

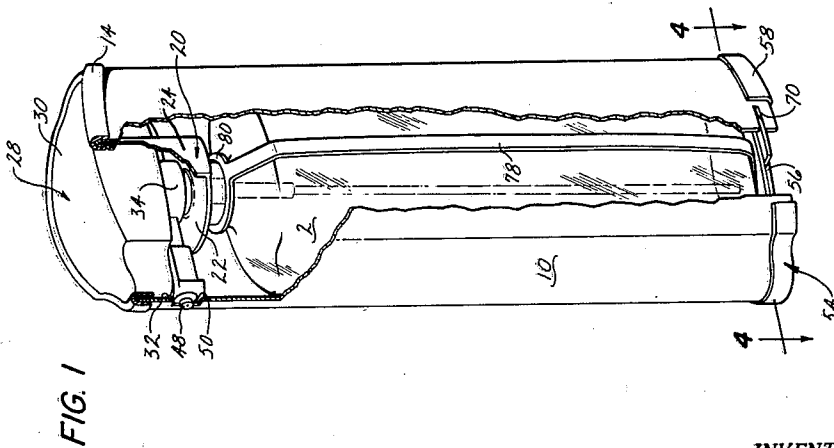
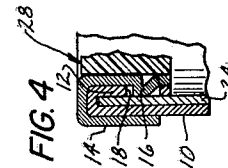
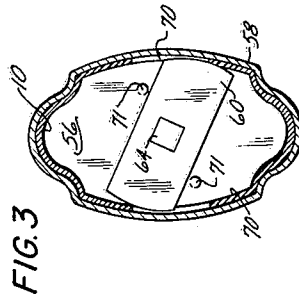
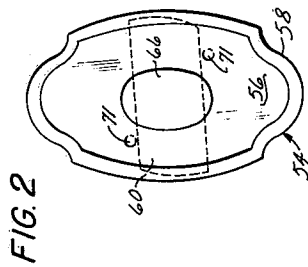
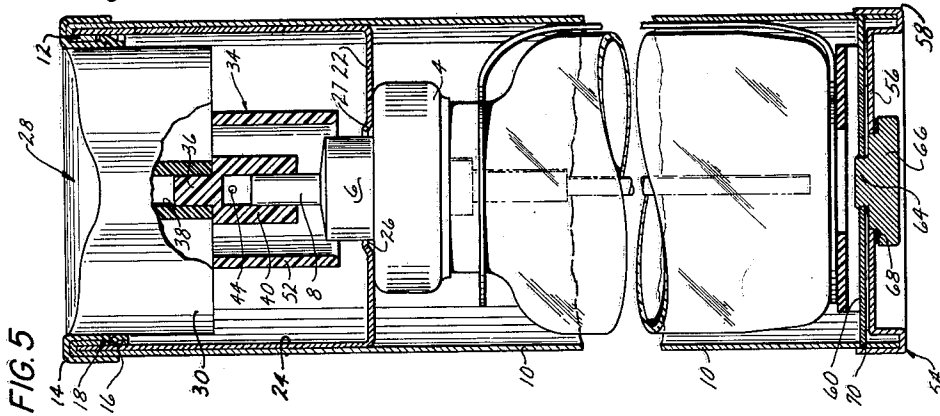
Nov. 17, 1964

R. W. RAMSBOTHAM
HOLDER FOR BOTTLES AND THE LIKE

3,157,317

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2 Sheets-Sheet 1



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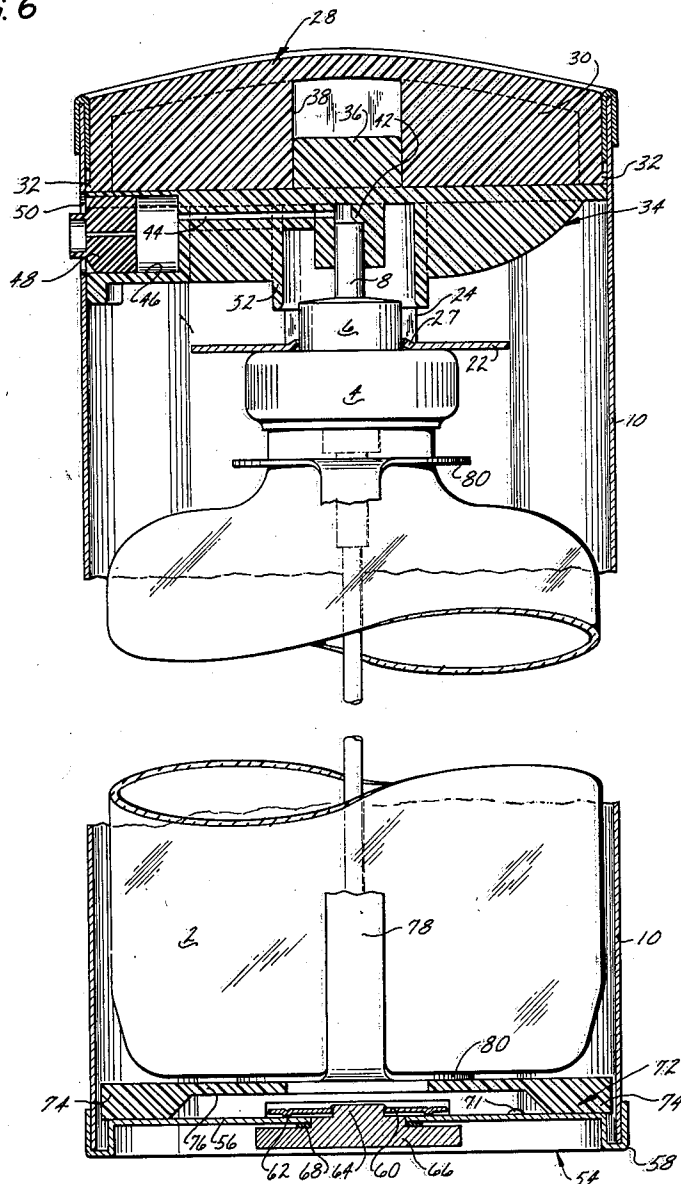
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FIG. 6



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3,157,317

HOLDER FOR BOTTLES AND THE LIKE

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Britain, Conn., a corporation of Connecticut
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The present invention relates to holders for bottles and the like, and more specifically to holders for aerosol containers.

It is an aim of the present invention to provide a highly attractive holder for aerosol bottles and like containers which can be readily manufactured and assembled and which is adaptable for use in a wide variety of cross-sectional configurations.

It is also an aim to provide a refillable holder for bottles and the like which does not require a cap and wherein the bottles may be replaced quickly and easily without the necessity for tools.

A further object is to provide a capless holder for aerosol bottles and the like having the aerosol valve stem and the valve actuating member disposed substantially within the casing at one end and having an easily operable removable closure at the opposite end thereof for replacing the expended bottles.

Other objects will be in part obvious, and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereafter set forth and the scope of the application of which will be indicated in the appended claims.

In the drawings:

FIG. 1 is a perspective view of an aerosol bottle holder in accordance with the present invention having portions of the components broken away to show internal construction;

FIG. 2 is a bottom view of the holder in FIG. 1;

FIG. 3 is a sectional view along the line 3-3 of FIG. 1;

FIG. 4 is a fragmentary cross-section to an enlarged scale of the upper casing wall assembly;

FIG. 5 is an enlarged fragmentary front elevational view partially in section; and

FIG. 6 is a fragmentary side elevational view partially in section and similar to FIG. 5.

Referring now to the drawings in detail, there is illustrated a holder embodying the invention and incorporating an exemplary aerosol bottle 2 having a closure 4 with a neck portion 6 and a valve stem 8 through which the contents of the bottle are discharged under pressure.

The holder utilizes a tubular casing 10 having a pair of reversely bent flanges 12 at the upper end thereof providing opposed lips spaced inwardly from the outer wall of the casing. A decorative cap 14 of generally U-shaped cross-section extends about the periphery of the upper end and is secured thereon by staking nibs 16 into apertures 18 in the flanges 12, as best shown in FIG. 4.

The bottle 2 is stabilized within the casing 10 by the spider member 20 which has a base portion 22 and a pair of upstanding legs 24 conforming to the contour of the casing and having their upper ends wedged between the lips 12 and the outer wall of the casing 10. The neck portion 6 of the bottle closure 4 is received within an aperture 26 in the base portion 22 surrounded by an inwardly tapering lip 27 extending upwardly of the spider 20 to provide a leading edge for guiding the stem 8 and neck 6 of the bottle closure into the spider.

Slidably seated in the upper end of the casing 10 above the spider member 20 is a valve actuator generally designated by the numeral 28 and which is conveniently as-

sembled from three separately molded plastic elements as shown in the drawings. Generally, the side walls of the face piece 30 closely conform to the inner periphery of the cap 14 and provide a free sliding fit with respect thereto, but fingers 32 adjacent the bottom edge thereof extend laterally therefrom to closely adjacent the casing wall so as to abut against the end of the cap 14 and limit movement outwardly of the upper end of the casing 10.

The valve operator piece 34 is secured to the face piece 30 by the interfitting of its tongue 36 into the cooperating recess 38. As best seen in FIG. 6, the valve stem receiving portion 40 has an abutment 42 therein to engage the end of the valve stem 8 and a discharge passage 44 extends laterally therefrom to the exterior. Seated in an enlarged bore 46 at the outer end of the discharge passage 44 is a discharge nozzle 48 which registers with and extends through a vertically elongated discharge aperture 50 in the side of the casing 10 which accommodates the vertical movement of the valve actuator 28 during depression and release thereof in dispensing liquid from the bottle. Spaced outwardly from the valve stem receiving portion 40 is a coaxial stop collar 52 which abuts against the bottle closure 4 to limit downward movement of the valve actuator 28.

Releasably engaged upon the bottom end of the casing 10 is a bottom closure member 54 having a planar bottom wall 56 and a generally U-shaped peripheral flange 58 which receives the end of the casing 10. Pivotaly mounted on the inner surface of the bottom wall 56 is an elongated locking cam lever 60 having a bearing rib 62 conveniently formed by stamping. The lever 60 is secured to the inner end of the stem 64 of the fingerpiece 66 which extends through the bottom wall 56. An annular bearing 68 on the stem 64 reduces friction between the fingerpiece 66 and the outer surface of the bottom wall 56. If so desired, a slot (not shown) may be provided in the fingerpiece 66 for receiving the blade of a tool or a coin to turn the fingerpiece, although the use of a tool is not necessary to facile operation.

As best seen in FIGS. 1-3, turning of the fingerpiece 66 results in engagement of the locking cam lever 60 in opposed locking slots 70 formed in the casing wall and spaced upwardly from the bottom end thereof. Although only one locking slot may be employed (particularly for simple structures of circular cross-section), the locking of both lever ends into a pair of opposed slots is preferable for greater strength in assembly.

The outer leg of the U-shaped flange 58 on the bottom closure member 54 conceals the slots 70 in the casing wall and also may function as a stop to prevent over-rotation of the cam lever 60. When softer metals are employed for the closure member 54, it is desirable to stake upstanding stop nibs 71 in the bottom wall which are in the path of cam locking lever rotation and prevent over-rotation thereof so as to avoid binding of the cam locking lever into the soft metal of the flange 58.

The aerosol bottle 2 is resiliently supported and spaced upwardly from the bottom wall 56 and cam locking lever 60 by a cushion 72 of compressible material to permit free movement of the locking cam lever 60. Although the cushion 72 may be provided simply by a pair of resilient elements spaced from the path of rotation of the cam lever, the illustrated embodiment having a pair of feet 74 connected by a bridge portion 76 beneath which the cam locking lever 60 rotates has proven highly satisfactory due to simplicity of assembly and disassembly. The parts are preferably so dimensioned as to apply some compression to the cushion 72 upon assembly, thus ensuring firm seating of the bottle 2 in the holder and additionally accommodating minor variations in tolerance.

To facilitate removal of an empty aerosol bottle 2 from the holder, a bottle pull 78 is desirably employed having

rings 80 at opposite ends, the bottle neck being receivable in one ring and the user's finger engageable in the other to extract the bottle. When the new bottle is inserted, the bottle neck will be guided into the spider aperture 26 and its lip 27 by its own weight and position itself properly therein.

The holder itself can have a variety of cross-sectional configurations including rectangular, square, circular, pentagonal, diamond and the illustrated generally elliptical form. The cam locking lever similarly is adaptable to a variety of casing configurations to provide a simple and easily manipulated closure member for replacing expended bottles contained in the holder. As can be readily seen, upon removal of the bottom closure, the main container remains assembled so as to facilitate interchange.

As will be apparent to persons skilled in the art, various modifications and adaptations of the structure above described will become readily apparent without departure from the spirit and scope of the invention, the scope of which is defined in the appended claims.

I claim:

1. A holder for aerosol bottles and like containers including a tubular casing having a longitudinally extending aperture adjacent one end thereof and reversely bent flange portions on opposite sides of said one end providing lips spaced inwardly from the outer wall of said casing; a peripherally extending cap on said one end of the casing; a spider member in said casing having a base portion extending transversely of the casing and a pair of arms extending along the side of said casing with the outer ends thereof secured between said lips and casing outer wall, said base portion having an aperture therein adapted to seat the upper portion of a bottle operatively assembled in said casing; a valve actuator slidably seated between said spider member base portion and cap for movement vertically of the casing, said actuator being adapted to receive the valve portion of an aerosol bottle received in said holder during operative assembly and having a discharge nozzle opening in said aperture in the casing; and a closure member for the other end of said casing.

2. A holder for aerosol bottles and like containers including a tubular casing having a longitudinally extending aperture adjacent one end thereof and reversely bent flange portions on opposite sides of said one end providing lips spaced inwardly from the outer wall of said casing; a peripherally extending cap having a generally U-shaped cross-section secured on said one end of the casing; a spider member in said casing having a base portion extending transversely of the casing and a pair of arms extending along the side of said casing with the outer ends thereof secured between said lips and casing outer wall, said base portion having an aperture therein adapted to seat the upper portion of a bottle operatively assembled in said casing; a valve actuator slidably seated between said spider member base portion and cap for movement vertically of the casing, said actuator having laterally extending fingers thereon engageable with the inner ends of the cap to limit movement of the actuator outwardly of the casing, said actuator having a valve stem receiving portion adapted to receive the valve portion of an aerosol bottle received in said holder during operative assembly and having a discharge passage extending from said valve stem receiving portion and opening in said aperture in the casing for discharge of the contents of a bottle received therein, a closure member for the other end of said casing; and a resilient cushion for spacing a bottle from the closure member.

3. A holder for aerosol bottles and like containers including a tubular casing having a longitudinally extending aperture adjacent one end thereof and reversely bent flange portions on opposite sides of said one end providing lips spaced inwardly from the outer wall of said casing; a peripherally extending cap on said one end of the casing;

a spider member in said casing having a base portion extending transversely of the casing and a pair of arms extending along the side of said casing with the outer ends thereof secured between said lips and casing outer wall, said base portion having an aperture therein adapted to seat the upper portion of a bottle operatively assembled in said casing; a valve actuator slidably seated between said spider member base portion and cap for movement vertically of the casing, said actuator being adapted to receive the valve portion of an aerosol bottle received in said holder during operative assembly and having a discharge nozzle opening in said aperture in the casing; a closure member for the other end of said casing having a bottom wall extending transversely of the casing; a cam locking lever pivotally mounted on the inner surface of said bottom wall, said casing wall having at least one slot therein adjacent its bottom end in which an end of said cam locking lever is engageable upon pivotal movement thereof; and means on the outer surface of said bottom wall to effect pivotal movement of said cam locking lever.

4. A holder for aerosol bottles and like containers including a tubular casing having a longitudinally extending aperture adjacent one end thereof and reversely bent flange portions on opposite sides of said one end providing lips spaced inwardly from the outer wall of said casing; a peripherally extending cap having a generally U-shaped cross section secured on said one end of the casing; a spider member in said casing having a base portion extending transversely of the casing and a pair of arms extending along the side of said casing with the outer ends thereof secured between said lips and casing outer wall, said base portion having an aperture therein adapted to seat the upper portion of a bottle operatively assembled in said casing; a valve actuator slidably seated between said spider member base portion and cap for movement vertically of the casing, said actuator having laterally extending fingers thereon engageable with the inner end of the cap to limit movement of the actuator outwardly of the casing, said actuator having a valve stem receiving portion adapted to receive the valve portion of an aerosol bottle seated in said holder during operative assembly and having a discharge passage extending from said valve stem receiving portion and opening in said aperture in the casing for discharge of the contents of a bottle received therein; a closure member for the other end of said casing having a bottom wall extending transversely of the casing; a cam locking lever pivotally mounted on the inner surface of said bottom wall, said casing wall having at least one slot therein adjacent its bottom end in which an end of said cam locking lever is engageable upon pivotal movement thereof; means on the outer surface of said bottom wall to effect pivotal movement of said cam locking lever; and a resilient cushion for spacing a bottle received in said holder from the closure member and cam locking lever to permit free pivotal movement thereof.

References Cited by the Examiner

UNITED STATES PATENTS

1,991,946	2/35	Knutson	220—40
2,480,578	8/49	Hodges	220—40 X
2,700,578	1/55	Efford	222—394 X
2,756,105	7/56	Magill	222—394 X
2,766,072	10/56	Commarato	222—173 X
2,940,641	6/60	Norrish et al.	222—183
2,966,283	12/60	Darvie	222—183
3,039,659	6/62	Sagarin.	
3,101,160	8/63	Picot	222—183

FOREIGN PATENTS

775,479 10/34 France.

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