C. H. PAYNE.
COLLAPSIBLE TUBE.
APPLICATION FILED APR. 7, 1921.

1,427,411. Patented Aug. 29, 1922.

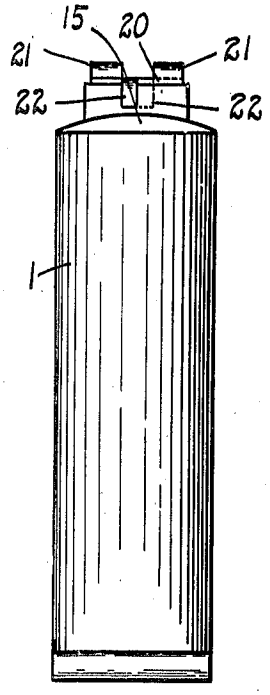


FIG. 1.

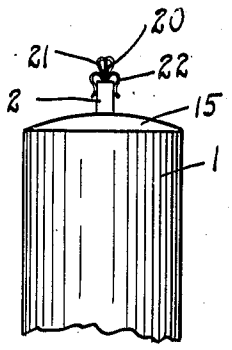


FIG. 2.

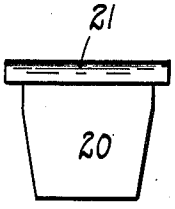


FIG. 7.

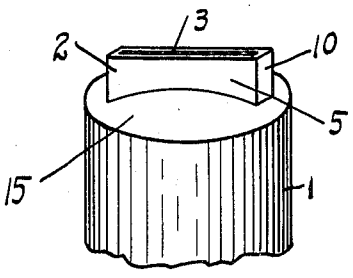


FIG. 3.

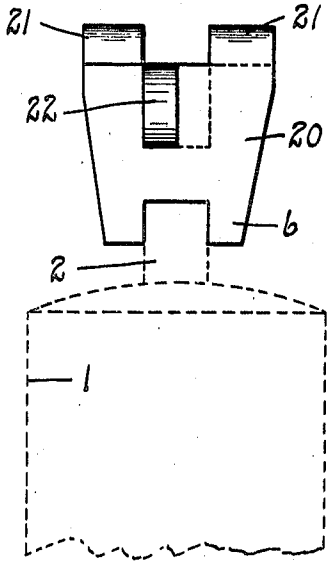


FIG. 4.

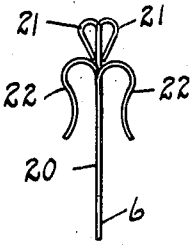


FIG. 5.

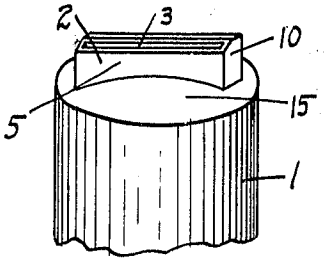


FIG. 6.

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UNITED STATES PATENT OFFICE.

CHARLES H. PAYNE, OF CINCINNATI, OHIO.

COLLAPSIBLE TUBE.

1,427,411. Specification of Letters Patent. Patented Aug. 29, 1922.

Application filed April 7, 1921. Serial No. 459,248.

To all whom it may concern:

Be it known that I, CHARLES H. PAYNE, a citizen of the United States, residing at 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 is a specification.

My invention relates more particularly to collapsible tubes employed for distributing pastes, adhesives, ointments, tooth pastes and the like and relates more essentially to the distributing mouth or nozzle at the end of the tube through which the contents are forced. In the tubes now in use, belonging to this class, the mouth ends or nozzles are contracted in form and are not large, and of a shape which allows the contents to come out in a rounded, oval or bulk form, rendering it practically impossible to distribute the contents in a convenient, uniform, continuous and satisfactory manner; then again in some of these tube mouths, closure devices are used to cut off the supply by inserting said closure devices into said mouth; the peculiar form of the mouth and the closure device render it impossible to properly lock or seal said mouth without part of the contents in the mouth oozing out of the tube by the device being forced home; thus a plastic or hard deposit or crust is formed around the mouth rendering the same unsanitary and making it inconvenient and disagreeable for the user to again operate the tube.

The object of my invention is to produce a tube of this character which shall be cheap of manufacture, simple in construction and highly efficient in use, and which will overcome and obviate the objections incident to tubes of this character now in use, and thus produce an article of great utility in this class.

The essential features of my invention consists in making the mouth materially wide and very thin, so that the mouth orifice itself will be narrow and elongated, thus enabling me to press therefrom a thin, wide path of the contents (when paste is used for example), upon the article to be pasted or upon which adhesives are to be placed; it also enables me to make this line continuous as the pressure exerted on the tube will force the contents out over the entire area of the mouth, so that the contents will be distributed evenly; no over-flow or bulk amount being emitted from the mouth at any time. The elongated narrow mouth enables me to distribute the contents of the tube and use the same as a brush, especially by tilting the tube to the desired angle.

My closure device for closing the mouth after use is also thin and wide and will not force the contents to ooze out when it is placed in the mouth to close it. The mouth being so narrow and wide, the closure fits in snugly and there is no chance for any of the contents to ooze out, thus forming a sanitary mouth end for tubes and one which is not inconvenient for the operator when he reuses the tube.

The various features and advantages of my invention will readily become apparent from the following specification.

In the accompanying drawing forming a part of this specification:

Fig. 1, is a view in elevation of the collapsible tube containing my invention,

Fig. 2, is a similar view to that shown in fig. 1, the tube being partially broken away and the mouth end being taken looking at one of the side edges of said mouth,

Fig. 3, is an isometric view of the tube partially broken away with the closure omitted from the mouth,

Fig. 4, is a side view of the closure tube device, and part of the tube being shown in dotted lines,

Fig. 5, is an end view of the closure device,

Fig. 6, is a view similar to that shown in Fig. 3, except that the mouth piece has a beveled side edge, and

Fig. 7, is a side view of a closure device used by me.

In the drawing, 1 is a collapsible tube, which may be of any form or contour. At one end of this tube, I place the narrow mouth piece 2 having a long narrow mouth 3; the mouth piece 2 is of a rectangular form and extends approximately across the entire end of the tube and the mouth 3 may be even and uniform as shown in Fig. 6; in fact, the mouth piece and the mouth may be of any desired contour, so long as said parts are narrow and wide. The mouth piece, in the present instance, is formed of two sides 5 and the ends 10, which are usually made integral with the head 15 of the tube. The mouth 3 is closed by the closure device

shown in Figs. 4 and 7 and preferably made of thin sheet metal and formed of a body part 20 and finger hold 21 generally made integral therewith and the body part 20 is usually somewhat tapered at the side edge to facilitate the insertion into the mouth. In Fig. 4, the finger hold 21 is divided inasmuch, as the metal is punched out in the middle to form clips as 22, one of which clips pass down on each side of the body part as shown, and more particularly in Figs. 4 and 5; this closure device may be made of any other contour and shape found practicable for use.

The closure device can be readily and quickly used and after the requisite amount of the contents of the tube 1 has been used as desired, the body part 20 of the closure device is inserted into the narrow mouth 3 of the mouth piece 2 until its finger hold 21, lies flush over the mouth, if the device shown in Figs. 4 and 5 is used, the clips 22 pass over the sides 5 of the mouthpiece and impinge against the same to assist in retaining the closure device in position.

It will be noted that the wide mouth, coming close to the edge of the tube head 15 makes this part of the device more essential and handy in reaching into corners and places outside of a straight line; also allows me to lay a broader surface of paste at one sweep, therefore faster in operation and also enables me to spread the paste smoother and thinner than if a contracted narrow mouth piece is used or one which is rounded or oval. The long thin slot or mouth effects a very economical distribution of the paste and makes even distribution over the surface more rapidly than if the paste were dumped in one spot.

The walls though which the slot or mouth is made being thin and the mouth very narrow, makes it possible to insert the flat closure device or tongue into the slot or mouth without releasing any of the contents to the outside to harden and obstruct the use of the tube.

If desired, I may place a recess 30 in the body part 20 at the bottom of the closure device; this enables me to place this recessed end over the mouth part to scrape and clean the sides of said mouth whenever needed, (see particularly Fig. 4).

While I have referred to this tube as a paste distributor more particularly, it may be noted that the same can be used equally as well in connection with the use of tooth paste, ointments and the like, and its contour and specific construction may be somewhat modified.

What I claim as new and my invention and desire to secure by Letters Patent is:

1. A collapsible tube provided with a narrow wide mouth and a detachable wide thin closure device stamped out of sheet metal for said mouth.

2. A collapsible tube having a narrow widened mouth part provided with a thin wide slot and a closure device for fitting said slot and being recessed at the bottom for the purposes set forth.

In testimony whereof, I affix my signature at Cincinnati, Ohio, this 4th day of April, 1921.

CHARLES H. PAYNE.