May 5, 1925. 1,536,443

H. B. LERMER

COLLAPSIBLE TUBE

Filed Feb. 24, 1923

Fig. 1.

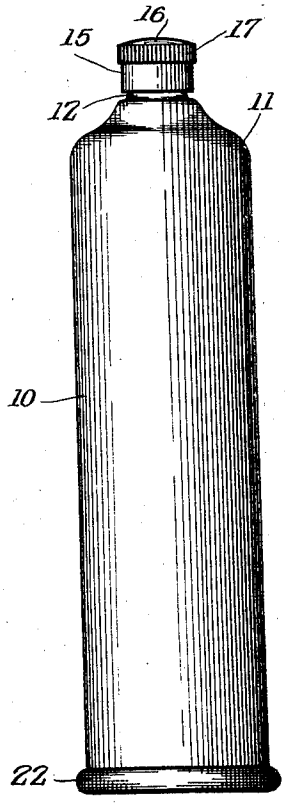


Fig. 2.

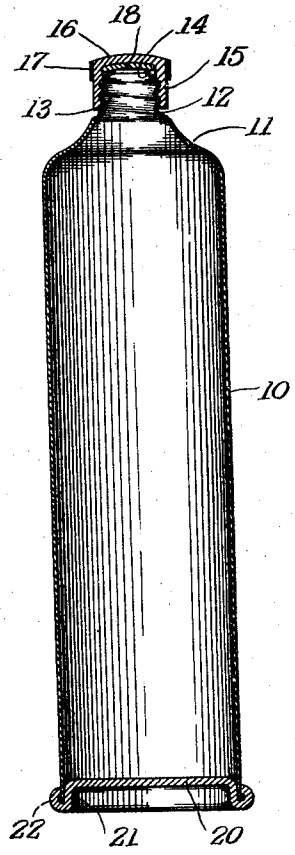


Fig. 3.

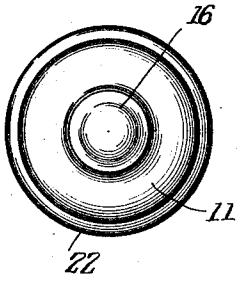


Fig. 4.

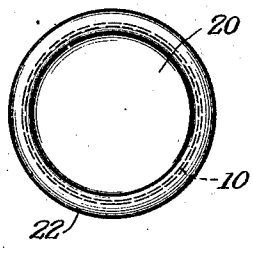
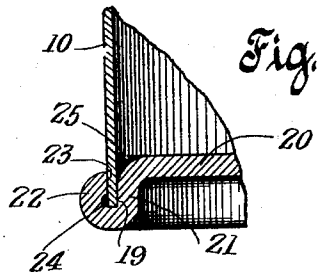


Fig. 5.



INVENTOR

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Patented May 5, 1925.

1,536,443

UNITED STATES PATENT OFFICE.

HERMAN B. LERMER, OF NEWARK, NEW JERSEY, ASSIGNOR TO HYGIENIC TUBE COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

COLLAPSIBLE TUBE.

Application filed February 24, 1923. Serial No. 620,886.

To all whom it may concern:

Be it known that I, HERMAN B. LERMER, a citizen of the United States of America, residing at Newark, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Collapsible Tubes, of which the following is a specification.

This invention relates to improvements in collapsible tubular containers, particularly such as are used for holding creams, pastes, emulsions, ointments, salves, etc., etc., in condition for use.

The main object of the invention is to provide a translucent or opaque tube having a screw-threaded dispensing nozzle provided with a removable cap at one end and a relatively rigid circular bottom at the other, the tube being made of flexible material, preferably resilient so as to resume its original shape after being compressed.

Another purpose is to produce a sanitary container, suited for liquids and semi-liquid or plastic compositions, non-metallic, substantially unbreakable and unaffected by its contents for an indefinite period of time, such contents being easily and instantly available upon demand.

A further aim is to produce a container tube that is light, strong, inexpensive to construct and of neat and pleasing appearance.

These and like objects are accomplished by the novel design and construction of parts hereinafter described and illustrated in the accompanying drawing, forming an essential part of this disclosure, and in which:—

Figure 1 is a side elevational view of a collapsible tube made in accordance with the invention.

Figure 2 is a longitudinal sectional view thereof.

Figure 3 is a top plan view.

Figure 4 is a bottom plan view.

Figure 5 is an enlarged fragmentary sectional view showing its construction.

The main portion or body of the container consists of a seamless tube 10 made of any of the well known pyroxylin or other nitrated cellulose compositions and in any preferred color, the wall being relatively thin and translucent or opaque as may be desired.

At one end the tube is contracted uniformly on all sides producing an inwardly curved shoulder 11 having a neck 12 leading to an outwardly extending mouth or discharge nozzle 13 formed with coarse screw-threads, the edges of the neck being inturned to form a lip 14.

A cap 15 having an imperforate head 16 is provided with internal screw-threads to fit the neck and is formed with a knurled or corrugated band 17 for conveniently gripping during removal or replacement.

Within the cap is disposed a pliable washer or gasket 18 adapted to rest upon the lip 14 and become firmly seated thereon when pressed by action of the cap.

The lower, opposite end of the tube is cut squarely across and snug fitted into an annular recess 19 formed in the bottom element 20 between the inner, downturned flanged wall 21 and the beaded outer element 22.

This bottom is made of similar material to the body, but relatively thick and so formed that the inner edge of the beaded element makes intimate contact its full width with the body 10, while the annular cavity 24 in the bead may be filled with a suitable cement, as may also the inner corner 25 at the junction of the wall 21 and interior of the tube, as best shown in Figure 5.

The tube may be either assembled with the bottom and filled through the nozzle in the manner of a bottle, or the cap may be placed in operative position, holding the washer in place and the contents entered through the open bottom which is afterwards applied and cemented.

In operation, the cap is removed and such portion of the contents exuded as may be required by compressing the wall of the tube with the fingers, and upon relaxing the pressure, the wall will return to its normal original position, causing a suction that tends to draw in any portion of the contents that may adhere to the lip and neck in a manner well understood.

Due to the impervious nature of the container, its lightness, strength, neatness and instant response to pressure or recovery therefrom, this device has been found highly satisfactory in service and results attained by its use.

From the foregoing it will be seen that a simple device for this purpose has been disclosed in the preferred form of its embodiment, but it is not desired to restrict the details to the exact construction shown, it being obvious that changes, not involving the exercise of invention, may be made without

conflicting with the scope of the appended claim.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

In a translucent container, a collapsible tube having a bottom element, the tube and its bottom element being made wholly of celluloid, said bottom element being more than twice the thickness of the walls of the tube, a downturned flange integral with said bottom element, a raised outer beaded member on said flange forming an annular recess with said downturned flange adapted to receive the lower end of said tube, the downturned flanged portion being bent to form a space between it and the inner side wall of said tube, and a cement filling in the said space and in the said recess.

This specification signed and witnessed this 19th day of February, 1923.

HERMAN B. LERMER.

Witnesses:
F. NOLL,
FRED'K C. FISCHER.