

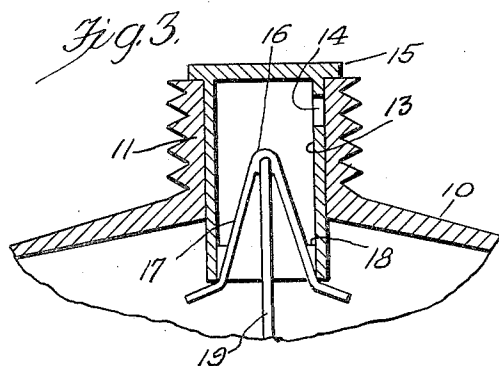
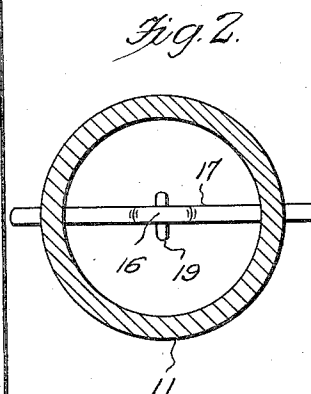
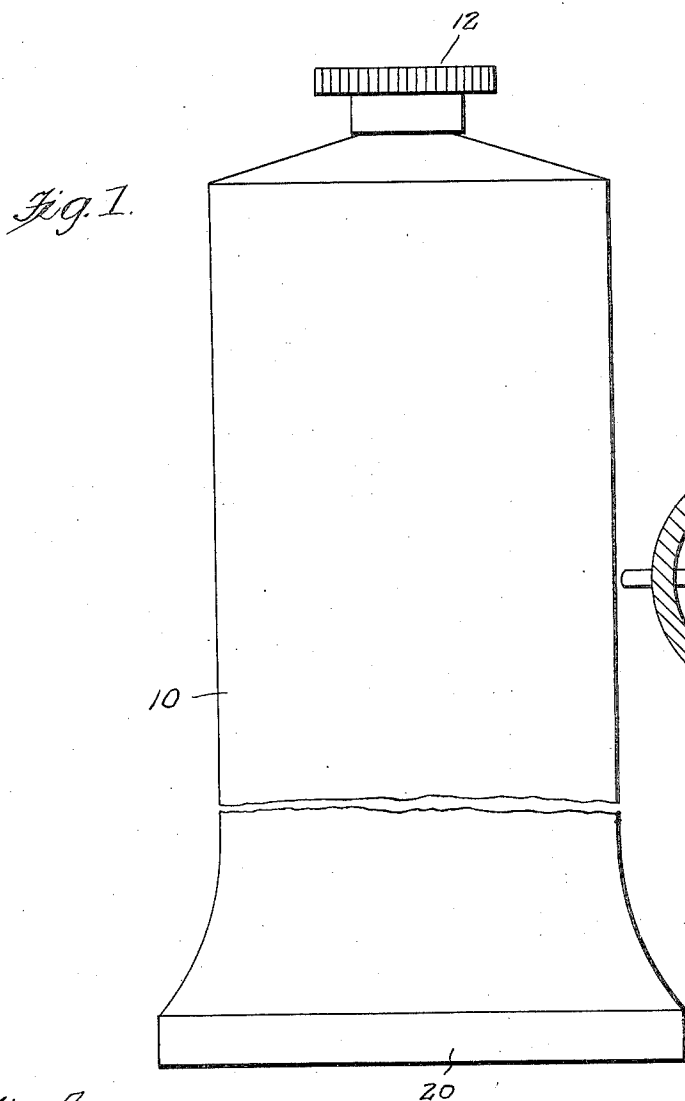
Oct. 1, 1935.

J. J. BURCH

2,015,992

CLOSURE FOR COLLAPSIBLE TUBES

Original Filed Dec. 14, 1933 2 Sheets-Sheet 1



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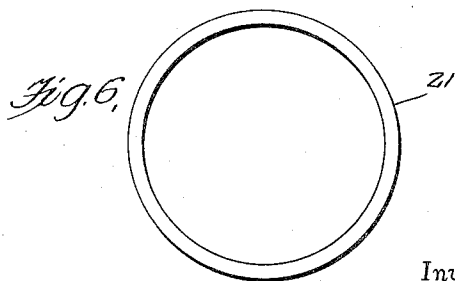
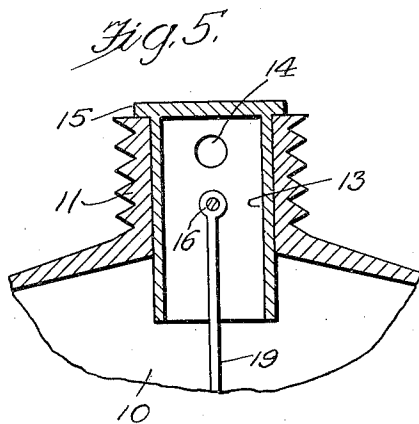
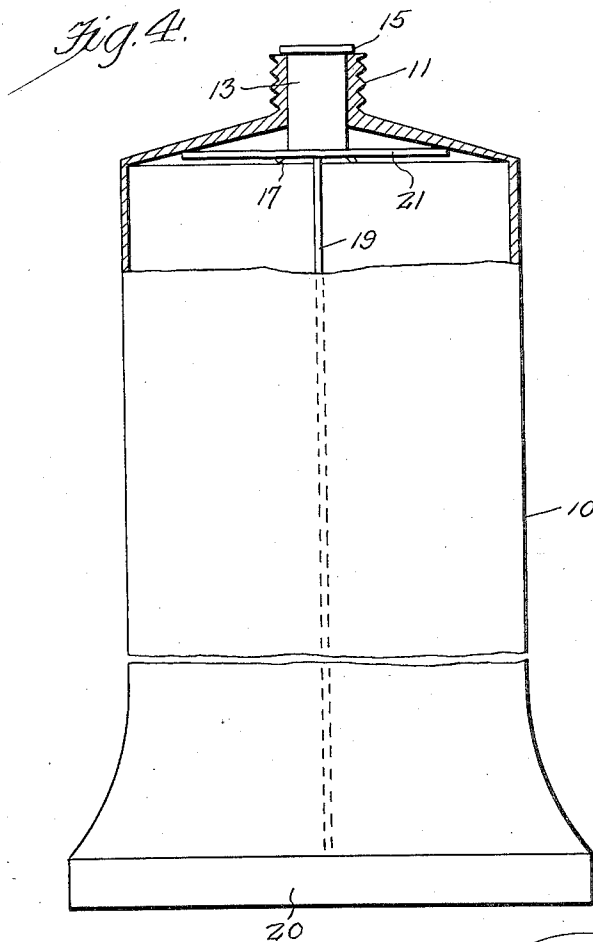
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CLOSURE FOR COLLAPSIBLE TUBES

Original Filed Dec. 14, 1933 2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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CLOSURE FOR COLLAPSIBLE TUBES

Joseph J. Burch, Warren, Ohio

Application December 14, 1933, Serial No. 702,407
Renewed February 21, 1935

1 Claim. (Cl. 221-60)

This invention relates to improvements in valves or closures for collapsible tubes of the type commonly employed for toothpaste, shaving cream, ointment and the like, and has for its primary object to provide a valve for the purpose mentioned which may be used without requiring material alteration in the present construction of such tubes.

The invention together with its objects and advantages will be best understood from a study of the following description taken in connection with the accompanying drawings wherein:

Figure 1 is an elevational view of a collapsible tube having the invention associated therewith.

Figure 2 is a transverse sectional view through the neck of the tube.

Figure 3 is a fragmentary vertical sectional view with the valve in closed position.

Figure 4 is an elevational view of the tube with the cap removed, and certain parts of the tube broken away and shown in section for illustrating the invention.

Figure 5 is a detail sectional view taken substantially at right angles to Figure 3, and

Figure 6 is a plan view of a strengthening annulus.

Referring to the drawings by reference numerals it will be seen that 10 designates a collapsible tube that is of conventional construction, and of the type commercially used for containing and dispensing toothpaste, shaving cream and the like. The tube 10 is provided with a threaded neck 11 and the usual cap 12.

In accordance with the present invention a valve for the tube is provided, and the same is in the form of a cylinder 13 that has a sliding fit within the neck 11 and is closed at its upper end and open at its lower end as clearly shown in Figures 3 and 5. Adjacent its upper end the cylindrical valve 13 is provided with a discharge port 14, while at said upper end the valve is provided with a circular outstanding flange 15 that is adapted to engage the outer end of the neck 11 for limiting inward movement of the valve. The use of the valve will not interfere with cap 12.

Mounted within the cylindrical valve 13 is an attaching eye 16 that has integral therewith op-

positely extending inclined arms 17 which at their lower ends are secured in any suitable manner such as indicated generally at 18 to the wall of the valve 13 with the terminals of the arms externally of the valve bent laterally in opposite direction as shown in Figure 3.

An elastic element 19 is suitably secured at one end to the eye 16, and the opposite end of said elastic element is passed through the tube and clamped in the end thereof sealed in the customary manner as by a metal crimped strip or the like 20.

As will be apparent, the valve 13 will be normally in the position shown in the drawings, but when the tube is squeezed so as to force paste therefrom the elastic member 19 will stretch permitting the valve 13 to pass outwardly of the neck 11 a sufficient distance to uncover the port 14 and allow the paste to pass through the port 14 to be exuded from the tube. As soon as the pinching action of the tube ceases the elastic member 19 will exert its force to retract or draw the valve 13 inwardly of the neck 11 for closing the port 14. With this construction it will be apparent that the elastic member 19 will permit the tube to be rolled from the lower end 20 thereof toward the neck 11 without interfering with the efficient operation of the valve.

To prevent the tube 10 at the neck equipped end thereof from collapsing and otherwise interfering with the operation of the valve 13 there is secured within the tube 10 an annular reinforcing member or ring 21 as clearly shown in Figure 4.

Having thus described my invention, what I claim as new is:

In a device of the character described, a collapsible tube having a neck, a hollow valve member having a sliding fit within said neck, a pair of oppositely inclined arms secured at one end to the valve member at diametrically opposite sides thereof, said arms converging inwardly of the valve, an eye integral with and connecting said arms, and an elastic member having one end connected to said eye, and having its opposite end passing through said tube and connected to the opposite end of said tube.

JOSEPH J. BURCH.