

July 10, 1962

E. A. EWERT

3,043,485

TUBE CONTAINER DISPENSING DEVICE

Filed April 17, 1959

FIG. 1

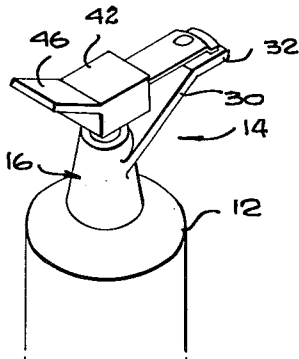


FIG. 2

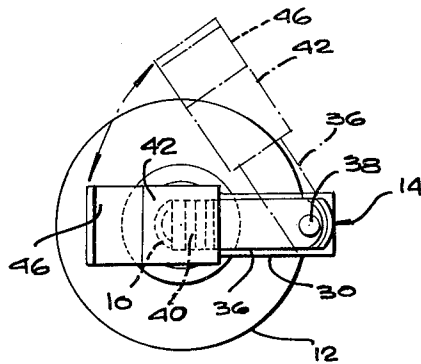


FIG. 3

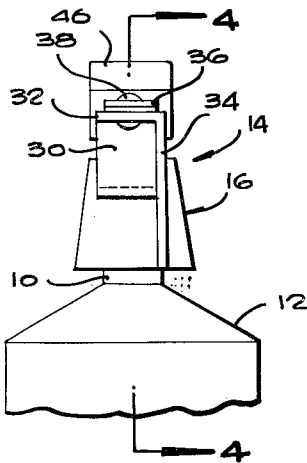


FIG. 4

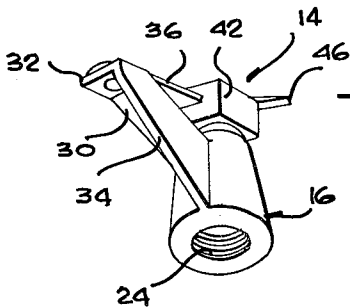
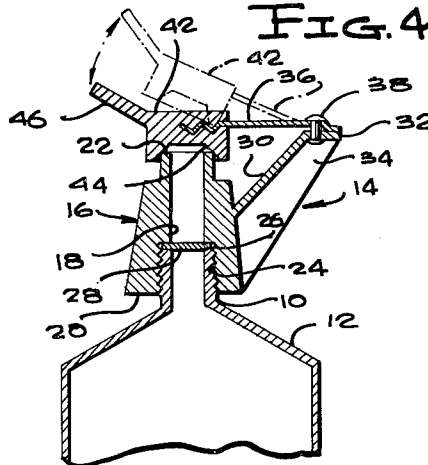


FIG. 5

INVENTOR.
EMIL A. EWERT
BY

McMorrow, Berman + Davidson
ATTORNEYS

1

3,043,485

TUBE CONTAINER DISPENSING DEVICE
Emil A. Ewert, Kitchener, Ontario, Canada
(286 Drewry Ave., Willowdale, Ontario, Canada)
Filed Apr. 17, 1959, Ser. No. 897,114
4 Claims. (Cl. 222-515)

The present invention relates to a dispensing device for attachment to a collapsible tube container.

Tube containers of the type which are employed to contain and dispense toothpaste and the like generally have threaded discharge necks provided with a small removable cap provided by the manufacturer. As such a toothpaste containing container is used several times daily in the average household, removal or replacement of the cap provided by the manufacturer frequently is a nuisance and invariably the cap is misplaced or lost. Dispensing devices in the form of closures or caps have been previously proposed and have been of many types. On the whole, they have not been successful for various reasons. Most closures or dispensing devices which have been proposed fail to provide means for tightly sealing the container discharge opening and the toothpaste or other contents of the tube becomes smeared about the opening due to its tendency to continue to issue from the container after the application of pressure to the container has been discontinued. Other caps fail in their purpose for the reason that they are difficult to attach to and detach from a collapsible tube container discharge neck.

An object of the present invention is to provide a discharge device for closing a collapsible tube paste-containing container which lends itself to ready attachment to and detachment from the discharge neck of a tube container.

Another object of the present invention is to provide a dispensing device for attachment to the discharge neck of a collapsible tube container which tightly seals the discharge neck and prevents the spillage or wastage of the contents of the tube about the neck of the container during use.

A further object of the present invention is to provide a dispensing device for attachment to the discharge neck of a collapsible tube container which lends itself to ready manufacture at reasonable cost, lends itself to fabrication in plastics or other materials on conventional molding machines, and one which may be adapted for attachment to collapsible tube containers of all types.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in conjunction with the annexed drawing, in which:

FIGURE 1 is an isometric view of the upper end portion of a collapsible tube container with the dispensing device of the present invention installed thereon;

FIGURE 2 is a plan view of the assembly shown in FIGURE 1, the dotted line showing the swung-open position of the dispensing device cap;

FIGURE 3 is an elevational view;

FIGURE 4 is a view taken on the line 4-4 of FIGURE 3, the dotted line showing the lifted position of the cap; and

FIGURE 5 is an isometric view of the dispensing device of the present invention removed from the tube, as viewed from the back, one side, and from the bottom.

Referring to the drawing in detail, the reference numeral 10 designates the discharge neck of a collapsible tube container 12 of the type used generally to dispense toothpaste or the like. The dispensing device of the present invention is designated generally by the reference numeral 14 and comprises an elongated member 16 having a bore 18 extending axially therethrough from one end 20 to the other end 22.

2

The device 14 is positioned so that the bore 18 is in axial alignment with the discharge neck 10 of the container 12.

The wall of the portion of the bore 18 extending inwardly from the end 20 and terminating at a point spaced from the end 22 is formed with threads as at 24 (FIGURES 4 and 5) threadedly engaging the external threads on the discharge neck 10 of the container 12. The terminating point of the threaded portion of the bore 18 is provided with a shoulder 26 on which is received a washer or sealing element 28.

An extension 30 projects in an upwardly and outwardly sloping direction from the elongated member 16 intermediate the ends of the latter and carries on its upper end a horizontally disposed shelf 32. The extension 30 includes a reinforcing web 34 arranged vertically and projecting downwardly from one side edge portion of the extension 30, as shown most clearly in FIGURE 3.

A resilient strip 36 is arranged longitudinally of and above the extension 30 and has the portion adjacent one end extending over and spaced from the end of the bore 18 contiguous with the upper end 22. The other end of the strip 36 is pivotally connected by means of a rivet 38 to the shelf 32 for swinging movement about the rivet 38 as a vertical axis, this movement being shown in FIGURE 2 in which the dotted line showing indicates the swung outwardly position of the strip 36.

One end of the strip 36 is provided with ridges 40, forming an anchor for a cap 42 which is molded about the end portion of the strip 36. The underface of the cap 42 is provided with a beveled recess 44 which normally bears against the upper end 22 of the elongated member 16 and closes the bore 18 in the member 16.

The handle 46 projects upwardly and outwardly from the cap 42 on the side of the latter remote from the strip 36. The handle and cap are formed integrally.

In use, the cap which is provided by the manufacturer of the container 12 is discarded and the device 14 is attached to the neck 10 of the container 12 by threading the threaded portion of the bore 18 on the neck 10 with the washer or sealing element 28 interposed between and sealingly engaging the perimeter of the discharge neck and the shoulder 26.

When in position on the neck 10 of the container 12, the device 14 is positioned so that the portion of the bore 18 adjacent the member end 20 is circumposed about and is removably attached to the discharge neck 10 of the container 12. The remaining portion of the bore 18 is exteriorly of and above the discharge neck 10.

The cap 42 may now be lifted by bending the strip 36 from the full line position to the dotted line position, shown in FIGURE 4, and the cap 42 may be swung about the rivet 38 as an axis from the full line position shown in FIGURE 2 to the dotted line position. This opens the bore 18 for discharge of the contents of the container 12 therethrough. Upon reseating of the cap 42 on the end 22 of the member 16, the doubled recess 44 effectively cuts off the flow of the contents out of the container 12 and the resiliency of the strip 36 tightly presses the walls of the recess 44 down on the member end 22, protecting the contents of the container 12 from contamination.

What is claimed is:

1. The combination with the discharge neck of a paste-containing tube, of a dispensing device comprising an elongated member having a bore extending axially therethrough from one end to the other end thereof positioned so that the bore is in linear alignment with said discharge neck and having the portion of said bore adjacent one end circumposed about and removably attached to said discharge neck with the remaining portion of said bore exteriorly of and above the discharge neck, an ex-

3

tension projecting in an upwardly and outwardly sloping direction from said member intermediate the ends thereof, a horizontally disposed shelf positioned adjacent to and fixedly carried by the upper end of said extension, a resilient strip arranged longitudinally of and above said extension and having the portion adjacent one end extending over and spaced from the other end of the bore of said member and having the portion adjacent the other end pivotally connected to said shelf for swinging movement about a vertical axis, and a cap positioned in closing relation with respect to the other end of the bore of said member and fixedly secured to said one end of said strip.

2. The combination with an externally threaded discharge neck of a paste-containing tube, of a dispensing device comprising an elongated member having a bore extending axially therethrough from one end to the other end thereof and having the wall of the portion of the bore extending inwardly from one end of said member and terminating at a point spaced from the other end of said member threaded and forming at the terminating point a shoulder, said member being positioned so that said bore portion is circumposed about and is in threaded engagement with said neck with the shoulder contiguous to and spaced from said neck, a sealing element interposed between and sealingly engaging the perimeter of said discharge neck and said shoulder, an extension projecting in an upwardly and outwardly sloping direction from said member intermediate the ends thereof, a horizontally disposed shelf positioned adjacent to and fixedly carried by the upper end of said extension, a resilient strip arranged longitudinally of and above said extension and having the portion adjacent one end extending over and spaced from the other end of the bore of said member and having the portion adjacent the other end pivotally connected to said shelf for swinging movement about a vertical axis, and a cap positioned in closing relation with respect to the other end of the bore of said member and fixedly secured to said one end of said strip.

3. The combination with the discharge neck of a paste-containing tube, of a dispensing device comprising an elongated member having a bore extending axially therethrough from one end to the other end thereof positioned so that the bore is in linear alignment with said discharge neck and having the portion of said bore adjacent one end circumposed about and removably attached to said discharged neck with the remaining portion of said bore exte-

4

riorly of and above the discharge neck, an extension projecting in an upwardly and outwardly sloping direction from said member intermediate the ends thereof, a horizontally disposed shelf positioned adjacent to and fixedly carried by the upper end of said extension, a resilient strip arranged longitudinally of and above said extension and having the portion adjacent one end extending over and spaced from the other end of the bore of said member and having the portion adjacent the other end pivotally connected to said shelf for swinging movement about a vertical axis, a cap positioned in closing relation with respect to the other end of the bore of said member and fixedly secured to said one end of said strip, and a handle projecting upwardly and outwardly from said cap.

4. The combination with an externally threaded discharge neck of a paste-containing tube, of a dispensing device comprising an elongated member having a bore extending axially therethrough from one end to the other end thereof and having the wall of the portion of the bore extending inwardly from one end of said member and terminating at a point spaced from the other end of said member threaded and forming at the terminating point a shoulder, said member being positioned so that said bore portion is circumposed about and is in threaded engagement with said neck with the shoulder contiguous to and spaced from said neck, a sealing element interposed between and sealingly engaging the perimeter of said discharge neck and said shoulder, an extension projecting in an upwardly and outwardly sloping direction from said member intermediate the ends thereof, a horizontally disposed shelf positioned adjacent to and fixedly carried by the upper end of said extension, a resilient strip arranged longitudinally of and above said extension and having the portion adjacent one end extending over and spaced from the other end of the bore of said member and having the portion adjacent the other end pivotally connected to said shelf for swinging movement about a vertical axis, a cap positioned in closing relation with respect to the other end of the bore of said member and fixedly secured to said one end of said strip, and a handle projecting upwardly and outwardly from said cap.

References Cited in the file of this patent

UNITED STATES PATENTS

1,211,043	Bartlett	Jan. 2, 1917
2,039,145	Burns	Apr. 28, 1936
2,505,406	Johnson	Apr. 25, 1950