Syracuse, N. Y., assignor to Continental Can Company, Inc., New York, N. Y., a corporation of New York

Application June 16, 1941, Serial No. 398,350

3 Claims. (Cl. 221—64)

The present invention relates to new and useful improvements in dispensing containers, and more particularly to improvements in a dispensing container having a sifter top for dispensing powder or the like.

According to the present invention, the container includes a body portion having ends secured thereto and one of the ends is provided with a reduced upstanding neck portion having an open outer end. A sifter top assembly includes an inner cap and an outer cap which are secured together for relative rotation. The inner cap is adapted to fit over and frictionally engage the neck portion on the container and is provided with sifting openings. The outer cap is also provided with sifting openings which are adapted to be brought into and out of register with the sifting openings in the inner cap upon relative rotation between the caps.

An object of the present invention is to provide a container of the above type wherein the inner and outer caps are provided with cooperating projections shaped to facilitate assembly of the caps and serving to limit relative movement therebetween, and wherein the projections are positioned so that in one extreme contacting position, the dispensing openings will be in register, and in another extreme contact position, the dispensing openings will be out of register.

A further object of the invention is to provide a container of the above type wherein the side edges of the projections provide a positive stop after the inner and outer caps are assembled, and wherein the projections are otherwise shaped so that only pointed or rounded edges can come in contact with one another during assembling of the inner and outer caps so as to eliminate possible engagement between flat surfaces during assembling of the caps and to thus obviate the necessity of exactly positioning the caps relative to one another before they are assembled.

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 showing the container assembled with the sifter top.

Figure 2 is a top end view of Figure 1, partly in section, and showing the dispensing openings in register for permitting dispensing of the contents of the container.

Figure 3 is an enlarged fragmentary side view, with the closure in section, showing the position of the parts with the dispensing openings in register.

Figure 4 is an enlarged fragmentary top end view, similar to Figure 2, but showing the dispensing openings out of register and the relative position of the inner and outer caps.

Figure 5 is a fragmentary side view, partly in section, showing a modified form of neck portion and a modified form of projection on the outer cap.

Referring more in detail to the accompanying drawing, and particularly to Figures 1 through 4, the container is illustrated as including a cylindrical body portion 10 which has an end 11 secured thereto by a seam 12. The container is also provided with a bottom end (not shown) which may be secured thereto in any suitable manner. The top end 11 is in the form of an annulus providing a central opening and, as illustrated in Figure 3, a neck portion 13 is separately secured thereto. The neck portion is in the form of an upstanding sleeve and the bottom edge thereof is turned outwardly as at 14 to provide a peripheral flange. Immediately above the flange 14, the neck portion is bent outwardly upon itself to provide a peripheral flange portion 15. The adjacent inner peripheral edge of the end 11 is secured between the flange portions 14, 15. The upper free end of the neck portion 13 is turned slightly inwardly, as at 16 and provides a central opening 17 therethrough.

The sifter top assembly includes an inner cap member 18 and an outer cap member 19 which are assembled as a unit before being applied to the neck portion of the container. The inner cap member 18 has a depending skirt portion 20, the bottom edge of which is turned outwardly to provide an outward peripheral bead 21. The skirt portion 20 merges into an inwardly inclined portion 22 which fits over the inturned edge 16 of the neck portion 13 and merges into a top closing wall 23. The closing wall 23 is provided with a central depressed portion 24 and with sifting openings 25 therearound.

The outer cap member 19 is provided with a top closing wall portion 26 and with sifting openings 27 which are spaced symmetrically with respect to the sifting openings 25 on the inner cap member. The peripheral edge of the top closing portion 26 is turned downwardly, as at 28, to overlie the inclined portion 22 on the inner cap member. The outer cap also includes a depending skirt portion 29 spaced outwardly from the inner skirt portion 20 and having the bottom edge thereof shaped to conform to and underlie the bead 21, as at 30. Thus, the inner and outer caps are secured together for relative rotating

movement. The outer cap is also provided with a knurled portion 31 to facilitate relative rotation thereof.

The inner cap member 18 is illustrated as being provided with spaced outwardly extending circular projections 32. As shown in Figure 3, the outer cap member 19 is provided with inwardly extending projections 33 which are vertically or longitudinally elongated and which are provided with round upper and lower ends 34. The vertical or longitudinally disposed side edges 35 are substantially straight. Before the inner or outer cap members are secured together by curling or spinning the portion 30 on the outer cap around the bead 21 on the inner cap, it is, of course, necessary to assemble the two cap members by relative axial movement toward one another. By reason of the circular projections 32 on the inner skirt 20, and the round ends 34 of the projections 33 on the outer skirt 29, it will be seen that no horizontal flat surface will be presented between the projections during assembling of the inner and outer cap members. Thus, if the projections 33 should be in alignment with the projections 32 during assembling of the inner and outer cap members, it will be seen that the rounded edges 34 of the projections 33 will contact with the circular surface of the projections 32 so that inward movement of the two cap members will cause relative rotation therebetween and permit passage of the projections past one another to the position shown in Figure 3. The assembling of the inner and outer caps is thus greatly facilitated in that the cap members do not have to be arranged in a predetermined position before assembling thereof. After assembling of the inner and outer cap members, it will be seen that the side edges 35 of the projections 33 present vertical edges to the projections 32 so that a positive stop is provided in order to limit relative rotation between the inner and outer cap members.

Referring to Figure 5 of the accompanying drawing, the neck portion 13*a* is formed integral with the end 11*a* and is not separately secured thereto, as shown in Figure 3. With this form of container, the neck portion 13*a* may be drawn from the can end 11*a*. In the form of the invention shown in Figure 5, there is also provided a modified form of projection 33*a* on the skirt portion 29*a* of the outer cap member 19*a*. Thus, the inwardly extending projection 33*a* is provided with a gradually tapered side edge 35*a* and with a pointed bottom end 34*a*. The circular projection 32 on the inner skirt portion 20 is the same as that shown in Figure 3. Prior to curling of the portion 30*a* around the bead 21 and during assembling of the inner and outer cap members, it will be seen that any engagement between the circular projections 32 and the downwardly pointed projections 33*a* will eliminate any possibility of engagement between horizontal flat edges so as to facilitate assembling of the cap members in the manner pointed out above, that is, without the necessity of arranging the cap members in a predetermined position prior to axial movement thereof toward one another.

When the sifter top has been assembled, the combined assembly is fitted over the neck portion on the container with the inner surface of the inner skirt portion 20 frictionally engaging the outer surface of the neck portion. The inclined peripheral edge portion 22 of the inner cap member also engages the inwardly directed free end of the inner neck portion and there is provided a relatively tight friction fit between the inner cap member and the neck portion. The curled portion at the bottom of the outer skirt engages the bead 21 on the inner skirt in order to connect the inner and outer cap members and permit movement of the outer cap member relative to the inner cap member. The dispensing openings through the inner cap member are positioned substantially along the center lines of the central projections 32 but the dispensing openings 27, or 27*a* through the outer cap member are offset with respect to the center lines of the inward projections 33 or 33*a*, as particularly shown in Figure 4. In the position of the Figures 2 and 3, the dispensing openings in the inner and outer cap members are in register so as to permit dispensing of the contents of the container. In this position of the cap members, the projections 32 are in engagement with one edge of the projections 33 on the outer cap member. When it is desired to close the container, the outer cap member is shifted to the position shown in Figure 4 wherein the projections 32 have been shifted to engage the opposed edge of an adjacent projection 33 in which position, the dispensing openings are out of register and the container sealed.

From the foregoing description, it will be seen that the present invention provides a dispensing container having a preassembled sifter top which includes inner and outer relatively rotatable cap members. In assembling the inner and outer cap members, the projections which limit relative rotation between the cap members, are shaped so as to enable the cap members to be assembled by relative axial movement toward one another without the necessity of arranging the cap members in a predetermined position. Thus, if the projections should come in contact with one another during assembling of the inner and outer cap members, these projections will present rounded surfaces so that the same will pass one another during the application of axial forces thereto. In other words, if the projections come in contact with one another, these projections are shaped to present inclined surfaces with respect to the horizontal so as to facilitate the passage of the projections by one another. After thus assembling the cap members, the bottom edge of the skirt of the outer cap member is shaped to engage an outward bead on the skirt of the inner cap member so as to secure the cap members together for relative rotation. It is to be also noted that the projections, while facilitating assembly of the cap members, also presents at least one vertical straight edge so as to provide a positive stop at the limits of relative rotation between the cap members. It is, of course, obvious that the elongated projections may be placed on the inner cap member and the circular projections may be placed on the outer cap member and similarly, other arrangements of these projections may be made.

It is to be clearly understood that minor 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 sifter top adapted to be connected to a container for controlling dispensing of the contents thereof, and comprising an inner cap member having an outer closing wall provided with dispensing openings and having a depending skirt portion, an outer cap member having an outer closing wall provided with dispensing openings

and having a depending skirt portion overlying and spaced from the skirt portion on said inner cap member, means connecting said skirt portions for joining the said cap members for relative rotation whereby to permit the dispensing openings to be brought into and out of register for controlling the dispensing of the contents of the container, the skirt portion of said inner cap member having outwardly extending spaced circular projections, the skirt portion on said outer cap member having inwardly extending spaced projections adapted to cooperate with the projections on the inner skirt portion for limiting relative movement between the said cap members, and the projections on the outer skirt portion being shaped to present substantially straight vertical edges for engagement with the other projections during rotation of the assembled cap members and being also shaped to present rounded bottom edges whereby to facilitate passage of the projections past one another during assembly of the cap members without predetermined rotary positioning thereof.

2. A sifter top adapted to be connected to a container for controlling dispensing of the contents thereof, and comprising an inner cap member having an outer closing wall provided with dispensing openings and having a depending skirt portion, an outer cap member having an outer closing wall provided with dispensing openings and having a depending skirt portion overlying and spaced from the skirt portion on said inner cap member, means connecting said skirt portions for joining the said cap members for relative rotation whereby to permit the dispensing openings to be brought into and out of register for controlling the dispensing of the contents of the container, the skirt portion of said inner cap member having outwardly extending spaced circular projections, the skirt portion on said outer cap member having inwardly extending spaced projections adapted to cooperate with the projections on the inner skirt portion for limiting relative movement between the said cap members, and the projections on the outer portion being shaped to present substantially vertical edges for engagement with the other projections during rotation of the assembled cap members and being also shaped to present downwardly pointed ends whereby to facilitate passage of the projections past one another during assembly of the cap members without predetermined rotary positioning thereof.

3. A sifter top adapted to be connected to a container for controlling dispensing of the contents thereof, and comprising an inner cap member having an outer closing wall provided with dispensing openings and having a depending skirt portion, an outer cap member having an outer closing wall provided with dispensing openings and having a depending skirt portion overlying the skirt portion of said inner cap member, said dispensing openings being adapted to be brought into and out of register upon relative movement between the said cap members whereby to control dispensing of the contents of the container, and spaced cooperating projections on the skirt portion of each cap member for limiting relative movement between the said cap members in controlling the relative position of the dispensing openings, the projections on at least one of said skirt portions having substantially straight vertical edges for engagement with the other projections during relative movement of the assembled cap members for controlling dispensing of the contents and the ends of the projections on both of said skirt portions being shaped to permit only substantially point to point contact therebetween during axial assembling movement of the cap members toward one another whereby to facilitate axial passage of the projections past one another during assembling without predetermined positioning thereof.

WILLIAM F. PUNTE.