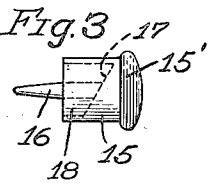
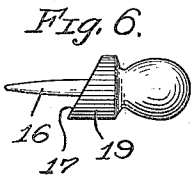
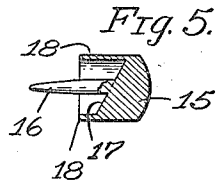
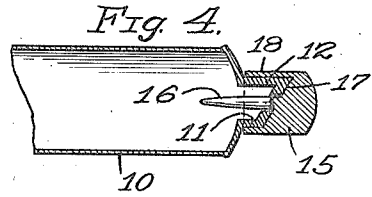
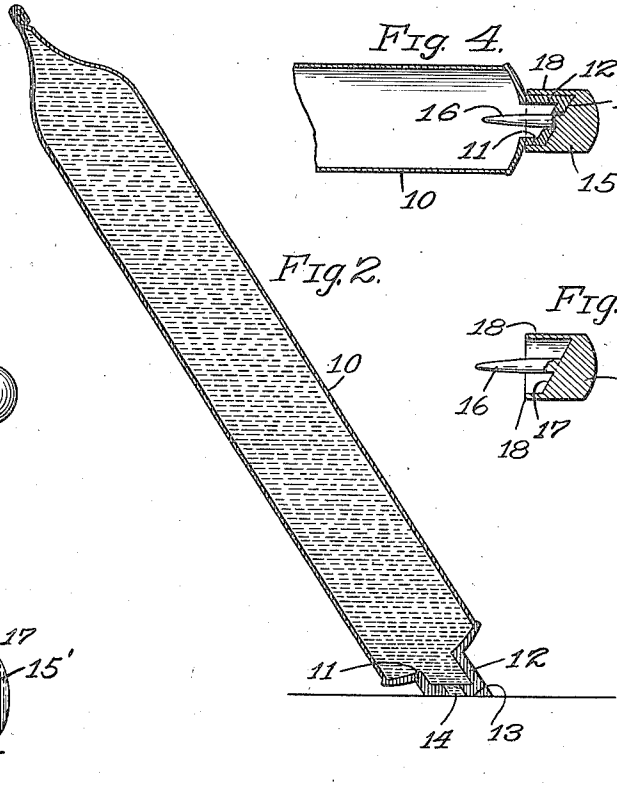
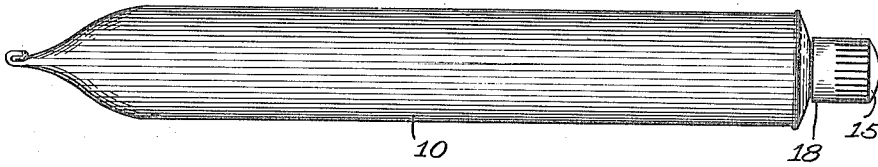


W. RODIGER.
COLLAPSIBLE TUBE.
APPLICATION FILED FEB. 13, 1913.

1,137,086.

Patented Apr. 27, 1915.

Fig. 1.



WITNESSES:
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ATTYS

UNITED STATES PATENT OFFICE.

WILLIAM RODIGER, OF CHICAGO, ILLINOIS.

COLLAPSIBLE TUBE.

1,137,086.

Specification of Letters Patent. Patented Apr. 27, 1915.

Application filed February 13, 1913. Serial No. 748,066.

To all whom it may concern:

Be it known that I, WILLIAM RODIGER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Collapsible Tubes, of which the following is a specification.

This invention relates to collapsible metal tubes for containing liquid and semi-liquid substances, such as paint, paste, mucilage, and the like.

The principal object of the invention is to provide a tube of this character having a nozzle which serves as a spreader to distribute the liquid over the surface to which it has been applied and to provide a sanitary stopper particularly adapted to seal the aperture.

Other objects will hereinafter appear, the novel combinations of elements being pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a side elevation of a tube constructed in accordance with the principles of my invention; Fig. 2 is a sectional view of a tube with the cap removed applying liquid to a plane surface; Fig. 3 is a side elevation of one form of sealing cap; Fig. 4 is a sectional view of the head of the tube with a cap of preferred form applied thereto; Fig. 5 is a sectional view of the preferred form of cap; and Fig. 6 shows a modified form of sealing cap.

This invention comprises a tube 10 of collapsible material, preferably metal, of any suitable kind provided with a head 11 formed of the same material preferably integral therewith so that there will be no joints between the tube and the head portion. This head portion may be and preferably is of somewhat thicker construction than the body of the tube and a reduced neck portion 12, is formed with an outer inclined or beveled face 13, with a nozzle or outlet opening 14 in the end thereof.

In practice the tube is filled with any desired material and is closed at the end opposite the head 11 so that the material contained therein is forced out through the opening 14 upon a surface to which it is to be applied, as illustrated in Fig. 2.

Although the neck portion 12 may be of any shape, it is preferably circular in cross section, and in order to prevent the material in the tube from exuding at any time, a cap 15 is provided. This cap comprises a pin

16 projecting from an inclined surface 17, the inclined surface corresponding to the beveled end of the neck portion 12 and the pin 16 being of a size to accurately fit the opening 14 and of a length to project somewhat within the tube. For convenience in retaining the cap on the head of the tube, and in order to keep the contents of the tube free from dust and dirt, the cap 15 is preferably provided with extending sides 18 which are adapted to fit the neck portion 12 closely. If desired, the sides 18 may be omitted producing a stopper 19 as shown more clearly by Fig. 6. The head of the cap 15 may also be provided with a knob 15' by means of which the cap is more readily removed from the tube if it should happen to stick.

The stopper is easily removed from the tube, the paste or other material is applied by means of the inclined surface 13, and after being used the cap is readily placed in position over the end of the tube to seal it from dust and dirt and for preventing the material within the tube from being discharged therefrom until the cap is again taken off.

What I claim is:

1. A collapsible tube having a thickened perforated end with a beveled end spreading surface, and a cap adapted to embrace the extremity with an inner beveled surface corresponding with and closely fitting the beveled end and having an inner projection to close the perforation when the cap is fitted closely over the end of the tube.

2. A collapsible tube having a beveled extremity with a perforation therein, and a cap for embracing the extremity having an inner beveled surface corresponding thereto and a pin projecting from the beveled surface adapted to fit in the perforation.

3. A collapsible tube having a head formed integral therewith at one end and a circular unthreaded neck portion with a perforated beveled extremity, and a circular unthreaded cap therefor having a beveled surface corresponding to the beveled extremity and a pin projecting therefrom and adapted to enter the perforation in the beveled extremity in a direction parallel with the sides of the tube.

4. A collapsible tube having a beveled perforated unthreaded extremity, and a cap therefor having an inclined portion adapted to cooperate with the extremity, a pin

projecting at an angle from the beveled face of the cap adapted to enter the perforation at the end of the tube in the direction of its length, and unthreaded sides projecting
5 from the cap at the edges of the beveled surface in the same direction as the pin to embrace the extremity of the tube.

5. A collapsible tube having a beveled perforated extremity, and a cap therefor adapted to surround the extremity having
10 a beveled inside surface adapted to cooperate with and fit closely the beveled extremity and a pin projecting therefrom adapted to enter the perforation in the end
15 of the tube parallel with the length of the tube.

6. A collapsible tube having a thickened head portion at one end formed of the same material as the tube and provided with an
20 unthreaded neck of reduced cross section having a beveled outer extremity with a perforation therein at an angle to the surface, a cap adapted to fit over the reduced portion closely with an inner beveled surface
25 corresponding to the beveled extremity of the reduced portion, and having a pin projecting at an angle from the inclined surface and adapted to enter the perforation parallel with the length of the tube and fit

30 closely in the perforation in the end of the tube.

7. The combination of a collapsible tube having an integral thickened portion at one end with a beveled extremity having a perforation parallel with the length of the
35 tube and with unthreaded sides, and an unthreaded cap with sides fitting closely over the extremity and with a cooperating beveled inner surface adapted to fit the beveled extremity closely with a projection
40 from the inner surface extending at an angle therefrom parallel with the sides and beyond the edges of the cap and adapted to be inserted within the perforation of the
45 extremity in a direction parallel with the length of the tube to hold the cap in place to protect the beveled surface of the tube and to prevent the tube contents from exuding.

In testimony whereof I have signed my
50 name to this specification, in the presence of two subscribing witnesses, on this 10th day of February, A. D. 1913.

WILLIAM RODIGER.

Witnesses:

E. S. MATTHEWS,
C. H. SEEM.