April 10, 1934. W. W. S. CARPENTER 1,954,068

LIQUID APPLICATOR

Filed June 17, 1932

FIG. 1

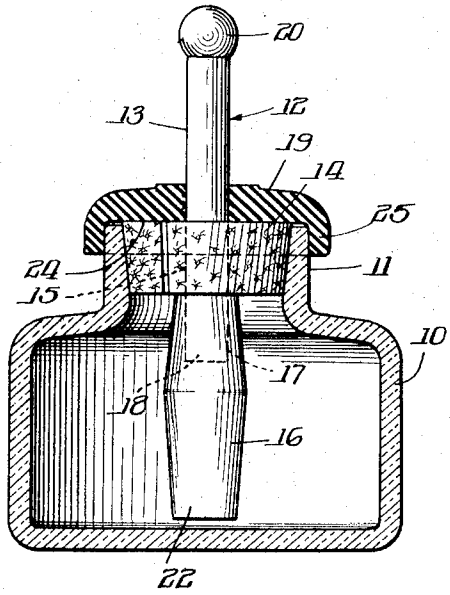


FIG. 2.

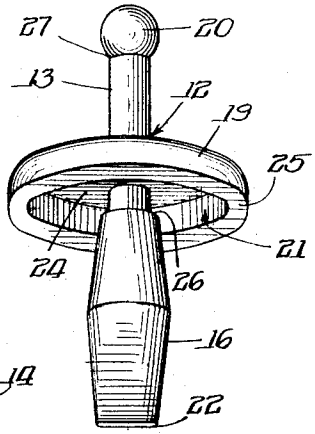


FIG. 3.

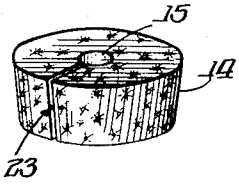


FIG. 4.

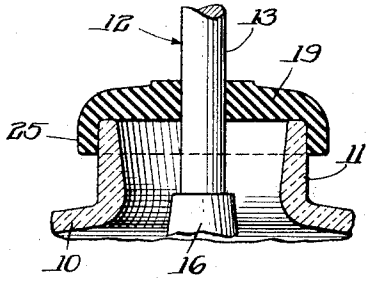


FIG. 5.

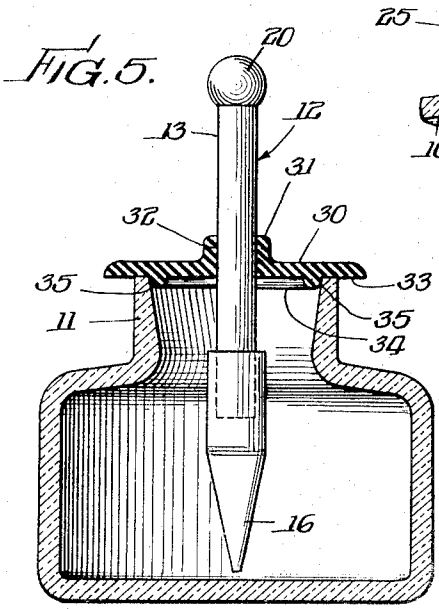
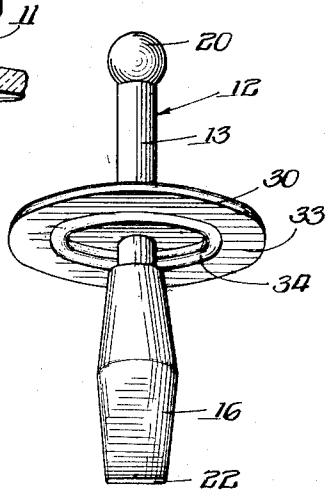


FIG. 6.



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LIQUID APPLICATOR

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Application June 17, 1932, Serial No. 617,689

1 Claim. (Cl. 91—67.4)

This invention relates to liquid applicators in general, and particularly although not exclusively, to applicators for mucilage.

The primary object of the invention is to provide a simple and efficient liquid applicator, such as a mucilage spreader, which is provided with a relatively rigid stem or shank which protrudes through a flexible cap which seals the bottle, the shank being fitted into a bore provided in a flexible rubber spreader arranged at the bottom of the applicator.

Another object is to provide an applicator of the type described which is provided with a cork for sealing the bottle and which has a flexible rubber dome-shaped member for sealing the bottle after the cork is removed, the cork being provided with a slit or cut so that the cork can be readily and easily removed from the shank of the applicator by breaking the cork at the line of severance.

Numerous other objects and advantages will be apparent throughout the progress of the following specification.

The accompanying drawing illustrates a selected embodiment of the invention and the views therein are as follows:

Fig. 1 is a detail perspective view of a mucilage bottle having the cork seal, and applicator positioned therein.

Fig. 2 is a detail perspective view of the applicator, the cork being removed.

Fig. 3 is a detail perspective view of the bottle stop or cork which is applied to the applicator during the assembly thereof and which is provided with a slit or cut to permit instant and quick removal of the cork from the shank of the applicator.

Fig. 4 is a detail sectional view of a mucilage bottle with the cork removed.

Fig. 5 is a detail sectional view of a mucilage bottle showing a modified form of applicator.

Fig. 6 is a detail perspective view of the applicator shown in Fig. 5.

Referring to the drawing and particularly to Figs. 1 to 4 thereof, 10 designates a bottle having an upstanding neck 11. A liquid applicator 12 is provided with a relatively stiff shank or stem 13 which may be made of hard rubber and passes through a cork 14. The cork 14 is provided with a central bore or opening 15 through which the shank 13 extends. A mucilage spreader 16 is preferably made of soft flexible material, such as rubber, and is provided with a central bore 17 at its upper end to receive the lower end 18 of the shank 13.

A flexible rubber dome-shaped cap 19 is arranged immediately above the cork as shown in Fig. 1 and is adapted to provide a closure for the bottle as shown in Fig. 4 when the cork 14 is removed. A knob 20 may be formed at the upper end of the shank as shown. The spreader 16 and the knob 20 are larger in diameter than the diameter of the opening 15 in the cork 14.

In assembling the applicator, the dome-shaped flexible rubber cap 19 is first slid over the shank 13 with the open side or cup-shaped end 21 facing downwardly. The cork 14 is next positioned in place by sliding it on the shank 13 so that its upper end will be received in the open or cup-shaped end of the dome-like cap 19. The lower end 18 of the shank is then fitted into the bore 17 in the flexible spreader 16. The spreader is preferably made of soft flexible rubber and tapers downwardly in both directions to provide a thin flat spreading portion 22. The entire applicator, including the cork, is then arranged on the bottle so that the cork fits in the opening provided in the neck of the bottle with the edges of the dome cap 19 impinging the outer periphery of the neck 11. The bottle, as above described, is thus prepared for shipping purposes providing a tight seal for the bottle positively preventing any of the mucilage from being spilled out of the bottle regardless of its position.

As soon as the bottle is received by the user, the cork is pulled out and spread open by inserting an instrument, such as a knife or a screwdriver, or even by breaking the same with the fingers along a slit 23 which preferably extends through one-half the cork and communicates with the central bore 15. Thus the cork is removed and disposed of but a proper seal and cover remain as the flexible dome cap 19 has an upper bearing surface 24 which fits against the upper edge of the bottle being held in closing contact with the top of the bottle by the peripheral ridge 25 which impinges the outer periphery of the neck.

The applicator shown in Figs. 5 and 6 has a washer-like cap 30 which is also made of soft flexible rubber-like material, and this cap has an upstanding rubber boss 31 which engages the shank 13 as indicated at 32. The bottom of the cap 30 is flat as indicated at 33 and is provided with an annular bead 34 which has an external diameter substantially equal to the internal diameter of the neck 11 so that when the applicator is arranged in position on the bottle, the bead will extend down into the bottle a predetermined distance and press against the inside of the neck

about the periphery of the bore as indicated at 35. The applicator therefore makes a tight seal with the bottle but may be easily and quickly removed when it is desired to use the applicator.

In each of the forms described, the cap while slidably mounted on the shank, has limited movement thereon, being restricted by the shoulder formed at the top of the spreader and indicated by the numeral 26 and the underside of the knob 20 as indicated by the numeral 27. The entire applicator, including the shank, the spreader and the cap, comprises a unitary applicator readily removable from the bottle but providing a tight seal therefor. In each instance the shank is slidably arranged in the cap so that the spreader may be raised and lowered relative to the liquid line in the bottle to insure the spreader being immersed in the fluid but at the same time preventing too great a portion from extending into the liquid. Thus, the shank and its attached spreader is adjustable relative to the cap making the applicator applicable to bottles of various heights.

The invention provides a simple and economically manufactured applicator which provides a seal for the bottle as well as providing improved means for spreading mucilage. It has been found in practice that the soft flexible spreader spreads the mucilage more evenly than brushes or other resilient or semi-resilient spreaders. The soft rubber cap permits the applicator to be tilted through various angles to allow the spreader to reach the far corners of the bottle.

Changes may be made in the form, construction, and arrangement of the parts without departing from the spirit of the invention or sacrificing any of its advantages, and the right is hereby reserved to make all such changes as fairly fall within the scope of the following claim.

The invention is hereby claimed as follows:

The combination with a bottle and a liquid applicator and closure cap therefor, said applicator having a shank, said closure cap being made of soft flexible rubber-like material and movably mounted on the shank, a knob on the shank, a sealing element carried by the applicator and having an opening therein to receive the shank, said sealing element adapted to provide a temporary tight seal for the bottle during shipment and until used by the consumer, said sealing element also being adapted to fit down into the neck of the bottle and having a radial slit therein to permit the sealing element to be laterally removed from the shank, and a soft flexible rubber-like spreader fastened to the lower end of the shank, the flexible closure cap permitting the applicator to be tilted through various angles to allow the spreader to reach the far corners of the bottle, said closure cap being limited in longitudinal movement on the shank by the knob and spreader.

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