

May 26, 1942.

J. K. LIVINGSTON
DISPENSING CONTAINER
Filed Dec. 19, 1940

2,284,218

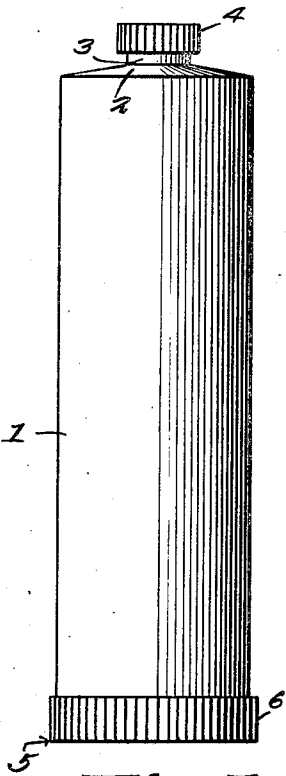


Fig. 1.

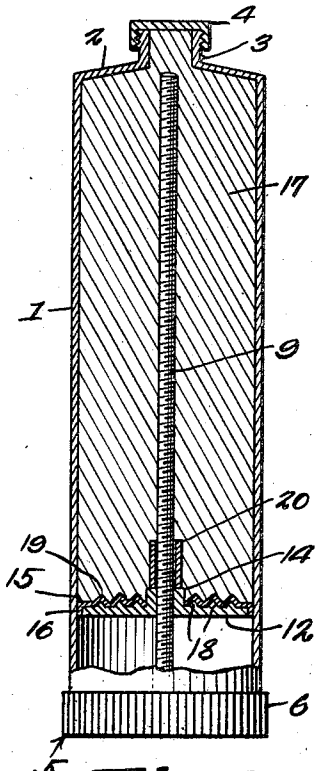


Fig. 2.

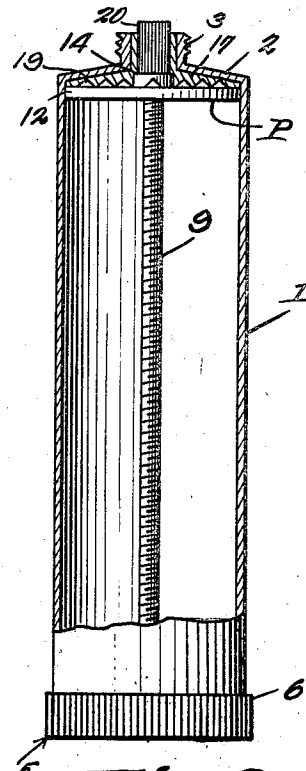


Fig. 3.

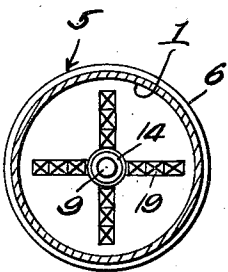


Fig. 4.

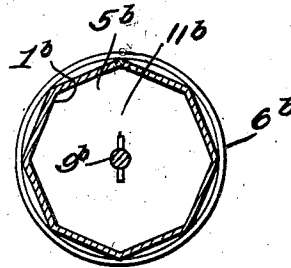


Fig. 5.

J. K. Livingston

INVENTOR.

BY *Albion Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE

2,284,218

DISPENSING CONTAINER

Jay Kelly Livingston, Houston, Tex.

Application December 19, 1940, Serial No. 370,892

1 Claim. (Cl. 116—114)

The article forming the subject matter of this application is a paste dispenser of the tube and piston type, embodying an actuator for the piston. The article may be used to dispense any material which it is capable of handling, the word "paste" being employed merely in the interest of simplicity and directness. The object of the invention is to supply novel signal means for advising the operator that the container is nearly empty.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the drawing:

Fig. 1 shows in side elevation, a device constructed in accordance with the invention;

Fig. 2 is a longitudinal section wherein the piston is shown advanced somewhat, parts remaining in elevation;

Fig. 3 is a longitudinal section showing the piston advanced until the signal sleeve has emerged from the outlet of the container, parts remaining in elevation;

Fig. 4 is a cross section looking downwardly toward the piston;

Fig. 5 is a cross section showing a modification.

The numeral 1 marks a tube or container, made of any preferred material. The container 1 is rigid, and is not of the collapsible sort. In Fig. 4 the container 1 is shown as a cylinder, but it might be of any other cross section, as indicated in connection with the container 1b of Fig. 5. The container 1 has an upper end wall 2, carrying an outlet in the form of a reduced spout 3, whereon a cap 4 is threaded or removably held otherwise.

The numeral 5 designates an operating member of cup-shape, having an upstanding annular flange 6 receiving the lower part of the container 1. The numeral 9 designates a piston actuator, such as a feed screw, having its lower end secured in the operating member 5 in any appropriate manner.

A piston P is provided, and includes a body

12 mounted in the container 1, to move longitudinally thereof, the body having a central hub 14, through which the screw 9 is threaded. A washer 15, made of paper, Cellophane or the like, is disposed on the body 12 and embraces the hub 14 closely. The washer 15 has a downturned marginal flange 16, of annular form, making a tight fit between the periphery of the piston body 12 and the inner surface of the container 1.

The flange 16 exercises two functions. One is to prevent downward leakage of the paste 17 around the periphery of the piston body 12. Another function of the flange 16 is to aid in preventing the piston P from rotating with the screw 9, it being necessary to limit or prevent the rotation of the piston in order that it may move upwardly and eject the paste 17 through the outlet spout 3. If the container is of polygonal cross section, as shown at 1b in Fig. 5, the piston parts 12 and 15 are shaped accordingly, and the piston then is held positively against rotation.

As another means for preventing the piston P from rotating, its body may have upstanding projections 18, interfitting with corresponding projections 19 on the washer 15, the projections 19 engaging the mass of paste 17 in the tube 1. The projections 18 and 19 are shown in Fig. 4 as being arranged in the form of a cross, but that specific construction is not insisted upon.

The numeral 20 designates a cylindrical signal sleeve of distinctive color, for example, a bright red, the sleeve being made of a good grade of stiff paper or similar material. The sleeve 20 surrounds the feed screw 9 and rests on the hub 14 of the piston body 12.

By means of the operating member 5, the screw 9 is rotated, and the piston P is advanced, the paste 17 being ejected out of the outlet spout 3.

When the paste 17 is depleted to a degree in which a new tube soon will be in order, the signal sleeve 20 emerges from the outlet spout 3, as shown in Fig. 3. The operator thus is notified that the paste is about gone, and governs himself accordingly, as to providing a new supply. When the signal sleeve 20 is in the protruding position of Fig. 3, it is removed and is thrown away.

As the sleeve 20 rises to the position of Fig. 3, it is filled automatically with the paste 17. This circumstance, together with the further fact that the sleeve is made of somewhat stiff material, prevents the sleeve from collapsing and balling

up in the spout 3. Figure 3 shows that the external diameter of the sleeve 20 is somewhat less than the internal diameter of the spout 3. Therefore, as the sleeve 20 advances into the position of Fig. 3, the sleeve will not act as a closure for the spout 3, preventing the discharge of the paste that still remains above the piston P.

The device forming the subject matter of this application may be made cheaply. It has an uninterrupted and undistorted external surface, suitable for advertising. The article does not present the unsightly appearance of a distorted and partially collapsed flexible tube.

Almost any sort of metal may be used and the use of paper, plastic, wood, glass and so forth, is within the purview of the invention.

What is claimed is:

In a device for indicating the depletion of tooth paste and the like, a container having an outlet, a piston mounted to slide in the container, a piston-actuator threadedly engaging and extending through the piston, and a tubular signal sleeve of such diameter and so arranged as to emerge at times through the outlet, the sleeve being removably mounted on the actuator and having detachable abutment against the piston, the actuator being prolonged to a place closely adjacent to the outlet, to guide the sleeve to the outlet when the paste nears depletion.

JAY KELLY LIVINGSTON.