

Oct. 18, 1932.

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1,882,697

TUBE CAP

Filed Sept. 19, 1931

Fig. 1.

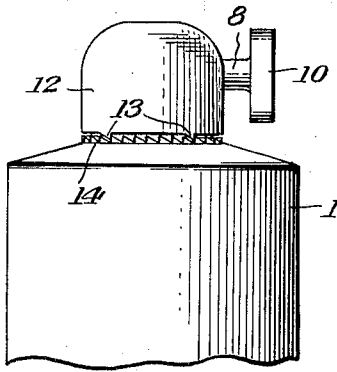


Fig. 2.

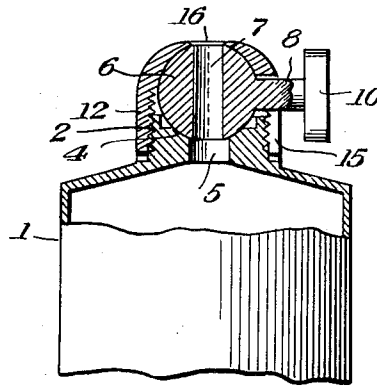
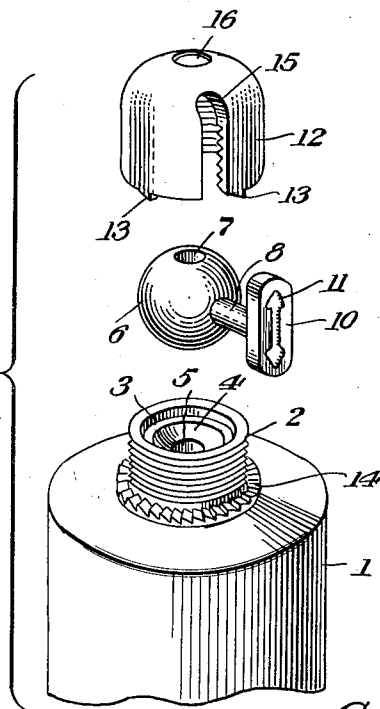


Fig. 3.



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# UNITED STATES PATENT OFFICE

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## TUBE CAP

Application filed September 19, 1931. Serial No. 563,854.

This invention relates to closures for collapsible or squeeze type tubes employed for tooth pastes, shaving and cold creams, medical or other compounds and has for the primary object, the provision of a device of the above stated character which will be simple in construction and operation, germ and dust-proof and economical with no loose parts to become lost during the use of the tube.

Another object of this invention is the provision of a novel construction of neck to the tube and a ball valve mounted therein for closing and opening the neck as desired and which is non-removable from the neck during the use of the tube and which may be easily and quickly applied to the neck.

A further object of this invention is the provision of a closure for collapsible tubes of the above stated character which will be simple, durable and efficient and which may be manufactured and sold at a comparatively low cost.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a fragmentary side elevation illustrating a closure for a collapsible tube constructed in accordance with my invention.

Figure 2 is a fragmentary sectional view illustrating the same.

Figure 3 is a perspective view illustrating the neck of the tube, the ball valve positioned thereover and the retaining cap for the ball valve.

Referring in detail to the drawing, the numeral 1 indicates a collapsible tube having formed integral therewith an externally screw threaded neck 2, the free end of which is stepped to form an internal flange or seat 3. Formed within the neck is a valve seat 4 having a passage 5 communicating with the interior of the tube. The seat 4 is engaged by a ball 6 having a passage 7 extending therethrough and also provided with an

operating rod 8. The operating rod 8 forms an integral part of the ball and also has formed integral therewith a handle 10 provided with a character 11 to indicate the position of the opening 7 within the neck of the tube.

A retaining cap 12 of substantially dome shape is internally screw threaded and is adapted to be threaded onto the neck 2 and is provided with teeth 13 on the edge thereof to bite into a series of teeth 14 formed on the tube 1 about the neck 2 to prevent the removal of the cap after being once placed on the tube. The cap 12 is provided with a slot 15 for receiving the operating rod 8 and is also provided with an opening 16 in the closed end thereof adapted to align with the passage 5 when the cap is placed upon the tube. The inner wall of the cap formed by the dome shape presents a seat for the ball 6 to engage and is disposed opposite to the seat 4 of the neck 2; consequently, a ball confined between the seats may be rotated by the handle 10 for moving the opening 7 thereof into and out of alignment with the opening 16 and the passage 5.

Thus it will be seen that a very efficient closure is provided for a tube wherein the contents may be sealed from foreign matter and may be easily operated to permit the contents of the tube to be easily discharged therefrom. Further it is to be noted that there are no loose parts to the device when assembled, consequently obviating the losing of detachable closures as now frequent on the conventional type of tubes.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of my invention, as claimed.

Having thus described my invention, what I claim is:

A closure for collapsible tubes including the neck of a tube having screw threads, a seat in the neck, a ball valve having a passage therethrough mounted in the seat, a dome shaped cap having a slot threaded on the

neck with the valve confined therein, a handle  
on the valve and extending through the slot,  
said cap having an opening in its closed end,  
a series of teeth at the base of the neck, and  
5 teeth on the edge of the cap to engage the  
series of teeth after threading of the cap on  
the neck for locking the cap against removal  
from the neck.

In testimony whereof I affix my signature.  
GEORGE E. ALDRIDGE.

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