April 23, 1940. S. C. ROBISON 2,198,564

DISPENSING CONTAINER

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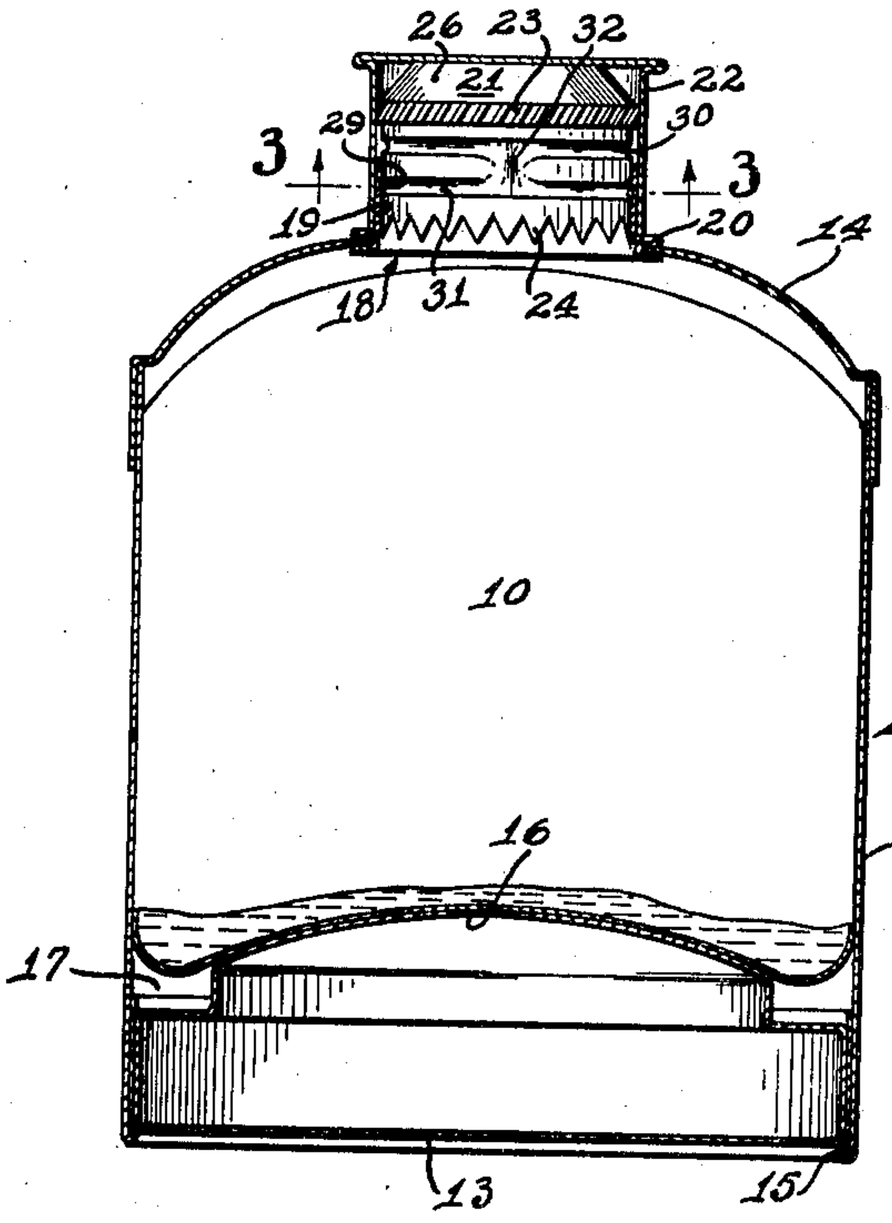


Fig. 1.

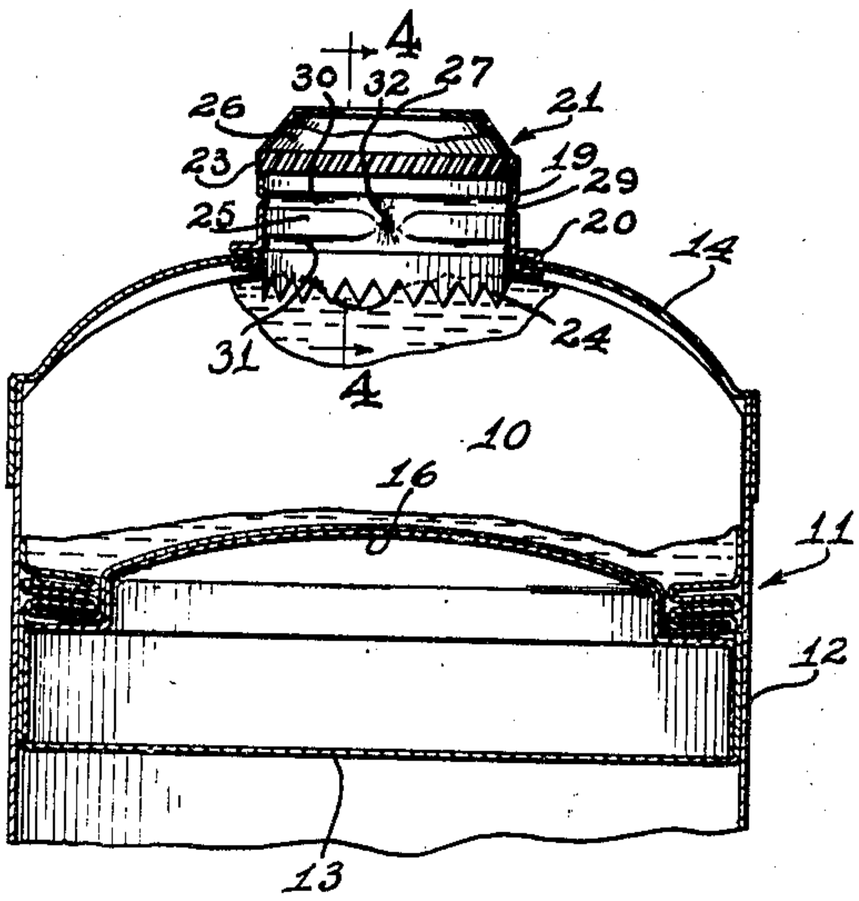


Fig. 2.

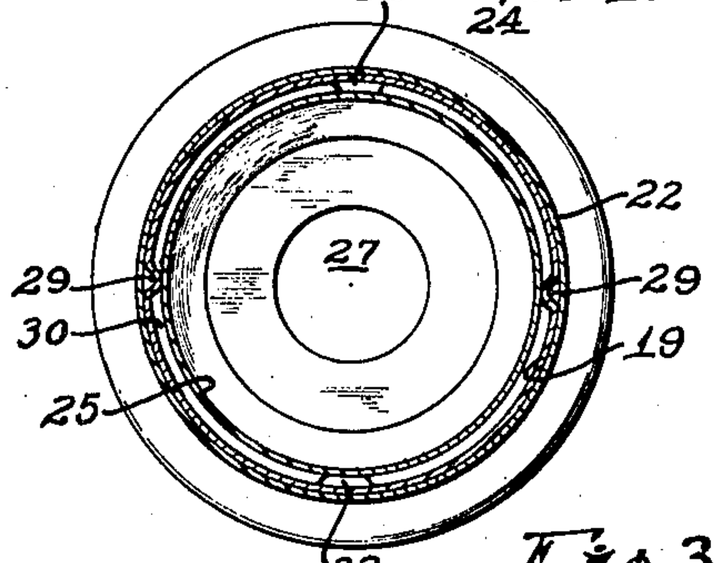


Fig. 3.

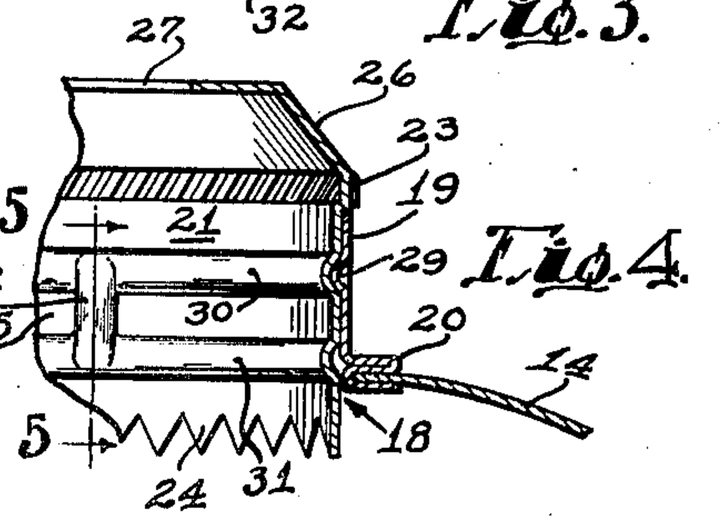


Fig. 4.

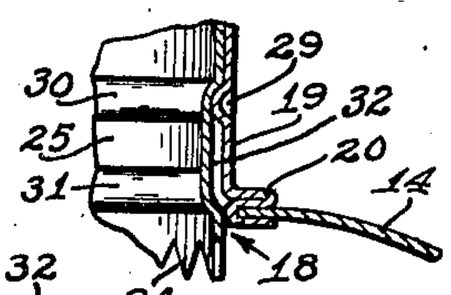


Fig. 5.

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DISPENSING CONTAINER

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8 Claims. (Cl. 221—78)

The present invention relates to improvements in dispensing containers and more particularly that type in which a flexible bag, the contents of which is to be dispensed, is enclosed in and more or less supported by a rigid housing or shell.

An object of the present invention is the provision of novel means for severing or rupturing the bag in a predetermined zone preparatory to initial dispensing of the contents. To this end the invention includes a toothed cutting device which normally occupies a retracted position within a neck that forms a part of the housing or shell and through which the contents are dispensed, such cutter being capable of projection through the housing at the will of the user.

A further object of the invention is the provision of a follower or movable bottom for the housing or shell which is employed in forcing the bag into engagement with the cutter, said follower also being formed to accommodate the side walls of the bag, which walls are automatically folded together as the contents are dispensed.

Other objects of the invention, not at this time enumerated, will become apparent as the following description ensues.

In the drawing:

Fig. 1 is a vertical sectional elevational view through a complete container embodying the present invention.

Fig. 2 is a fragmentary vertical sectional view showing the bag partially collapsed and the side walls folded and occupying the space provided in the follower for accommodating the folded wall.

Fig. 3 is a horizontal sectional view taken substantially along the line 3—3 of Fig. 1.

Fig. 4 is a sectional view taken substantially along the line 4—4 of Fig. 2.

Fig. 5 is a fragmentary sectional view taken along the line 5—5 of Fig. 4 with the nozzle rotated to another position.

By reference to the accompanying drawing it will be observed that the flexible bag 10 which may well be formed of "pliofilm" or like material is encased in a housing 11 or shell including a circular body 12, the lower end of which is closed by a movable follower 13 or bottom, while its upper end is permanently closed by a dome-like wall 14.

The movable follower 13 or bottom is held in place by an internal hem 15 on the body and preferably is hollow as shown. The upper wall 16 is dome shaped and of somewhat less diameter than the body 12 of the housing and so positioned with respect to the remainder of the follower that together with adjacent portions of the body 12, it provides an annular upwardly facing recess 17 or channel designed to accommodate the folded wall of that portion of the bag from which the contents have been removed.

The dimensions of the follower 12 are such that it operates smoothly within the body 12 and may be shifted lengthwise thereof toward the end wall 14 in dispensing the contents of the bag 10.

The upper end wall 14 is formed with a central opening 18 to the walls of which a circular neck 19 is rigidly attached by a seam 20. A dispensing nozzle and cutter unit 21 snugly fits into the neck 19. Both the neck 19 and the cutter and nozzle unit are intended to be enclosed by a skirted cap 22 which is held in place by frictional engagement with corrugations 23 formed near the upper end of said nozzle and cutter unit.

The cutter and nozzle unit 21 is movable between two extreme positions in one of which the cutting teeth 24 are retracted to an inoperative position within the neck 19, while in the other position the teeth are projected substantially as shown in Figs. 2 and 4. This unit consists of a circular sleeve 25, the lower end of which is provided with an annular series of teeth 24, while the upper end is tapered inwardly to form a nozzle 26 including a central discharge opening 27. The annular series of corrugations 23 which, as will be apparent presently, facilitates gripping of this unit 21 for the purpose of rotating the cutter and moving the latter between operative and inoperative positions.

The cutter and nozzle unit 21 is releasably held in either of these positions by detents 29 which project inwardly from the neck 19 into engagement with the upper or lower annular grooves or channels 30 and 31 respectively of said sleeve 25. These grooves or channels are provided externally of the cutter and nozzle unit and communicate with each other by way of vertical grooves 32 which correspond in number to that of the detents 29.

In operating this cutter and nozzle for the purpose of rupturing the bag 10, preparatory to dispensing the contents thereof, the cap 22 is removed and the nozzle and cutter unit 21 is rotated to bring the vertical grooves 32 and detents 29 into register with each other. This unit is then moved downwardly and the follower 13 is manually moved upwardly towards the dispensing end of the container. Thereupon and while continuing to apply pressure to the follower

13, the cutter and nozzle unit 21 is rotated. This, as is obvious, ruptures the bag 10 and permits the discharge of the contents through the nozzle opening 27.

Modifications may be resorted to within the spirit and scope of the appended claims.

I claim:

1. A container comprising a rupturable flexible bag, a rigid housing therefore including a body, a bottom movably positioned in one end of the body, an end wall closing the other end of the body and having a neck defining a discharge opening, a cutter and nozzle unit in said neck, means whereby said unit may be moved thereby to operatively position the cutter, and a closure for said opening.

2. A container comprising a rupturable flexible bag, a rigid housing therefor including a body, a bottom movably positioned in one end of the body, an end wall closing the other end of the body and having a neck defining a discharge opening, a cutter and nozzle unit in said neck, means whereby said unit may be moved thereby to operatively position the cutter, and a closure for said opening, said bottom including a raised central portion for engagement with the bag and an annular channel surrounding the raised portion to accommodate portions of the bag from which the contents have been dispensed.

3. A container comprising a rupturable flexible bag, a rigid housing therefor including a body, a bottom movably positioned in one end of the body, an end wall closing the other end of the body and having a neck defining a discharge opening, a cutter and nozzle unit in said neck, means whereby said unit may be moved thereby to operatively position the cutter, and a closure for said opening, said cutter and nozzle unit including a sleeve fitted into the neck, cutting means provided at the inner end of the sleeve, and means whereby the sleeve may be positively held in position to retract or project said cutting means.

4. A container comprising a rupturable flexible bag, a rigid housing therefor including a body, a bottom movably positioned in one end of the body, an end wall closing the other end of the body and having a neck defining a discharge opening, a cutter and nozzle unit in said neck, means whereby said unit may be moved thereby to operatively position the cutter, and a closure for said opening, said cutter and nozzle unit including a sleeve fitted into the neck, said sleeve having relatively shallow external grooves spaced apart lengthwise thereof, and detents on the inner face of the neck for engaging the grooves one at a time and thereby securing the cutting means alternately in operative and inoperative positions.

5. A container comprising a rupturable flexible bag, a rigid housing therefor including a body, a bottom movably positioned in one end of the body, an end wall closing the other end of the body and having a neck defining a discharge opening, a cutter and nozzle unit in said neck, means whereby said unit may be moved thereby to operatively position the cutter, said cutter and nozzle unit including a sleeve fitted into the neck, said sleeve having relatively shallow external grooves spaced apart lengthwise thereof, and detents on the inner face of the neck for engaging the grooves one at a time and thereby securing the cutting means alternately in operative and inoperative positions, said vertical grooves corresponding in number to that of the detents connecting said annular grooves and a cap for closing the discharge opening.

6. A container comprising a rupturable flexible bag, a rigid housing therefor including a body, a bottom movably positioned in one end of the body, an end wall closing the other end of the body and having a neck defining a discharge opening, a cutter and nozzle unit in said neck, means whereby said unit may be moved thereby to operatively position the cutter, and a closure for said opening, said cutter and nozzle unit including a sleeve slidably mounted in the neck and having cutting means at its inner end and a tapered nozzle at its outer end, cooperating means on the neck and sleeve whereby to retractably hold the sleeve in position for projecting the cutting means into said housing for engagement with the bag.

7. A container comprising a rupturable flexible bag, a rigid housing therefor including a body, a bottom movably positioned in one end of the body, an end wall closing the other end of the body and having a neck defining a discharge opening, a cutter and nozzle unit in said neck, means whereby said unit may be moved thereby to operatively position the cutter, and a closure for said opening, said cutter and nozzle unit including a sleeve slidably mounted in the neck and having cutting means at its inner end, cooperating means on the neck and sleeve whereby to retractably hold the sleeve in position for projecting the cutting means into said housing for engagement with the bag.

8. A container comprising a rupturable flexible bag, a rigid housing therefor including a body, a bottom movably positioned in one end of the body, an end wall closing the other end of the body and having a neck defining a discharge opening, a cutter and nozzle unit in said neck, means whereby said unit may be moved thereby to operatively position the cutter, and a closure for said opening, said cutter and nozzle unit including a sleeve slidably mounted in the neck and having cutting means at its inner end and a tapered nozzle at its outer end, cooperating means on the neck and sleeve whereby to retractably hold the sleeve in position for projecting the cutting means into said housing for engagement with the bag, said cooperating means on the neck and sleeve including a pair of longitudinally spaced annular grooves in the exterior face of the sleeve, longitudinal grooves connecting the annular grooves, and detents in the neck engageable with the grooves one at a time.

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