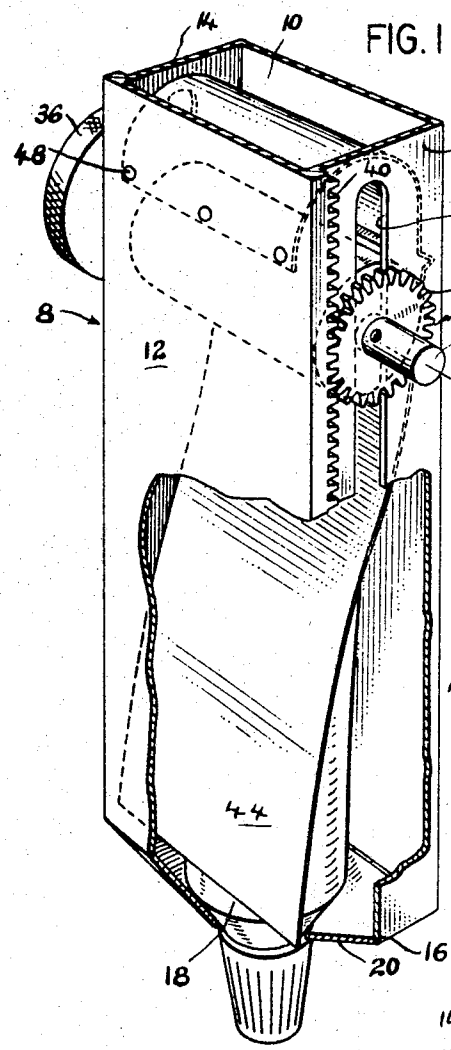
Aug. 2, 1966 J. P. TAZZEO 3,263,862

DISPENSING CONTAINERS FORS COLLAPSIBLE TUBES

Filed March 15, 1965

FIG. 1



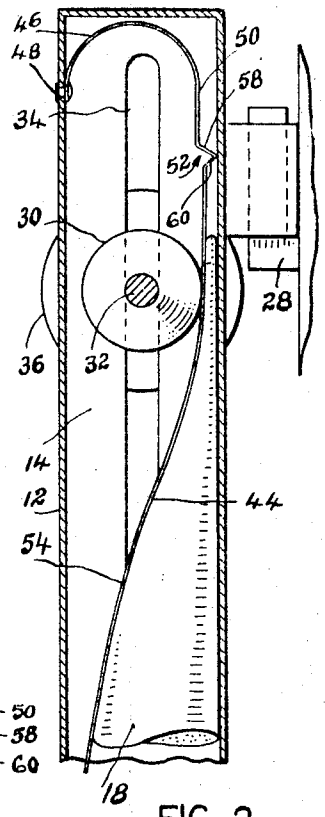


FIG. 2

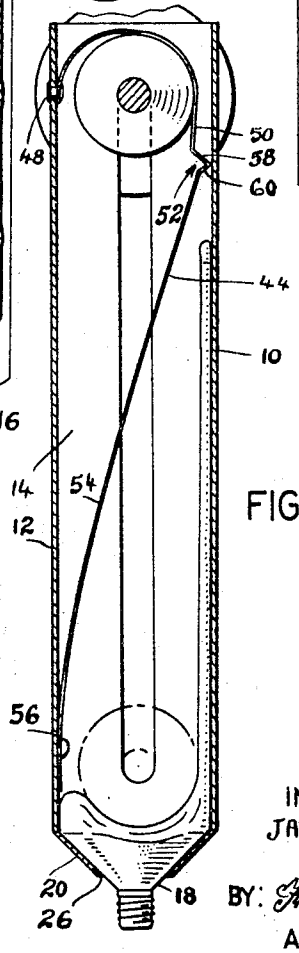


FIG. 3

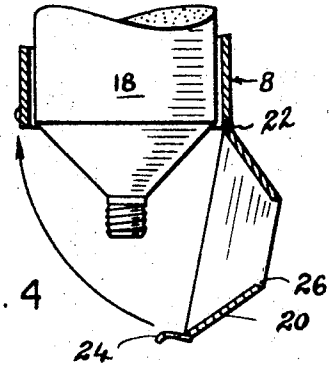


FIG. 4

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DISPENSING CONTAINERS FOR COLLAPSIBLE TUBES

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6 Claims. (Cl. 222—101)

My invention relates to improvements in dispensing containers for collapsible tubes of toothpaste and other semi-liquid materials.

More particularly my invention relates to dispensing containers of the kind in which a collapsible tube is acted on by a flattening roller to expel a desired quantity of material. Dispensers of this kind have been proposed in which the roller acts directly on the tube with a flattening action, however, this arrangement leaves much to be desired because the roller has a tendency to jam on the tube and does not flatten it with desirable facility. According to the teaching of the prior art it has been proposed to improve the expelling action by employing an interposed apron of thin flexible material such as spring steel. While the use of a resilient apron brings about a more desirable flattening action, its shortcoming is that the collapsible tube cannot be inserted and removed with desired facility.

Hence, it is an object of my invention to provide a dispensing container of this kind in which a tube of paste can be inserted with an optimum of ease and removed when flattened with equal facility.

It is a further object of the invention to provide a dispenser of this kind in which the flexible plate is canted away from the flattened tube as the roller is caused to recede to its fully retracted position at the rear of the container.

Still another object of my invention is to provide a simple and effective fulcrum whereby the flexible plate is canted, and in which a transverse crimp therein serves as the fulcruming agent.

A still further aim of the invention is to provide an inexpensive and serviceable dispensing container of the kind described.

A selected embodiment of the invention is illustrated in the accompanying drawing, in which:

FIG. 1 is a perspective view of a dispensing container constructed in accordance with the invention, parts being broken away to show the interior structure more clearly;

FIG. 2 is a fragmentary longitudinal sectional view of the dispensing container showing how the roller acts on the flexible plate to flatten the tube;

FIG. 3 is a similar view to FIG. 2 but shows the tube entirely flattened and the roller fully retracted to cant the flexible plate, the forward position of the roller being indicated in phantom lines; and

FIG. 4 is a sectional detail of the front end of the container showing a hinged lid in open position.

The container, generally indicated at 8, may be constructed of any suitable material, such as metal or plastic for instance. It comprises a bottom wall 10, a top wall 12 and side walls 14.

The container is rectangular in cross section and has an open front end 16 for introducing a tube of paste 18. The front end is closed by a lid 20 hinged at 22 and supplied with a suitable latch 24. The lid is apertured at 26 to expose the neck portion of the collapsible tube. The container may be hung on a wall as by bracketing means indicated at 28 for example. The mounting means does not however, form a part of the invention.

The roller is indicated at 30 and this is transversely arranged for reciprocal movement in the passage formed by the interior of the chamber. The roller has stub shafts 32 which extend through elongated slots 34 provided in the side walls 14. Manually operable means are provided for advancing the roller and retracting it.

The manually operable means is shown, by way of example but not of limitation, as comprising knurled knobs 36 secured on the stub shafts 32 and co-acting with rack-and-gear means 38. There is a rack 40 on each side wall 14 and a meshing spur gear 42 engaged therewith and made fast with the respective stub shaft.

The flexible plate is denoted at 44 and is a thin, flat spring-steel member which forms an apron that intervenes the collapsible tube 18 and the roller 30. The roller rides over the flexible plate and in consequence there is brought about a more desirable flattening action. The rear end 46 of the flexible plate is secured as by rivets 48 to the top wall 12 of the container and is curved backwardly on an arc of a circle substantially conforming to the diameter of the roller.

In the relaxed condition of the flexible plate the rear portion 50 extends parallel to the bottom wall 10 of the container to a fulcrum element 52, thence it is sloped upwardly as at 54 to a free forward end 56.

The fulcrum 52 comprises a V-shaped crimp formed in the flexible plate. The V-shaped crimp is inverted and has its apex seated on the wall 10. Desirably the rear leg 58 of the crimp is slightly longer than the front leg 60 which induces a more desirable canting action on the part of the flexible spring as the roller is withdrawn to a fully retracted position as shown in FIG. 3. This canting action causes the flexible plate to assume a position clear of the tube and thereby facilitates the removal of a flattened tube and the insertion of a new tube.

From the preceding description it will be manifest that my invention provides a more efficient and serviceable dispensing container for collapsible tubes, and one which is inexpensive to manufacture.

Having disclosed a selected form of my invention it will be manifest that incidental changes and variations may be resorted to as clearly come within the scope of the appended claims.

What I claim is:

1. A dispensing container for a collapsible tube, said container enclosing said tube and having opposite walls between which said tube freely extends, one of said walls being a bottom wall against which said tube is flattened and the other said wall being a passage-defining wall for a roller which is guidably sustained for movement through said passage to flatten said tube and is supplied with manually operable means; said container comprising a thin flexible spring-metal plate extending through said passage and under said roller for more effectively transmitting the flattening action of said roller to the tube, said plate having a free forward end and a rear end secured to said passage-defining wall, said plate having a transverse fulcrum adjacent its rear end beyond the bottom end of said tube whereby reverse movement of the roller beyond said fulcrum induces upward flexing of the portion of the plate beyond

said fulcrum to facilitate removal of the flattened tube and insertion of a new tube.

2. The structure of claim 1, said plate curved backwardly at its rear end on an arc of a circle substantially conforming to the diameter of said roller.

3. The structure of claim 1, wherein said plate is riveted to said passage-defining wall at its rear end.

4. The structure of claim 1, wherein said transverse fulcrum comprises an element projecting downwardly therefrom and contacting said bottom wall.

5. The structure of claim 4, wherein said element consists of a substantially V-shaped crimp in said plate.

6. The structure of claim 1, wherein said plate is curved backwardly from its point of attachment to said passage-defining wall on an arc of a circle conforming substantially

to the diameter of said roller, and wherein said plate is crimped to provide said transverse fulcrum, said crimp being of a V-shape in cross section having a front leg and a relatively longer rear leg.

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