No. 687,790. Patented Dec. 3, 1901.

W. S. SCALES.

PAINT TUBE.

(Application filed Apr. 19, 1901.)

(No Model.)

Fig. 1.

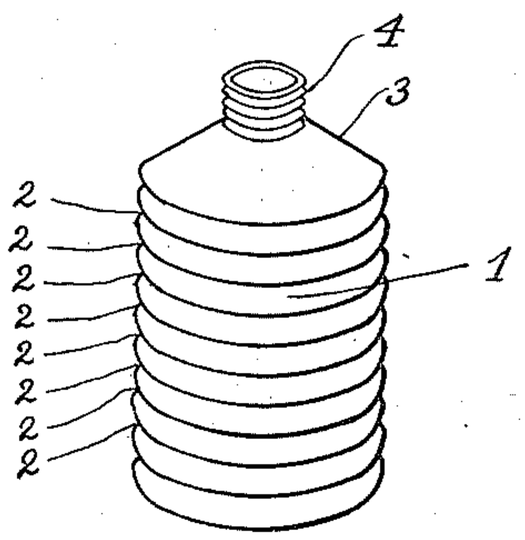


Fig. 2.

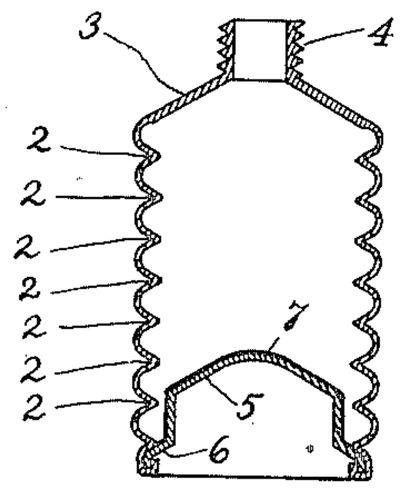


Fig. 3.

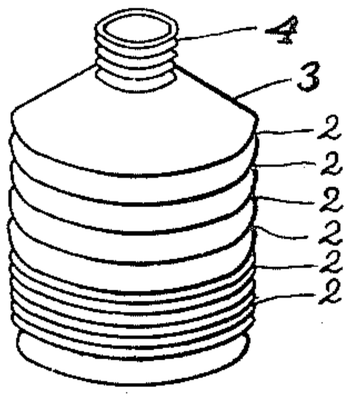
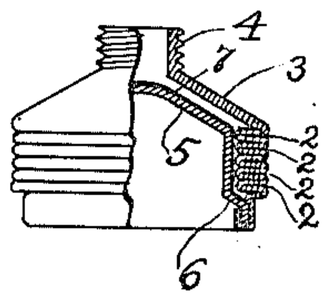


Fig. 4.



WITNESSES

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PAINT-TUBE.

SPECIFICATION forming part of Letters Patent No. 687,790, dated December 3, 1901.

Application filed April 19, 1901. Serial No. 56,579. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. SCALES, a citizen of the United States, and a resident of New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Compressible Receptacles or Holders, of which the following is a specification.

Paints, paste, lubricants, and other substances of a semiliquid character are frequently but up in compressible tubes of soft and comparatively non-resilient metal, which gradually collapse under compression as the contents are used. In using such a tube it is compressed at different points and in various ways, according as it is held in the hand. In consequence the body is flexed several times and at one or more points, frequently causing breaks, so that the contents exude at other places than at the mouth. Another objection to the tubes as commonly made is that when the contents are partially used the tube becomes distorted and unshapely in appearance, owing to the fact of its being compressed in so many different ways. Still another objection is that it is difficult to collapse the tube sufficiently to eject all of the contents.

The object of my invention is to produce a compressible and collapsible receptacle or holder for pasty or semiliquid substances which shall retain a symmetrical form in all stages of its collapse and be practically free from danger of bursting while being used.

My invention will now be fully described by reference to the accompanying drawings, and the invention will be particularly pointed out in the claims at the close of this specification.

In the drawings, Figure 1 is a perspective view of a holder embodying my invention. Fig. 2 is a vertical central section of Fig. 1, the thickness of the sides being somewhat exaggerated, showing also the rigid bottom locked into place between the lower corrugation and the turned-in part of the collapsed side. Fig. 3 is a perspective showing the holder partially collapsed, as it will appear after the contents are partially used. Fig. 4 is a side elevation, partly in section, showing the holder when collapsed to nearly or quite its full extent.

The body 1 of the holder is formed of flexible and comparatively non-resilient material, which can be readily bent or compressed without breaking easily and has a series of corrugations 2 extending horizontally around it.

The top 3 of the body is thicker than the sides and integral therewith and is centrally crowned upward, so as not to become bent in use. It is formed with a neck 4 at the top of the crown, having a discharge-outlet through which the contents are ejected. The mouth may be closed by a cap (not shown in the drawings) or by a cork or other suitable means.

The bottom 5 may be composed of any suitable material, so as to be sufficiently rigid to retain its shape when the body is compressed. Preferably it is of different material than the body and is crowned up centrally on the upper side to correspond with the inclined top, so that when the holder is compressed to its most reduced form, as in Fig. 4, there will be as little space as possible left inside, thereby enabling the contents to be substantially all ejected. The crown portion of the bottom should be somewhat less in diameter than the body, and there should be a peripheral flange 6 around the bottom, so as to allow room for the flexed sides when collapsed, as in Fig. 4.

In making a holder of the kind described in order to completely fill it with paste and many other substances for which it is intended it is essential that it be filled before the bottom is put in, because of the small size of the discharge-outlet. In order to do this, the cap is put on and the holder turned bottom side up, and then the holder is filled with whatever it is to contain. After the proper quantity has been introduced the bottom-piece 5 is inserted, and the lower end of the body, which in the position the holder then occupies will be at the top, will be turned in, forming a lock-joint with the bottom piece 5, the lower corrugation forming a shoulder against which the bottom 5 is pressed when the end of the body is turned in. The flexible character of the body of the holder enables this to be easily done.

The holder will be compressed by a longitudinal pressure, as by including the neck 4 between the first and second fingers of the hand and pressing them downward on the top

3 and at the same time pressing the bottom upward with the thumb.

The corrugations will prevent bulging or pushing in of the walls and will preserve a symmetrical appearance until the contents are all ejected.

I do not limit myself to the manner of corrugating as shown, as it is obvious that there are various ways of crimping, creasing, or corrugating so that the folds will occur symmetrically or uniformly as the holder is compressed, nor do I limit myself to the exact shape or design as shown, as a holder of polygonal form with bellows-folds might be used and be within the scope of my invention.

In the drawings the body or side is shown as of abnormal or exaggerated thickness; but in practice I prefer to make these holders of lead, tin, or composition metal similar to that of the well-known collapsible tubes for paints, pastes, &c., the body part being about one two-hundredths of an inch in thickness and the top from two to four times as thick, integral with the sides, while the bottom is preferably made of some other material, such as "sheet-tin," and, if necessary, covered inside with a protecting-coating 7, such as varnish, to prevent electrolytic action or other deleterious action of the contents thereon and to lessen its liability to leak.

What I claim is—

1. A compressible holder having corrugated flexible sides of comparatively non-resilient material, a comparatively rigid crown-shaped top provided with a discharge-outlet, and a comparatively rigid base turned upward internally a short distance from the side walls all the way around, thereby forming a recess to receive the compressed side walls, the base being also centrally crowned upward, substantially as described.

2. A compressible holder having corrugated, flexible sides of comparatively non-resilient material and a comparatively rigid, crown-shaped bottom of different kind of material from the body adapted to close said holder after it has been filled, the portion of the holder formed of one of said materials being provided with a coating over its entire inner surface to prevent electrolytic action, substantially as described.

3. A compressible holder having corrugated, flexible sides of comparatively non-resilient material, a comparatively rigid top integral with the sides and provided with a discharge-outlet, and a bottom formed separate from the body, the lower corrugation of the body forming a shoulder against which the bottom rests when inserted, the lower end of the body being turned in against the bottom to secure it after the holder is filled, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM S. SCALES.

Witnesses:

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