

Feb. 19, 1929.

1,702,998

A. FOLTIS

CLOSURE FOR COLLAPSIBLE TUBES

Filed Sept. 10, 1927

Fig. 1.

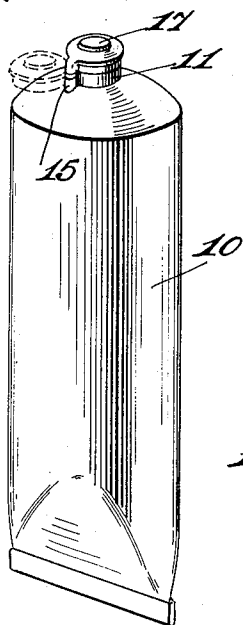


Fig. 2.

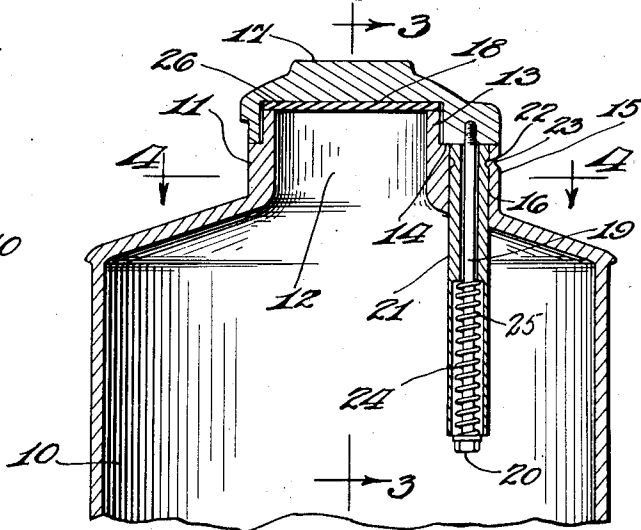


Fig. 3.

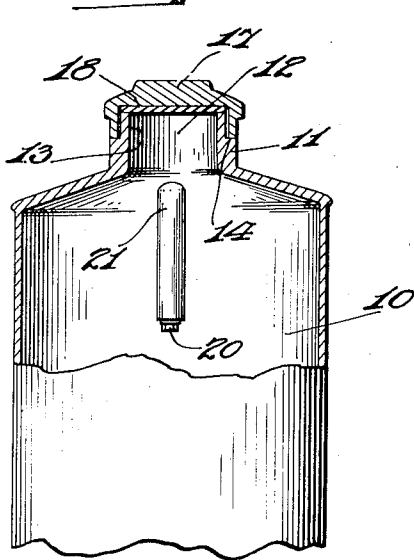


Fig. 4.

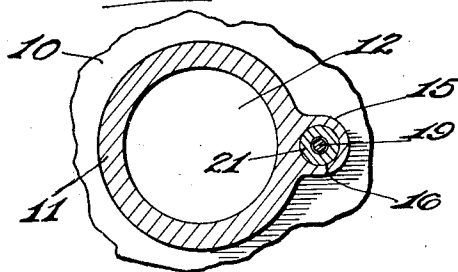
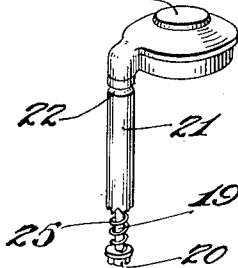


Fig. 5.



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UNITED STATES PATENT OFFICE.

ANESTIS FOLTIS, OF ELMHURST, NEW YORK.

CLOSURE FOR COLLAPSIBLE TUBES.

Application filed September 10, 1927. Serial No. 218,710.

This invention relates to improvements in closures for collapsible tubes.

The primary object of the invention resides in a closure which is captively mounted upon a collapsible tube to seal the discharge opening therein whereby the closure is prevented from accidental separation from the tube when moved to an open position.

Another object of the invention is to provide a closure cap for collapsible tubes which may be actuated by one of the fingers of the hand in which the tube is held which leaves the other hand free to receive the discharged contents of the tube, or to hold a tooth brush should the tube contain a dentifrice.

A further object is the provision of a cap for collapsible tubes which is swingingly mounted thereon but which is locked against swinging movement by co-action with the neck of the tube when the cap is in a closed position.

A still further object is the provision of a closure cap which is captively mounted on a collapsible tube and which must be lifted from engagement with the tube and swung about its pivot to move the same from a closed position to an open position.

A still further object is to provide a captive closure cap for collapsible tubes which is simple of construction, easy to mount on the tube, and inexpensive of manufacture.

With these and other objects in view, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claim, and are illustrated in the accompanying drawing, in which:—

Figure 1 is a perspective view of a collapsible tube with my improved cap mounted thereon and showing the open position of the cap in dotted lines.

Figure 2 is an enlarged vertical sectional view through the top of the tube.

Figure 3 is a similar view taken on the line 3—3 of Figure 2.

Figure 4 is a horizontal sectional view on the line 4—4 of Figure 2.

Figure 5 is a detail perspective view of the closure cap and its correlated parts per se.

Referring more particularly to the drawing, the reference numeral 10 designates a collapsible tube of the ordinary construction having a neck 11 through which a discharge opening 12 extends. The outer end of the

neck is provided with a reduced annular collar 13 and a flat seat or shoulder 14. A boss 15 is formed on one side of said neck and has a bore 16 disposed parallel to the longitudinal axis of said tube and opening from the interior thereof to the outer face of the boss.

My improved closure comprises a cap 17 having a central recess 18 in the underface thereof to receive the flange 13 of the tube when the cap is in a closed position. A pin 19 extends downward from the cap and has a head 20 on the free end thereof. The pin is slidable through a tubular sleeve 21 provided with an exterior annular groove 22 by which the sleeve is anchored to the tube by crimping the side of the boss as at 23 so that a portion of the wall of the bore is seated in the groove 22. The top of the sleeve lies flush with the outer face of the boss while the lower end of the sleeve extends into the tube and is enlarged in diameter as at 24 to house an expansion spring 25 which encircles the pin and is interposed between a shoulder in the sleeve and the head 20 to constantly place an inward tension upon the cap 17.

When the cap is seated as shown in the drawings in full lines, the same tightly seals the open end of the tube to prevent accidental discharge of any of the contents thereof, and cannot turn about its pivoted pin 19 because of the flange 13 being seated in the recess 18 of the cap. If desired a cork washer 26 may be provided in the cap for assuring the sealing of the contents of the tube. However, when it is desired to move the cap to an open position, the operator presses the cap outward against the action of the spring 25 until the lower edge of the cap clears the outer edge of the flange 13, at which time the cap is pressed sidewise to cause the same to swing about its pivot pin 19. When the cap is swung fully around to free itself from contact with the flange 13, the spring will cause it to be pulled inwardly to lock behind the flange at which time it is held against swinging closed and will be out of the way during the dispensing operation. When it is desired to close the cap, the same is pulled outward against the action of the spring to clear the end of the flange and is swung about its pivot until the cap automatically drops over the flange by the action of the spring. This entire opening and closing of the cap may be performed by the manipulation of the thumb of the hand of an operator by which the tube is held which allows the other hand to be

free for holding a tooth brush to receive the dentifrice as it is discharged from the tube.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the details may be varied without in any way departing from the spirit of my invention, and I therefore do not limit myself to the exact details of construction herein set forth nor to anything less than the whole of my invention limited only by the appended claim.

What is claimed as new is:—

In a collapsible tube having a projecting seat at the discharge end thereof, a closure unit separate from said collapsible tube comprising a tubular sleeve having two bores therein of different diameters to provide a shoulder therein, said tubular sleeve extend-

ing through the top wall of said collapsible tube and being provided with an annular groove, the wall of said collapsible tube being crimped into said annular groove for fixedly anchoring the closure unit in position upon said collapsible tube, a pin passing through the bores in said tubular sleeve, a closure cap carried by the outer end of said pin for sealing engagement with the projecting seat, a head on the inner end of said pin, and an expansion spring housed within said tubular sleeve and interposed between the shoulder therein and said head, substantially as and for the purpose specified.

In testimony whereof I have affixed my signature.

ANESTIS FOLTIS.