March 3, 1931. F. B. SEBOLT 1,794,987

PASTE TUBE

Filed Feb. 17, 1930

Fig. 1.

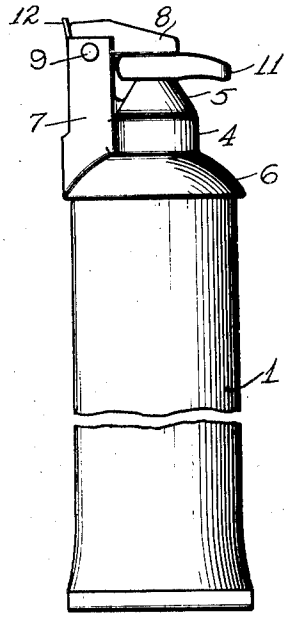


Fig. 2.

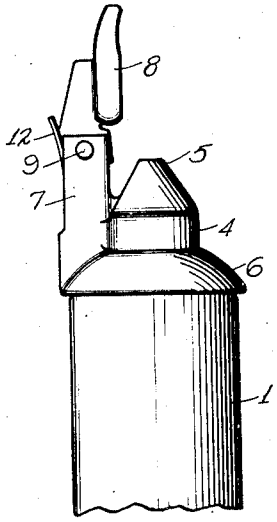


Fig. 3.

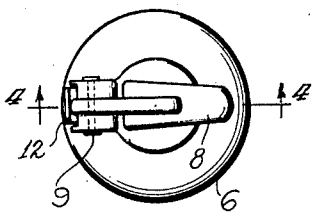


Fig. 4.

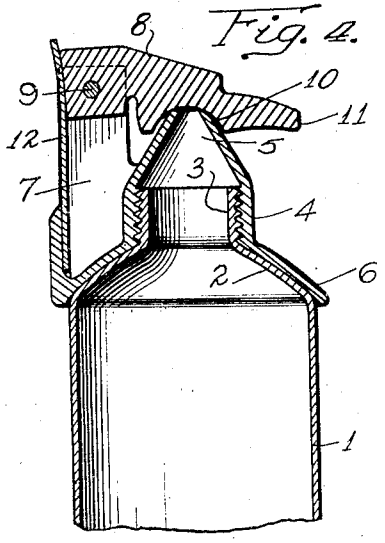
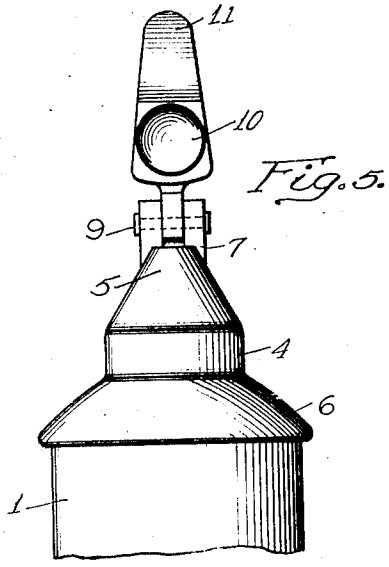


Fig. 5.



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Patented Mar. 3, 1931

1,794,987

UNITED STATES PATENT OFFICE

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PASTE TUBE

Application filed February 17, 1930. Serial No. 429,100.

The main objects of this invention are to provide a paste tube of the collapsible type having an improved form of cap provided with a closure which may be conveniently operated with one finger of the same hand in which the tube is held, so as to obviate the necessity of using two hands in opening and closing the tube; to provide a cap of this kind having improved means for yieldingly securing the closure in both closed and open positions; to provide an improved form of shield on the cap for preventing distortion of the end wall of the tube adjacent the outlet; and to provide an improved cap of this kind which is adapted to fit on the neck of a paste tube of standard construction to replace the threaded cap heretofore used.

An illustrative embodiment of this invention is shown in the accompanying drawing, wherein:

Figure 1 is a side elevation, partly broken away, of a paste tube having an improved cap applied thereto.

Fig. 2 is a fragmentary side elevation of the same, showing the closure in open position.

Fig. 3 is a top plan of the improved cap.

Fig. 4 is an enlarged section, taken on the line 4—4 of Fig. 3.

Fig. 5 is an enlarged fragmentary side elevation of the tube, taken from the right of Fig. 2.

Heretofore, various attempts have been made to produce a collapsible paste tube having a hinged closure to replace the threaded caps so as to permit the closure to be opened and closed with the same hand which held the tube, thereby leaving the other hand free for handling the tooth brush, shaving brush or the like. One of the objections to such prior devices was that, in opening and closing the closure with the same hand in which the tube was held, the user frequently unconsciously exerted great pressure on the end wall of the tube with the result that the end wall adjacent the outlet sometimes cracked open.

The aforementioned objectionable features of prior devices are overcome in the improved tube herein shown, which has a cap provided with a hinged closure and a stiff shield adapted to cover the end wall of the tube so as to prevent distortion of the end wall during the manipulation of the closure.

In the construction shown, the improved cap is applied to a flexible collapsible tube 1 having an end wall 2, which has an externally threaded neck 3 providing an outlet for the tube contents.

The improved cap may be a metal casting which is formed so as to provide an internally threaded collar 4 adapted to embrace the threaded neck 3. The outer end of the collar 4 is tapered so as to form a seat 5 which projects beyond the neck 3. Formed on the inner end of the collar 4, is an annular shield 6, which is adapted to fit closely against the end wall 2. The shield 6 is comparatively stiff and is slightly larger in diameter than the tube, so that its rim may form a bearing adapted to be grasped by the user in handling the tube.

Integrally formed on the cap, is a bifurcated bearing 7 for supporting a closure member 8, which is hinged thereto by a pin 9. Formed in the closure 8, is a concave seat 10 adapted to fit over the tapered seat 5 of the cap for closing the tube. The outer end of the closure is formed so as to provide a handle 11.

Also mounted on the bearing 7, is a spring 12 which bears against the closure for yieldingly resisting the movement of the closure.

In use, the tube is held in one hand, as is well understood, and the rim of the shield 6 is grasped between the index finger and the thumb. To open or close the closure member, the thumb is moved outwardly to engage the handle 11. The stiff shield 6 prevents any distortion of the end wall of the tube but does not in any manner interfere with the collapsing of the side walls for expelling the contents.

I claim:

1. A collapsible tube comprising a flexible tubular wall adapted to be compressed for expelling its contents, an end wall having a neck providing an outlet, a collar embracing said neck, an annular shield integrally formed on said collar and arranged to cover said end wall, said shield being relatively stiff so as to guard said end wall against distor-

tion, and a closure hinged on said collar for closing said outlet.

2. A device of the class described comprising a collapsible tube adapted to be compressed for expelling its contents, an externally threaded neck on one end of said tube providing an outlet, a cap having an internally threaded collar embracing said neck, an annular stiff sleeve integrally formed on said collar and arranged to cover said one end of the tube, and a closure hinged on said collar for closing said outlet.

3. A device of the class described comprising a collapsible tube adapted to be compressed for expelling its contents, an externally threaded neck on one end of said tube providing an outlet, a cap having an internally threaded collar embracing said neck, a tapered seat formed on the outer end of said collar and projecting beyond said neck, an annular stiff sleeve integrally formed on said collar and arranged to cover said one end of the tube, and a closure hinged on said collar for movement into and out of engagement with said seat.

4. The combination with a collapsible tube having an externally threaded neck providing an outlet, of a cap comprising an internally threaded collar adapted to embrace the neck, a tapered seat formed on the outer end of said collar, an annular stiff shield integrally formed on the inner end of the collar for covering the end of the tube adjacent the outlet, a bearing on said cap, a closure hinged on said bearing for movement into and out of engagement with said seat, and a spring extending longitudinally of the tube and arranged to engage said closure for yieldingly resisting the movement of said closure.

Signed at Chicago this 13th day of February, 1930.

FRANK B. SEBOLT.