Jan. 8, 1929. 1,698,579

J. C. BRISICK

SELF CLOSING CONTAINER TOP

Filed Feb. 7, 1925

Fig. 1.

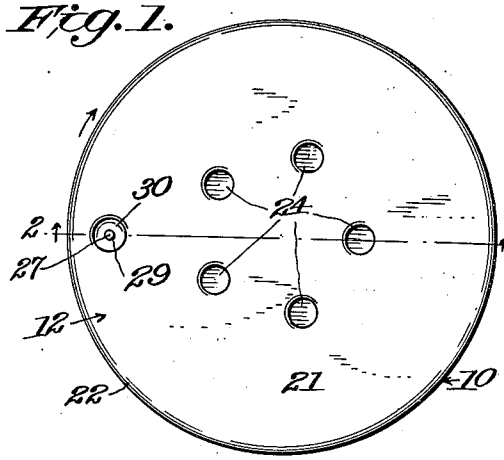


Fig. 3.

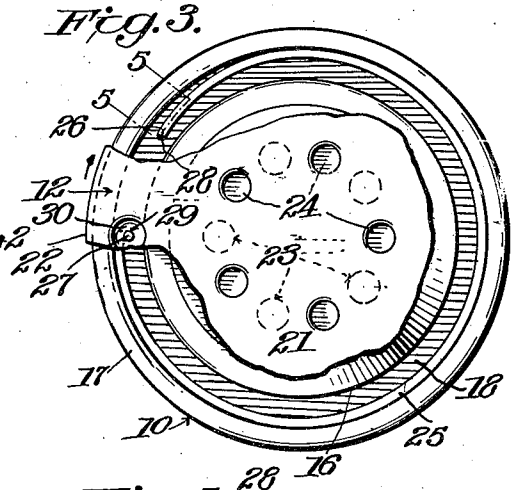


Fig. 2.

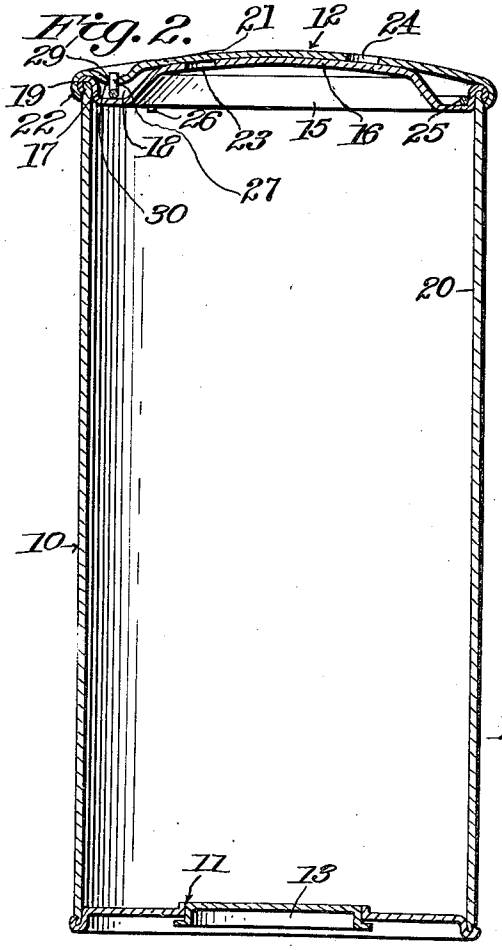


Fig. 5.

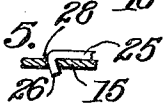
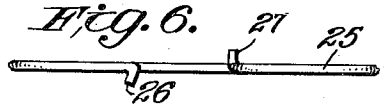


Fig. 6.



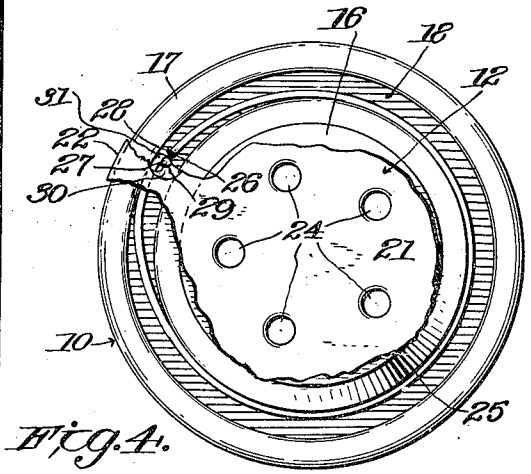


Fig. 4.

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Patented Jan. 8, 1929. 1,698,579

UNITED STATES PATENT OFFICE.

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SELF-CLOSING CONTAINER TOP.

Application filed February 7, 1925. Serial No. 7,532.

This invention relates to a closure construction for dispensing containers.

A general aim is to provide a novel form wherein the closure upon release after a dispensing operation, will be automatically shut by spring means which also acts as a stop or in such manner as to control the extent of movement of the closure proper.

A second object is to combine in a self-closing top or closure, a dome construction which will prevent leakage or sifting of the contents of the container and in which the main zone of contact between the parts will be at the center so as to reduce friction at unessential points.

Another object is to produce an article of this character which is well adapted, although capable of use generally, for dispensing powders as in the nursery, in such manner that the powder cannot fall into the eyes of the baby, be spilled, or the parts of the can or closure construction cut or injure the baby when he handles or plays therewith.

Additional objects and advantages will become apparent from a consideration of the description following taken in connection with the accompanying drawings illustrating one operative embodiment.

In said drawings:—

Figure 1 is a plan view of the closure with the parts thereof in normal shut position;

Figure 2 is a vertical sectional view taken through a complete can on the line 2—2 of Figure 1;

Figure 3 is a plan view of the closure partly broken away to disclose details and particularly the spring in its normal position;

Figure 4 is a view similar to Figure 3 but with the closure proper in open position and the spring in a condition corresponding thereto;

Figure 5 is a detail section taken on the line 5—5 of Figure 3, and

Figure 6 is an elevation of the spring.

Referring specifically to the drawings, 10 designates a conventional container or can which may hold any desired material to be dispensed through a top or closure construction 12 forming the present invention, and which can for instance is adapted to be filled through an opening 11 in the end of the can opposite to said closure construction and normally closed by a removable stopper 13.

Reverting to the closure construction 12, a preferably metallic end disk is provided at 15, formed into a central raised portion or crown 16 and a marginal attaching flange 17 spaced from the crown so as to provide an annular or continuous space 18. Flange 17 is clinched or curled into a bead as at 19 to coact with the remainder of flange 17 so as to secure the disk 15 to a side wall 20 of the can.

The bead 19 terminates in the same plane as the crown 16 and a preferably metallic closure disk 21 is rotatably disposed thereon, being held in place by a marginal flange 22 which is bent over and embraces the bead 19 in such manner as to avoid projections in order to leave a smooth exterior surface.

Said disks 15 and 21 have dispensing openings 23 and 24, respectively, normally out of registry as in Figures 1 to 3 so that the can will be closed but adapted to be brought into registry as in Figure 4 so that the contents of the can may be dispensed.

Located in the space 18 is a substantially arcuate, expansive metallic spring wire 25 provided with terminal lugs 26 and 27 extending at an angle and in opposite directions from the plane of the wire. Said wire 25 practically throughout its length is normally in contact with the inner surface or wall of flange 17 as in Figure 3 and has its terminal 26 inclined or hook-shaped and anchored against accidental displacement, particularly in an upward direction, in an opening 28 in disk 15 and its lug 27 disposed in an opening 29 of the disk 21. The opening 29 is located in a depressed portion 30 so that the lug 27 may terminate considerably inwardly of the main outer surface of disk 21 as in Figure 2 whereby the hand can not engage or be injured by said lug.

Said spring wire 25 normally holds disk 21 in and urges it to a position wherein the dispensing openings 23 and 24 are disalligned or out of registry whereby the can is closed as in Figures 1 to 3.

Lug or terminal 27 is inwardly offset by an angular portion 31 on the spring 25 so that the same will always be centered in the space 18 and the proximal end of the offset portion 31 will always engage flange 17 to prevent the spring from exerting undue radial strain on the disk 21.

While the main surfaces of the disks 15 and 21 may be flat, yet it is preferred to outwardly dish them as shown in Figure 2 so as to provide a dome top as it prevents leakage or sifting and enables positive contact between

crown 16 and disk 21 at the center to reduce friction outwardly thereof and at unessential points.

The disks 15 and 21 may be readily stamped from sheet metal and as the spring is merely a length of wire, the closure construction may be manufactured at exceedingly low cost.

In dispensing, the can is usually held in one hand with the thumb and forefinger thereof gripping the flange 22. By means of the other hand or movement of said thumb and forefinger with respect to the first mentioned hand, the disk 21 will be rotated relatively to disk 15 and held against return movement with the openings 23 and 24 disposed in partial or complete registry as preferred and as suggested in Figure 4, so that with the closure construction lowermost, the can may be shaken and the contents thereof may be readily dispensed. Said rotation of the disk 21 is against the tension of the spring 25 and is limited to a position where said openings register by the abutment of the terminals 26 and 27 of the spring with each other as shown in Figure 4, and also limited by the engagement of the spring with the inclined side wall of raised portion 16. Spring 25 tensioned as described, serves to restore the disk 21, upon release of the latter in open position, automatically to closed position, the movement of said disk in closing being limited by the reengagement of spring 25 with flange 17.

In the nursery, although the use of the invention is not so limited, the self closing feature disclosed by the present invention is meritorious in that the contents of the can cannot accidentally spill or reach the eyes of the baby, also the baby cannot open the can, and because of the smooth exterior the can or closure cannot cut the hands in playing therewith.

Various changes may be resorted to without departing from the spirit and scope of the invention as defined by the appended claims.

I claim as my invention:

1. A closure construction comprising a dispensing member, a dispensing member rotatable with respect thereto and normally closing the same, one of said members having a marginal flange securing it to the other member, one of said members inwardly of the flange having an endless space, a spring in said space having terminals extending substantially longitudinally of the closure construction and connected to both members urging the second dispensing member to closing position and constructed to contract and expand to directly engage at a portion in spaced relation to its terminals with opposite walls respectively at the sides of the space to control the extent of movement of the second dispensing member in both directions relatively to the first dispensing member.

2. A closure construction comprising a dispensing member, a dispensing member rotatable with respect thereto and normally closing the same, one of said members having a marginal flange securing it to the other member, one of said members inwardly of the flange having a space, a substantially arcuate spring in said space having terminals extending substantially longitudinally of the closure construction and connected to both members urging the second member to closing position and adapted for abutment of its terminals to limit the extent of movement of the second dispensing member to dispensing position.

3. A closure construction comprising a dispensing member, a dispensing member rotatable with respect thereto and normally closing the same, one of said members having a space, a substantially arcuate spring in said space urging the second dispensing member to closing position, said spring being constructed to contract and expand to directly engage with the dispensing members respectively to control the extent of movement of the second dispensing member in both directions relatively to the first dispensing member, connections disposed substantially longitudinally of the closure construction between said spring and said dispensing members, one of said connections being centered with respect to the space and including an offset portion in contact with the outer wall at said space adjacent the proximal end of said portion.

4. A closure construction comprising an exteriorly unobstructed dispensing member, a dispensing member rotatable thereon and normally closing the same, one of said members having a marginal flange securing it to the other member, one of said members having a space inwardly of said flange, a substantially arcuate spring disposed completely in said space urging the second dispensing member to closing position and coacting with the side walls in said space to control the extent of movement of the second member relatively to the first member during opening and closing movements, the outermost member having a depression, and said spring being fastened to the innermost member and to said depression inwardly of the outermost surface of the latter.

5. A closure construction comprising a dispensing disk, a dispensing disk rotatable thereon and normally closing the same, the latter disk having a marginal flange curled about and securing it to the first disk, the first disk having an annular space inwardly of said flange, a substantially arcuate spring in said space urging the second disk to closing position, said spring in the closed position of the closure being adapted for engagement with the outer side wall at said space, oppositely extending lugs at the terminals of

said spring, said spring being adapted for engagement with the inner side wall at said space and said terminals being adapted for engagement with each other to limit the opening of the closure, the first disk having an opening receiving one of said lugs, the spring having a deflected portion carrying the other lug, the second disk having a depression receiving the last mentioned lug, the last mentioned lug being inwardly of the outermost surface of the second disk, the other lug being of hook form, and said deflected portion at its proximal end being in contact with the outer side wall of said space.

6. A closure construction comprising a dispensing member, a dispensing member movable relatively thereto, one of said members having substantially annular groove, a spring disposed within said groove and connected to each dispensing member inwardly of the margins thereof, said spring being tensioned so that a portion thereof in spaced relation to said connections will normally abut one of the walls of said groove to limit movement of the second mentioned dispensing member in one direction and contractile so that said portion will abut the other wall of the groove incidental to movement of the second mentioned dispensing member to limit movement of the latter in the opposite direction.

In testimony whereof I have affixed my signature.

JOSEPH CHARLES BRISICK.