July 2, 1929. J. E. TURNER 1,719,736

SINGLE USE TUBE

Filed Oct. 20, 1927

Fig. 1.

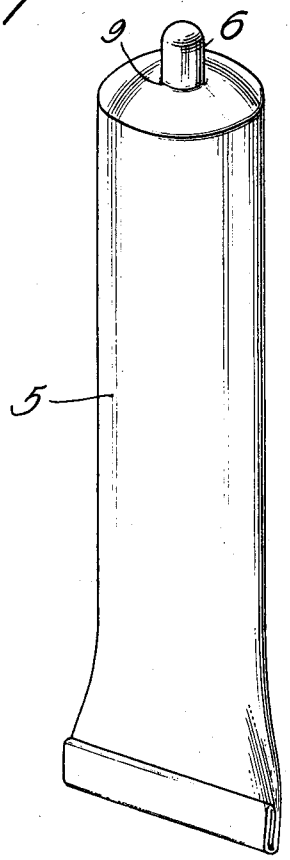


Fig. 2.

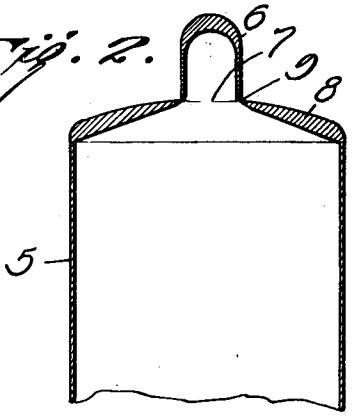


Fig. 3.

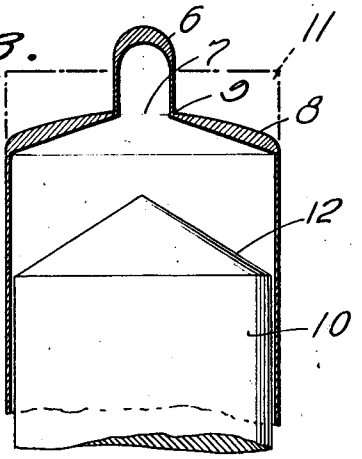


Fig. 4.

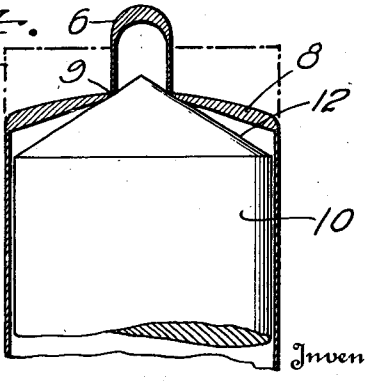


Fig. 5.

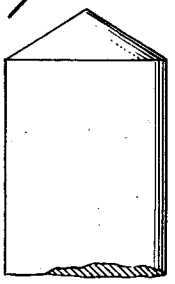
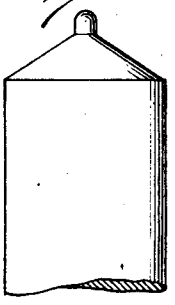


Fig. 6.



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1,719,736

UNITED STATES PATENT OFFICE.

JOHN E. TURNER, OF NEW BRUNSWICK, NEW JERSEY, ASSIGNOR TO JOHNSON & JOHNSON, OF NEW BRUNSWICK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SINGLE-USE TUBE.

Application filed October 20, 1927. Serial No. 227,470.

This invention relates to sample or single use tubes for dispensing various creams, pastes and medicaments, and more particularly to collapsible metal tubes formed with an integral nipple-like projection which, when parted from the tube, exposes a vent or discharge orifice.

As heretofore constructed, such tubes suffer the disadvantage that the sealing extension or nipple is so firmly bound to the body as to require the use of a knife, scissors or other implement to separate it.

Hence, it is the object of my invention to provide a simple and inexpensive tube so constructed that the integral sealing tip or nipple readily may be parted from the body of the tube by a slight manual operation and without the aid of mechanical devices.

The invention resides in the improved collapsible tube and in the method of producing same.

The preferred embodiment and the method of production are disclosed in the accompanying drawings, wherein

Figure 1 is a perspective view of the improved tube.

Fig. 2 is a sectional view thereof showing the nipple connection.

Fig. 3 is a sectional view of the nipple supporting area before the metal displacing operation.

Fig. 4 is a similar view showing the action of the plunger die in displacing metal to weaken the nipple supporting area.

Figs. 5 and 6 are detail views of the appropriate plunger dies.

According to my invention, the usual collapsible tube 5 is formed at its initially closed end or breast portion with an integral hollow nipple 6, constituting a rim extension of a dispensing orifice 7. At this stage of the operation the metal forming the breast 8, and supporting the nipple 6, is of substantially uniform relatively heavy section requiring a sharp implement to remove the nipple. In order to obviate this difficulty, I weaken the point of connection of the nipple, as at 9, by a metal displacing operation. The preliminary and final phases of this are shown in Figs. 3 and 4, wherein a forming plunger die 10 is shown in conjunction with a fixed or supporting die 11. The plunger die is equipped with a tapered or conical head 12, the point of which is centered relatively to the nipple opening and moving upwardly therein enables the side taper to force breast metal away from the nipple connection, leaving the latter so thin that the nipple may be parted by hand with neatness and dispatch to expose the dispensing orifice.

Having described my invention, I claim:

1. A single use or sample tube consisting of a collapsible body having an end wall of relatively heavy section which declines centrally and is then continued endwise as a hollow thin wall nipple having an end wall of relatively heavy section, the nipple being joined to the end wall by thin metal whereby it is readily partible from the body to expose the contents thereof.

2. A single use or sample tube consisting of a collapsible tube having a relatively flat and thick end wall formed with an opening, and a hollow blind nipple formed as a rim extension of said opening and joined to the end wall by thin metal whereby under slight manual effort the nipple may be completely separated from the end wall with a clean break at the rim.

In testimony whereof I affix my signature.

JOHN E. TURNER.