June 19, 1928. 1,674,596

R. W. JOHNSON

COLLAPSIBLE TUBE

Filed June 8, 1927

Fig. 1.

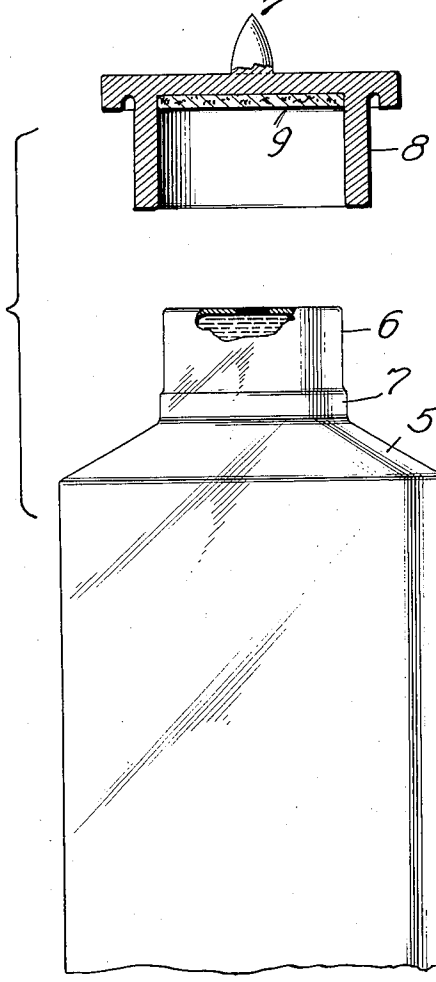
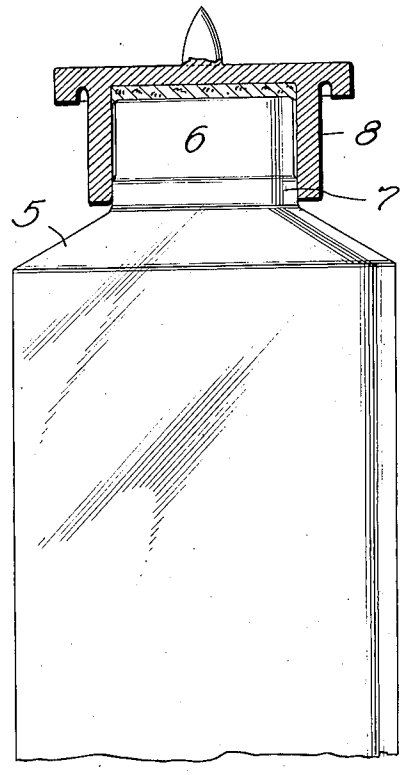


Fig. 2.



Inventor

R. W. JOHNSON,

By Jack Richmond

Attorney

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UNITED STATES PATENT OFFICE.

ROBERT W. JOHNSON, OF NEW BRUNSWICK, NEW JERSEY, ASSIGNOR TO JOHNSON & JOHNSON, OF NEW BRUNSWICK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

COLLAPSIBLE TUBE.

Application filed June 8, 1927. Serial No. 197,393.

My present invention provides certain improvements in collapsible tubes with the view of minimizing the cost thereof by simplifying the construction and operation of the dispensing portion and providing reasonable assurance of less delinquency, carelessness or neglect with reference to the use of the cap.

Collapsible tubes are used extensively for dispensing various creams, dentifrices, emollients, medicaments, and other preparations too numerous to mention. Their usual complement is a screw cap and it is conservative to say that in the average household whether by choice or habit or neglect the cap is abandoned or lost long before it has served its purpose, although of course there are occasions when because of the plasticity of the metal thread stripping occurs, which makes it exceedingly awkward if not impossible to apply the cap. Sometimes the caps are made captive as by a wire or other flexible connection. It has also been proposed to provide a tapered nozzle which will afford a friction grip for a mated cap. So also plugs and various other special constructions have been tried or suggested. All of these measures are objectionable from the cost standpoint if for no other reason.

The desideratum is the solution of the cap problem without serious departure from the usual method of production, and that is the ultimate object and result of my invention an embodiment of which is shown in the accompanying drawing to which reference will now be had.

Figure 1 is an elevational view of the improved tube and cap in detached relation.

Fig. 2 is a sectional view of the assembly.

The invention is illustrated in connection with the practice which involves a metal film or seal requiring a piercing element to destroy it.

According to my invention, the breast portion 5 of the tube is formed with a straight cylindrical nozzle 6 having two external diameters, in that its basal part or where it joins the breast is formed as an annular offset or shoulder 7 whereof the perimeter is smooth finished.

The piercing element has a depending annular wall or skirt 8 forming a cap or thimble closure, the interior of which is smooth finished. The internal diameter of the cap exceeds the external diameter of the nozzle proper in order to provide for full clearance, and is a trifle less than the diameter of the shoulder 7 to insure a binding or ground fit thereon. Evidently the cap is substantially completely in place before it meets with resistance and merely requires slight turning movement to bind it to the ridge or seat on the tube. A sealing disk 9 carried in the thimble portion completes the assembly.

Having described my invention, I claim:

A collapsible tube having an externally smooth straight cylindrical nozzle formed with a smooth finished annular ridge where it joins the breast of the tube, and a cap having a straight cylindrical bore of a diameter to clear the nozzle and take a binding fit on the ridge.

In testimony whereof I affix my signature.

ROBERT W. JOHNSON.