

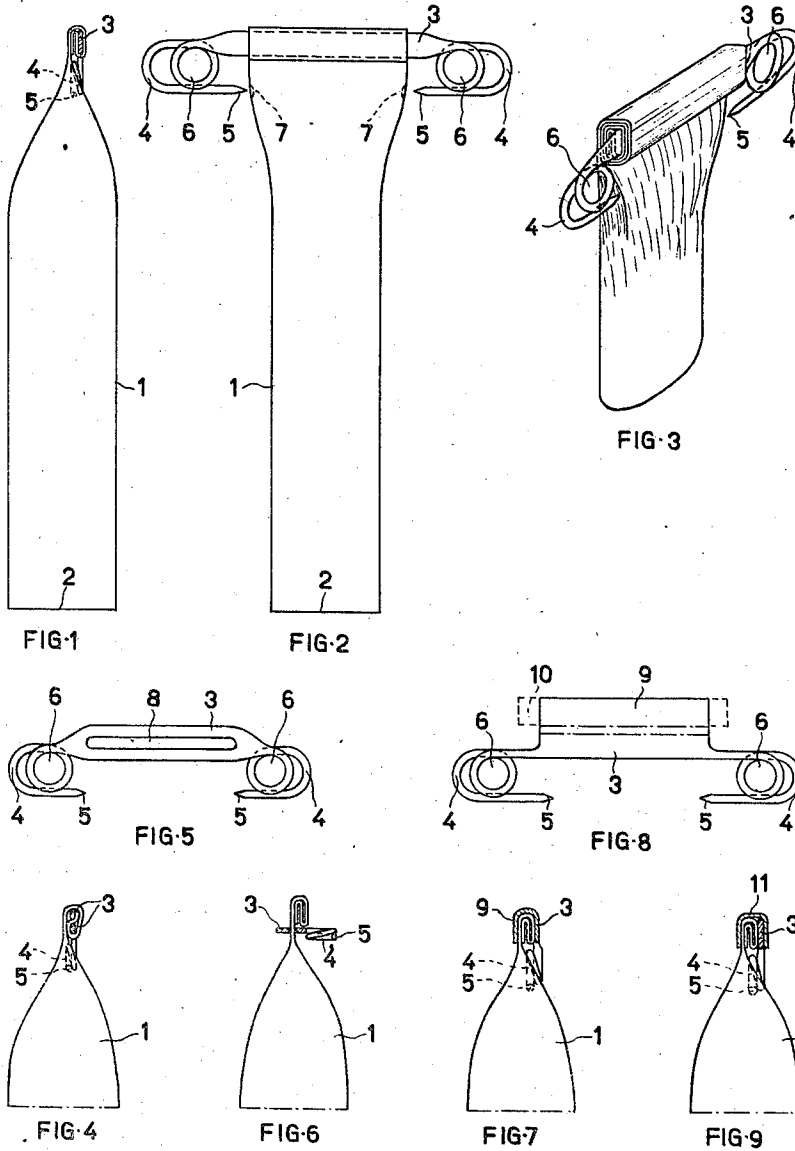
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PACKAGE FOR FLUIDS

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PACKAGE FOR FLUIDS

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in the Alien Property Custodian

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8 Claims. (Cl. 221—60)

This invention relates to collapsible tubes for the dispensing of fluid and viscous substances such as cream, milk, oil and the like.

It is an object of the invention to provide for such a collapsible tube, which can be sealed against the entrance of air whenever part of its content has been dispensed.

The tube according to this invention is formed of a soft metal, is preferably formed with a flat bottom and can be sealed at the dispensing end by rolling up this end of the tube. The means for thus rolling up one end of the tube is combined with means for piercing the tube wall in two places, thereby enabling a certain quantity of air to enter the tube and a corresponding quantity of the contents to be withdrawn, whereupon the two perforations are closed again by rolling up the tube walls.

In the drawing affixed to this specification and forming part thereof some embodiments of the invention are illustrated diagrammatically by way of example.

In the drawing

Fig. 1 is a side elevation and

Fig. 2 is a front elevation of a tube according to the invention with its parts in the positions they assume directly before or after liquid has been dispensed.

Fig. 3 is a perspective view of the top part of the same tube after its airtight seal has been restored.

Fig. 4 is a side elevation of a modified form of the invention, while

Fig. 5 is a plan view of the sealing and piercing device combined with this form.

Fig. 6 shows a third modification,

Figs. 7 and 8 shows a fourth modification and

Fig. 9 a fifth modification of the invention.

Referring to the drawing and first to Figs. 1-3, 1 is the soft metal cylinder constituting the tube and 2 is its flat bottom. After the tube has been filled through its open top end, this end may be flattened and sealed by fusing or soldering.

In order to dispense some of the contents, a metal strip 3 having its ends formed into wire scrolls 4 with sharp points 5 is placed on the flattened tube end which is then folded around the strip and further rolled up by turning the wire scrolls projecting on both sides. The sharpened ends 5 of the wire scrolls, being directed against opposite sides of the tube wall, can now be forced into the soft metal so as to pierce two holes, shown at 7.

Through one of these holes some of the liquid in the tube can now escape in proportion as air

enters through the other. By then turning the strip 3 by means of the end scrolls the perforated part of the tube can now be rolled up farther, until the two holes are covered up by the opposite walls of the tubes. The freshly sealed tube is shown in Fig. 3.

In the modification shown in Figs. 4 and 5 the strip is formed with a slit 8 by means of which the strip may be slid over the flattened end of the tube, whereby a more perfect resealing of the tube is obtained.

As shown in Fig. 6, if the flattened top end of the tube is long enough, it may be folded without the slotted strip, which is then seated between the filled part and the folded flat part of the tubes enabling the folded tube walls to be strongly pressed together, thus producing a particularly tight seal. In that case, the scrolls 4 are in a horizontal position wherein the wire points 5 are not directed towards the tube wall. This is no disadvantage, since the pointed ends of the scrolls can easily be twisted through an angle of 90° to bring the points 5 in front of the tube walls. On the other hand during transport of the tubes pressure exerted on the scrolls will do no harm, since in the position shown in the drawing the points would not enter and pierce the metal.

Figs. 7 and 8 show a modified form of the metal strip 3 which is of greater width, forming a longitudinally foldable member 9 forming a channel which surrounds the flat top part of the tube after it has been folded. The seal thus obtained is strong enough to even resist the gas pressure developed by aerated liquids. Part 9 of the strip may be formed with projecting ends 10 (shown in dotted lines) which can be folded sideways around the tube edges, thereby strengthening the seal further.

In the modification shown in Fig. 9 a separate cap formed by a channel 11 embraces both the flattened and folded end of the tube and a strip 3 such as shown for instance in Fig. 2.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described for obvious modifications will occur to a person skilled in the art.

I claim:

1. Collapsible container for the portion-wise dispensing of liquid and viscous substances comprising in combination, a tube of foldable material closed at the bottom end, the top end being flattened and folded, and resilient means mounted on the flattened end for piercing the tube

wall below said flattened end to produce a hole for the withdrawal of some of its content.

2. The container of claim 1, in which a folding tool mounted on the flattened tube end carries the piercing means.

3. The container of claim 1, in which a metal strip of greater length than the width of the flattened tube end engages said flattened tube end, the ends of said strip projecting on both sides of the tube and being curved back to extend in the direction and into close vicinity of the tube wall.

4. The container of claim 1, in which a metal strip engages the flattened tube end and is formed with laterally projecting extensions of wire-section and with sharply pointed ends curved back towards the tube wall.

5. The container of claim 1, in which a metal channel engages the flattened tube end and is formed with laterally projecting extensions of

wire section and with sharply pointed ends curved back towards the tube wall.

6. The container of claim 1, in which a metal channel engages the flattened tube end and is formed with laterally projecting extensions of wire section and with sharply pointed ends curved back towards the tube wall and lugs also extending from said strip and adapted, on being doubled up, to lock the folds of the flattened tube end.

7. The container of claim 1, in which a wire with a sharp point at the end, spirally wound to form a resilient scroll, forms the piercing means.

8. The container of claim 1, in which a wire with sharp points at both ends, which are spirally wound to form resilient scrolls, forms the piercing means.

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