G. W. FULLERTON.

COLLAPSIBLE TUBE.

APPLICATION FILED JUNE 13, 1919.

1,437,934. Patented Dec. 5, 1922.

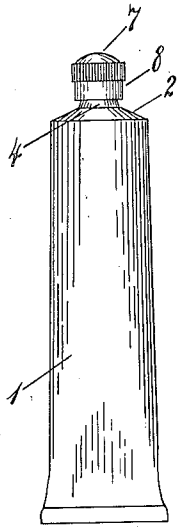


FIG. 1

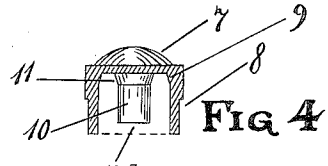


FIG. 4

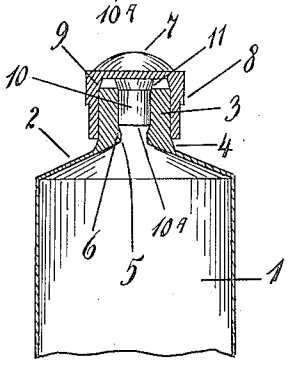


FIG. 3

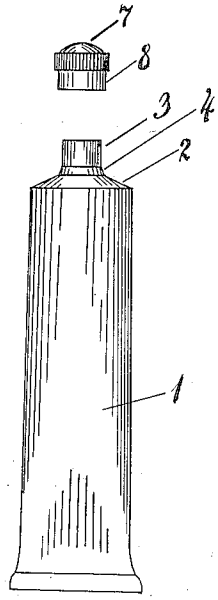


FIG. 2

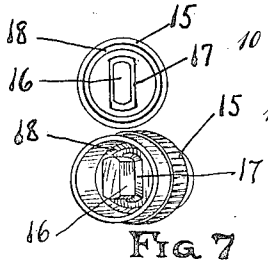


FIG. 7

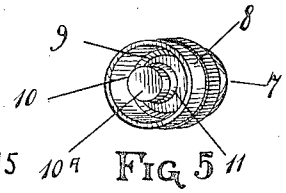


FIG. 5

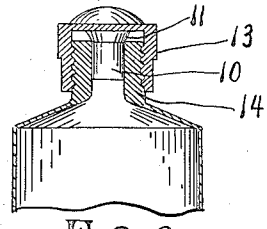


FIG. 6

INVENTOR.

George W. Fullerton

BY

Allen & Green

ATTORNEY.

Patented Dec. 5, 1922. 1,437,934

UNITED STATES PATENT OFFICE.

GEORGE W. FULLERTON, OF CINCINNATI, OHIO.

COLLAPSIBLE TUBE.

Application filed June 13, 1919. Serial No. 303,912.

To all whom it may concern:

Be it known that I, GEORGE W. FULLERTON, a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Collapsible Tubes, of which the following specification is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to collapsible tubes, and has as its object, provision of a closure for such tubes, which can be quickly and easily attached and which provides against caking of material in the mouth of the tube.

I am aware that in the past, collapsible tubes have been adopted for the containing of glue, in which pins have been provided in connection with the closures for maintaining a clear passageway for squeezing out the glue, and also that caps have been provided for collapsible tubes which have tapered buttons seated in the mouth of the tube opening.

A sharp pointed pin does not serve to provide sufficient opening to prevent caking in the mouth of the tube and tapered or pointed buttons when inserted in a tube will force certain quantities of the material out of the mouth into the hollow of any cap that may be employed.

I have discovered, however, that a tapered portion having flat pins may be used in connection with any desired cap for collapsible tubes and will keep the mouth of the tube clean and force none of the contents of the tube into the hollow of the cap.

My discoveries and objects I carry out by that certain construction and arrangement of parts to be hereinafter more specifically pointed out and claimed.

In the drawings,

Figure 1 is a side elevation of a tube showing a cap in place.

Figure 2 is a like view showing a cap removed.

Figure 3 is an enlarged section taken through the mouth of the tube.

Figure 4 is a like section taken through the closure, removed from the tube.

Figure 5 is a perspective view of the stopper.

Figure 6 and Figure 7 are a section and perspective views respectively of modified caps.

1 is any desired collapsible tube having the top 2 and the neck 3. I preferably form between the top and neck a bevel 4. The tube has a mouth 5 at the base of which may be formed a bevel 6.

The closure is formed of a cap 7 having a depending flange 8 of a size to fit the outside of the neck and of a length to come down against the bevel 4. Intermediate I preferably form an interior bevel 9.

Extending down centrally over the under side of the cap is a post 10, adapted to fit into the mouth of the top and surmounted by a short bevel 11.

It should be noted, particularly, that the base 10^A, of the post 10 is flat and that it may be concave. The result of this is that when the post is inserted in the mouth of the tube it will not displace the material that has been squeezed into the mouth except to force it back down into the tube thereby maintaining the tube sealed against the air, free of any drying and caking material in or about the closure.

In use, one or more of the bevels that have been shown may be omitted, but it should be noted that the bevels are on a very small angle and will permit of the closure being given a twisting pressure which will tightly retain it in place against dislodgment, since the metal in tubes of this character is fairly soft. The post 10 also serves to guide the closure to its seat and retain it against lateral blows. The cap 13 in Figure 6 has a thread cut therein and screws on a threaded neck 14. The post 10 having a bevel 11 is the same as the other constructions. In this modification the cylindrical, flat, bottomed post prevents the forcing of the tube contents out of the mouth when inserting the posts. The cap 15 has a flat post 16, with a bevel 17, and the interior of the cap has a bevel 18. The bevel 4 of the tubes (Figures 1–4) may be used also and a fairly tight fit may be obtained.

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

1. The combination of a collapsible tube having a cylindrical neck of substantially soft metal, a cap, a flange depending from the edge of the cap to engage over the outside of said neck, and a depending post at the center of the cap, said post being cylindrical throughout its length, except at a small space at the upper end thereof and of

a width to snugly fit said cylindrical neck, said upper end being substantially sharply bevelled to a size larger than the mouth of the neck, and said post having a flat or concaved end, for the purpose described.

2. The combination of a collapsible tube having a cylindrical neck of substantially soft metal, a cap, a flange depending from the edge of the cap to engage over the outside of said neck, and a depending post at the center of the cap, said post being cylindrical throughout its length, except at a small space at the upper end thereof and of a width to snugly fit said cylindrical neck, said upper end being substantially sharply bevelled to a size larger than the mouth of the neck, and said post having a flat or concaved end, for the purpose described, and the flange of said cap being cylindrical throughout its length except at the upper end thereof where it is bevelled sharply to a size smaller than the outside of the neck.

GEORGE W. FULLERTON.