Dec. 7, 1937. W. RIEDEL 2,101,598

NONREUSABLE BOTTLE

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Fig. 1.

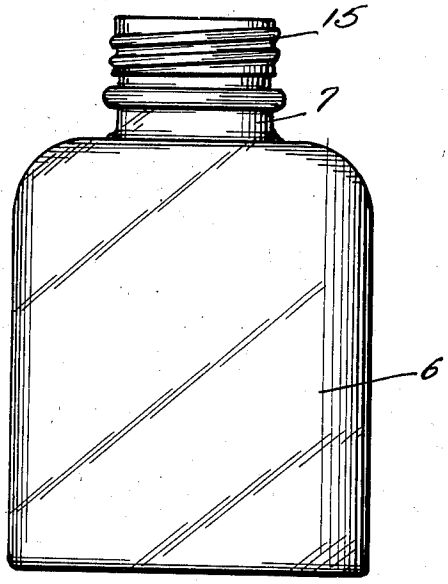


Fig. 6.

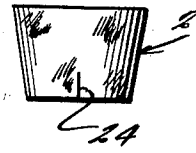


Fig. 8.

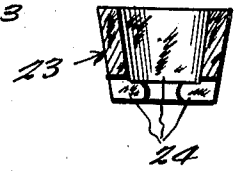


Fig. 7.

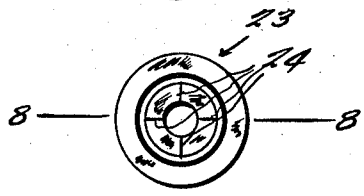


Fig. 4.

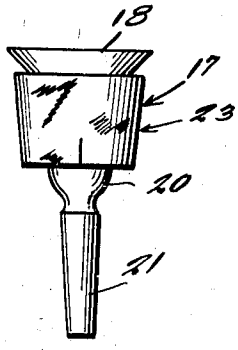
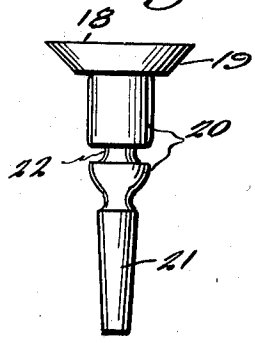


Fig. 5.



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Fig. 2.

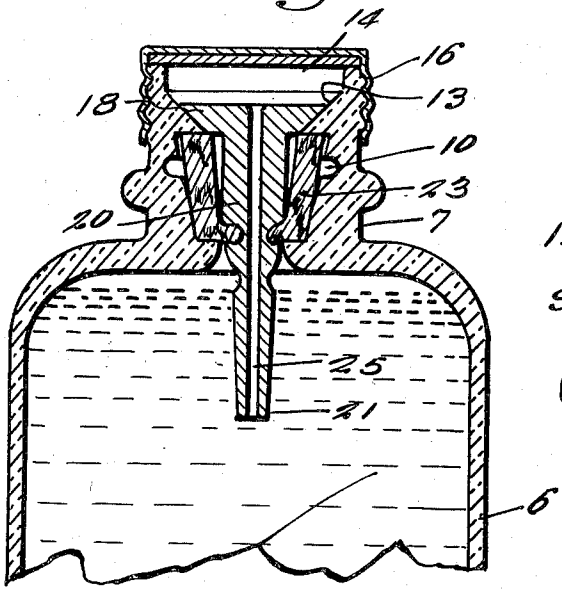


Fig. 3

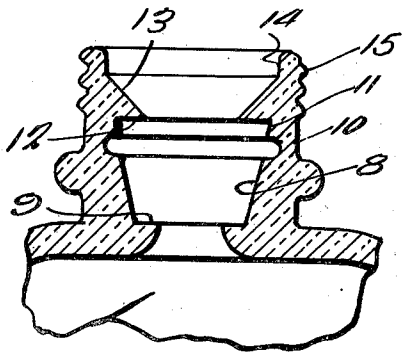


Fig. 10.

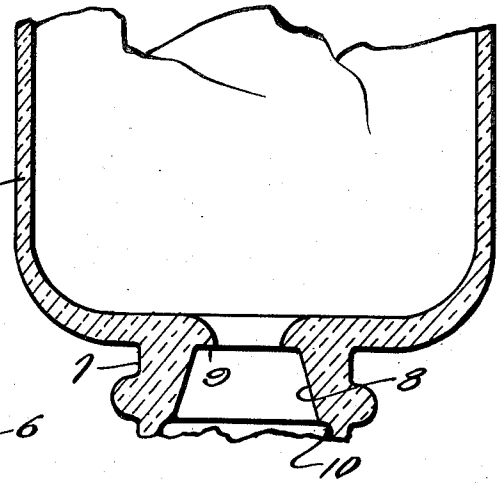
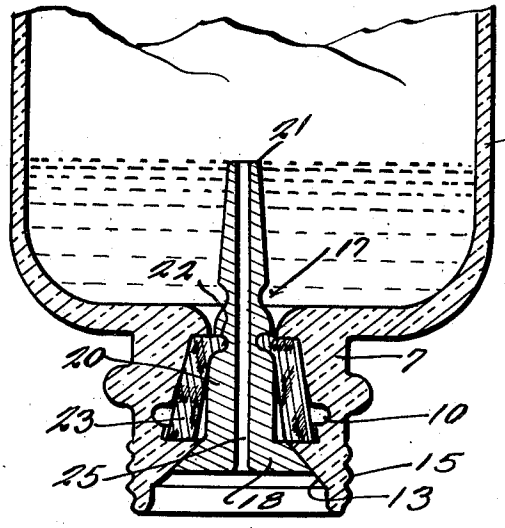


Fig. 9.



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UNITED STATES PATENT OFFICE

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NONREUSABLE BOTTLE

William Riedel, Lansdowne, Md.

Application March 17, 1937, Serial No. 131,468

1 Claim. (Cl. 215—32)

This invention appertains to new and useful improvements in the general art of bottles and jars and more particularly to a closure means for bottles constructed in such a manner as to prevent re-use of the bottle.

An important object of the invention is to provide a bottle closure which can be easily assembled after the bottle has been first filled, and which will prevent refilling.

Still another important object of the invention is to provide a bottle closure constructed in such a manner as to cause a small quantity of the contents of the bottle to remain in the bottle, thus requiring an owner to break the neck of the bottle so that the closure can be displaced, which breaking of the neck of the bottle obviously ruins the bottle for further use.

These and various other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:—

Figure 1 represents a side elevational view of the bottle with the cap removed.

Figure 2 is a fragmentary vertical sectional view through the bottle.

Figure 3 is a fragmentary longitudinal sectional view through the neck portion of the bottle with the closure cap removed.

Figure 4 is a side elevational view of the assembled closure.

Figure 5 is a side elevational view of the closure with the detent thereof removed.

Figure 6 is a side elevational view of the detent.

Figure 7 is an elevational view of the detent.

Figure 8 is a vertical sectional view through the detent.

Figure 9 is a fragmentary vertical sectional view showing the bottle in inverted position.

Figure 10 is a fragmentary vertical sectional view through the bottle after the neck has been broken and the closure means displaced.

Referring to the drawings wherein like numerals designate like parts, it can be seen that the bottle consists of the container portion 6 and the neck portion 7. As shown in Figure 3, the neck 7 is provided with an inwardly tapering opening 8 terminating at the shoulder 9 at its reduced end and merging with the circumferentially extending groove 10 at its opposite end. This groove defines a weakened area of the neck. The portion 11 of the opening 8 is inwardly tapered and forms a continuation of the opening 8 beyond the neck weakening groove 10, this portion 11 of the opening stopping at the shoulder 12. Outwardly of the shoulder 12 is the outwardly flaring seat surface 13 which merges with the cylindrical extension 14 of the neck opening. The outside of the neck 7 is provided with molded threads 15 to accommodate the screw cap 16.

The closure assembly is generally referred to by numeral 17 and consists of the valve-shaped head 18 having the beveled peripheral surface 19 for seating engagement against the seat surface 13 of the neck. A cylindrical body 20 extends from the valve-like member 18 and merges with the reduced stem 21.

Adjacent the inner end of the stem 21, the cylindrical body 20 is provided with the circumferentially extending groove 22 which serves to receive the radially slit bottom of the detent generally referred to by numeral 23. This detent 23 is a substantially frustro-conical-shaped cup member preferably of cork the bottom of which is slit to provide the fingers 24 for engagement into the groove 22.

The enlarged end of the detent 23 terminates adjacent the valve-like head 18. It is preferable that the stem 21 be tapered toward its free end so that it can readily be inserted through the detent 23 so that the detent 23 will assume the position on the bottom 20 shown in Figure 1, after which the assembly is forced into the neck of the bottle. Obviously as the detent 23 is forced past the shoulder 12 of the neck it is compressed and immediately upon its large end passing the shoulder 12, it will expand and abut the shoulder 12 so that the assembly cannot be displaced from the neck. This placement of the closure assembly takes place after the bottle has been filled with the liquid contents intended therefor.

It can be seen in Figure 9, that liquid from the bottle can be drained through the small duct 25 which extends longitudinally through the structure shown in Figure 5 until the level in the bottle when the bottle is in inverted position reaches the inner end of the stem 21. Obviously no more of the contents of the bottle can be drained therefrom until the assembly 17 is removed. To accomplish this removal of the closure assembly, the neck of the bottle must be struck against some solid object so that the neck will break off at the weakened portion, that is, at the groove 10. When this operation has been performed, the closure assembly 17 will be free to fall from the bottle and the bottle neck will then be in substantially the form shown in Figure 10. The liquid contents of the bottle can then be readily poured therefrom.

While the foregoing specification sets forth the invention in specific terms, it is to be understood

that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention what is claimed as new is:—

In a bottle construction having a neck, said neck being provided with a pair of longitudinally spaced shoulders therein, a valve-like closure head for disposition in the neck, a stem extending from the head and into the bottle a substantial distance, said head and stem having a duct extending longitudinally therethrough, and detent means on the stem interposed between the said shoulders, said detent consisting of a cup-shaped member of compressible material, the bottom of the cup-shaped member having an opening therein for receiving the stem, said stem being provided with a circumferentially extending groove for receiving the portion of the bottom of the cup surrounding the opening therein.

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