Jan. 27, 1959 M. E. BOWEN 2,870,767

PRESSURIZED DOUCHE APPLICATOR

Filed July 12, 1957

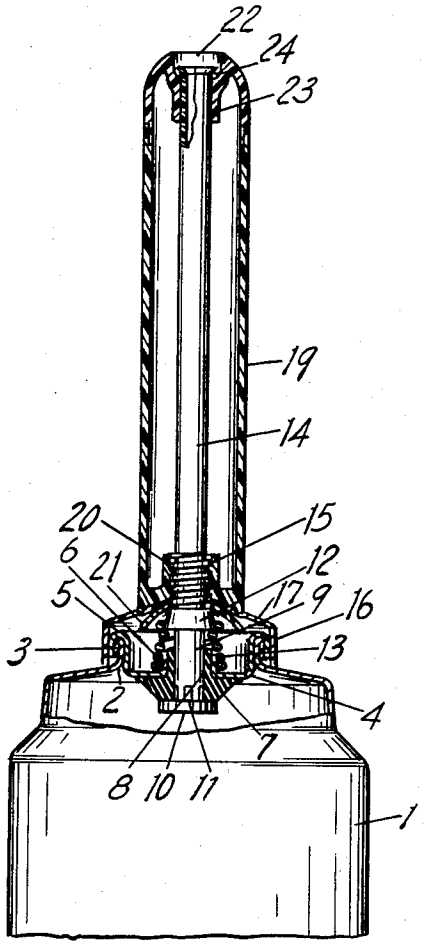


Fig. 1

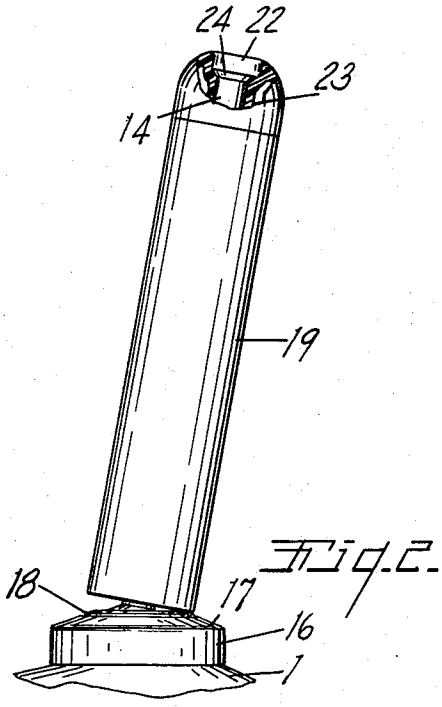


Fig. 2

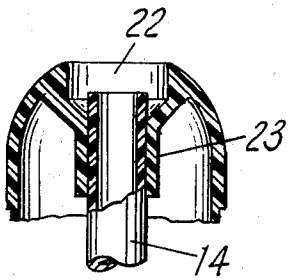


Fig. 3

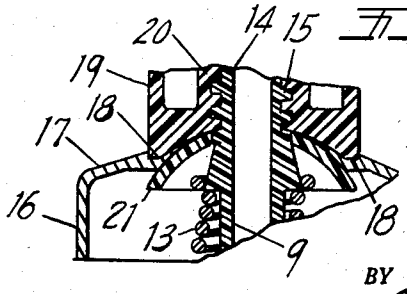


Fig. 4

INVENTOR.
Max E. Bowen
BY
Otto A. Earl
ATTORNEY.

United States Patent Office

2,870,767

Patented Jan. 27, 1959

2,870,767

PRESSURIZED DOUCHE APPLICATOR

Max E. Bowen, Wixom, Mich.

Application July 12, 1957, Serial No. 671,605

10 Claims. (Cl. 128—224)

This invention relates to improvements in pressurized douche applicator. The principal objects of this invention are:

First, to provide a pressurized container with an elongated nozzle enclosed in a tubular guard permitting the container to be used for in the storage, transportation and application of feminine douche solutions.

Second, to provide a cap and guard for an elongated nozzle on a pressurized container which guard is adjustable between a closed position preventing tilting of the nozzle and an open position in which the cap function as a probe and a tiltable guard to tilt the nozzle and open a discharge valve associated with the nozzle.

Third, to provide a new article of commerce in the form of a pressurized container of feminine douche fluid with an elongated probe and discharge nozzle operatively mounted on the container.

Other objects and advantages of the invention will be apparent from a consideration of the following description and claims. The drawings, of which there is one sheet, illustrate a highly practical form of the invention.

Fig. 1 is a fragmentary elevational view of the upper end of a container embodying the invention with the nozzle, nozzle guard and valve structure broken away in cross-section.

Fig. 2 is a fragmentary elevational view showing the nozzle and nozzle guard in tilted position to open the valve and dispense the contents of the container.

Fig. 3 is an enlarged fragmentary cross-sectional view showing the nozzle and nozzle guard at an intermediate stage of their assembly.

Fig. 4 is an enlarged fragmentary cross-sectional view illustrating details of the valve structure and nozzle guard mounting.

The device of the invention is designed primarily for the packaging, sale and application of feminine douche solutions or fluids but the container and dispensing nozzle are equally effective for dispensing medicated fluids to other cavities of the human body such as the rectum or throat. The particular liquid or fluid packaged in the container will of course be medicated or otherwise compounded to accomplish its intended purpose.

The reference numeral **1** indicates a container, such as thin walled metal, capable of withstanding internally applied pressure. The top of the container is formed into a neck **2** of reduced diameter with a folded bead **3** therearound. A closure plug **4** of cup-shaped metal is pressed into the neck and sealed thereto by a down turned rim **5**. In the center of the cup is an opening defined by an upturned cylindrical flange **6**.

A rubber or otherwise flexible seal **7** is positioned over the inner face of the cup **4** and has a tubular neck **8** extending into the flange **6**. The seal coacts with and supports a tubular valve element **9** having an imperforate head **10** seated against the inside of the seal **7**. Ports **11** in the end of the valve afford communication between the interior of the container and the valve **9** when the valve is tilted in the flexible neck **8** to tilt the head **10**

away from the seal **7**. Pressure inside the container normally holds the head **10** sealed against the seal. To assist in keeping the seal, the valve **9** has a collar **12** on its outer end and a coil spring **13** is compressed between the collar and the cup **4**.

The structure thus far described is old in pressurized dispensers of the aerosol "bomb" type.

The tubular valve **9** has an elongated nozzle **14** with an external thread **15** formed therearound adjacent the collar. The valve and nozzle extension are integral and are conveniently formed of synthetic plastic material.

Positioned with a press fit over the rim **5** is a relatively rigid metal or plastic cap **16** having a slightly coned top **17** with a hole in the center passing the threads **15** on the nozzle. An annular seat **18** is formed around the cap by depressing a shallow groove in the coned top or by raising a bead in the corresponding position.

The tubular nozzle guide and guard **19** is of smooth surfaced material such as plastic and has an internal boss **20** in its inner end threadingly engaged with the thread **15** on the valve. The rim of the guard seats on the annular seat **17**. If desired a gasket **21** may close the narrow gap between the valve **9** and the top of the cap **16**.

The guide and guard is sized for entry into the body cavity for which the contents of the container are compounded. The guard may be of one piece or of two joined parts as illustrated. In either case the outer tip is rounded and has a recessed nozzle aperture **22** therein with an internal boss **23** therearound slideably receiving the outer end of the nozzle **14**. After the guard **19** is fitted over the nozzle **14** but before the guard is twisted down fully on the thread **15** as appears in Fig. 3 the outer end of the nozzle is flared outwardly in a retaining and sealing rim **24**.

In practicing the invention the container **1** is assembled with the valve **9** and its nozzle extension **14** as described. The guard and guide **19** is then applied and the nozzle flared thereover. The container may be charged with the selected fluid under pressure before or after the guard is applied. The guard is then threaded down tight on the seat **18**. This draws the boss **23** down below the flared end **24** on the nozzle and it also prevents accidental tilting and opening of the valve by engagement with the broad annular seat **18**. When it is desired to use the dispenser, the guard **19** is unscrewed slightly until the boss **23** seats against the flared end **24** of the nozzle. This forms a seal at the outer end of the nozzle and prevents entry of foreign matter into the guard **19**. It also spaces the lower end of the guard from the seat **18** permitting tilting of the guard as shown in Fig. 2. When the guard tilts its lower internal boss **20** tilts the valve **9** and opens the valve to dispense the contents of the container. The assembled container, nozzle and guard thus becomes a dispensing syringe for pressurized medicated or cleansing fluids or liquids.

Having thus described the invention, what is claimed to be new and what is desired to be secured by Letters Patent is:

1. A dispensing container comprising a pressure resistant container having an opening, a yieldable seal positioned around said opening and having a valve passage therethrough and a flat inner seat therearound, an elongated tubular nozzle having a valve portion on its inner end projecting through said seal with an imperforate head coacting with said seat on said seal, means yieldably holding said head against said seat to seal said valve in sealed relation to said seal, a cap on said container having a second and relatively rigid seat surrounding the inner end of said nozzle, an externally smooth tubular guard of substantially larger diameter than said nozzle embracing the nozzle and threadedly engaged therewith adjacent the

inner ends thereof, the end of said guard engaging said second seat when the guard is screwed down on the nozzle, and an internal boss in the outer end of said guard defining an axially recessed opening and laterally supporting the outer end of said nozzle and movable axially with respect thereto, the outer end of said nozzle having a radially projecting flange arranged to seal against said guard when the guard is screwed outwardly on the nozzle, said guard having a length equal to several times its diameter.

2. A dispensing container comprising a pressure resistant container having an opening, a yieldable seal positioned around said opening and having a valve passage therethrough and an inner seat therearound, an elongated tubular nozzle having a valve portion on its inner end projecting through said seal coacting with said seal, means yieldably holding said valve in sealed relation to said seat, a second and relatively rigid seat surrounding the inner end of said nozzle, a tubular guard embracing the nozzle and threadedly engaged therewith, the end of said guard engaging said second seat when the guard is screwed down on the nozzle, and an internal boss in the outer end of said guard defining an axially recessed opening and laterally supporting the outer end of said nozzle and movable axially with respect thereto, said guard having a length equal to several times its diameter.

3. A dispensing container comprising a pressure resistant container having an opening, a yieldable seal positioned around said opening and having a valve passage therethrough and an inner seat around the opening, an elongated tubular nozzle having a valve portion on its inner end projecting through said seal with an imperforate head coacting with said seat on said seal, means yieldably holding said head against said seat to seal said valve in sealed relation to said seat, a cap on said container having a second and relatively rigid seat surrounding said nozzle, an externally smooth tubular guard of substantially larger diameter than said nozzle embracing the nozzle and threadedly engaged therewith adjacent the inner ends thereof, the end of said guard engaging said second seat when the guard is screwed down on the nozzle, and an internal boss in the outer end of said guard defining an axially recessed opening and laterally supporting the outer end of said nozzle and movable axially with respect thereto, the outer end of said nozzle having a radially projecting flange arranged to seal against said guard when the guard is screwed outwardly on the nozzle.

4. A dispensing container comprising a pressure resistant container having an opening, a yieldable seal positioned around said opening and having a valve passage therethrough and an inner seat therearound, an elongated tubular nozzle having a valve portion on its inner end projecting through said seal coacting with said seal, means yieldably holding said valve in sealed relation to said seat, a second and relatively rigid seat on said container surrounding said nozzle, a tubular guard embracing the nozzle and threadedly engaged therewith, the end of said guard engaging said second seat when the guard is screwed down on the nozzle, and an internal boss in the outer end of said guard defining an axially recessed opening and laterally supporting the outer end of said nozzle and movable axially with respect thereto, said guard having a length equal to several times its diameter, said nozzle having an outturned lip on its outer end arranged to seat against the end of said boss when the guard is screwed outwardly on the nozzle.

5. A dispensing container comprising a pressure resistant container having an opening, a yieldable seal positioned around said opening and having a valve passage therethrough and an inner seat therearound, an elongated tubular nozzle having a valve portion on its inner end projecting through said seal coacting with said seal, means yieldably holding said valve in sealed relation to said seat, a second and relatively rigid seat on said container

surrounding said nozzle, a tubular guard embracing the nozzle and threadedly engaged therewith, the end of said guard engaging said second seat when the guard is screwed down on the nozzle, and an internal boss in the outer end of said guard defining an opening and laterally supporting the outer end of said nozzle and movable axially with respect thereto.

6. A dispensing container comprising a pressure resistant container having an opening, a yieldable seal positioned around said opening and having a valve passage therethrough, an elongated tubular nozzle having a valve portion on its inner end projecting through said seal, said valve portion coacting with said seal, to form a manually opened discharge opening to said nozzle upon tilting the nozzle, means yieldably holding said valve in sealed relation to said seat, a second and relatively rigid seat surrounding the inner end of said nozzle, a tubular guard embracing the nozzle and axially movable and laterally supportingly engaged therewith, the end of said guard engaging said second seat when the guard is moved down on the nozzle, and an internal boss in the outer end of said guard defining an opening supporting the outer end of said nozzle and movable axially with respect thereto.

7. As an article of commerce, a container of medicated fluid compounded for internal application to the human body, a tiltable valve closing said container and operative when tilted to release fluid therefrom, said fluid being under pressure in said container, a tubular guard threadedly engaged with the valve exteriorly of said container, an elongated extension formed as an integral part on said valve and projecting as a nozzle outwardly through said guard, and means on the outer end of said guard forming a recessed hole opening to said nozzle and laterally supporting the outer end of said nozzle.

8. As an article of commerce, a container of medicated fluid compounded for internal application to the human body, a tiltable valve closing said container and operative when tilted to release fluid therefrom, said fluid being under pressure in said container, a tubular guard threadedly engaged with the valve exteriorly of said container, and an elongated extension on said valve and projecting as a nozzle outwardly through said guard, the outer end of said guard forming a hole opening to said nozzle and laterally supporting the outer end of said nozzle.

9. As an article of commerce, a container of medicated fluid compounded for internal application to the human body, a tiltable valve closing said container and operative when tilted to release fluid therefrom, said fluid being under pressure in said container, a tubular guard axially movably and laterally supportingly engaged with the valve exteriorly of said container, a seat on said container surrounding said valve and engageable with the inner end of said guard to oppose tilting of the guard when the guard is moved inwardly of the valve, an elongated extension on said valve and projecting as a nozzle outwardly through said guard, and means on the outer end of said guard forming a recessed hole opening to said nozzle and laterally supporting the outer end of said nozzle.

10. As an article of commerce, a container of medicated fluid compounded for internal application to the human body, a tiltable valve closing said container and operative when tilted to release fluid therefrom, said fluid being under pressure in said container, a tubular guard axially movably and laterally supportingly engaged with the valve exteriorly of said container, an elongated extension on said valve and projecting as a nozzle outwardly through said guard, and means on the outer end of said guard laterally supporting the outer end of said nozzle.

References Cited in the file of this patent

UNITED STATES PATENTS

2,704,622 Soffer ..... Mar. 22, 1955