

April 24, 1956

J. R. FERRIES

2,743,038

PASTE DISPENSER

Filed Dec. 4, 1952

Fig. 1.

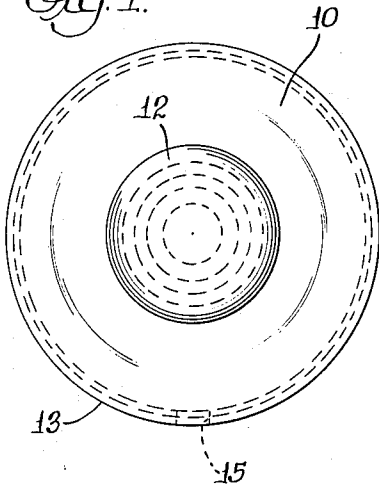


Fig. 2.

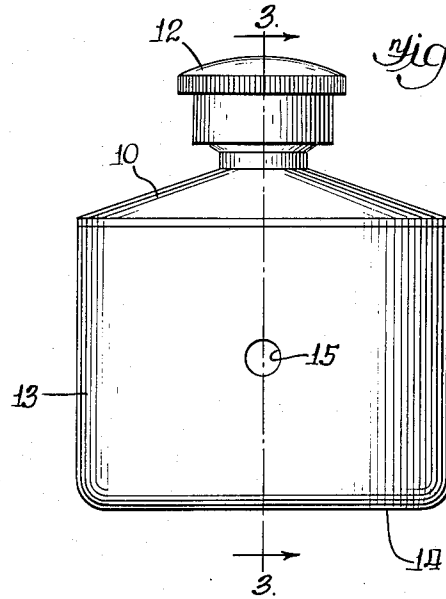


Fig. 4.

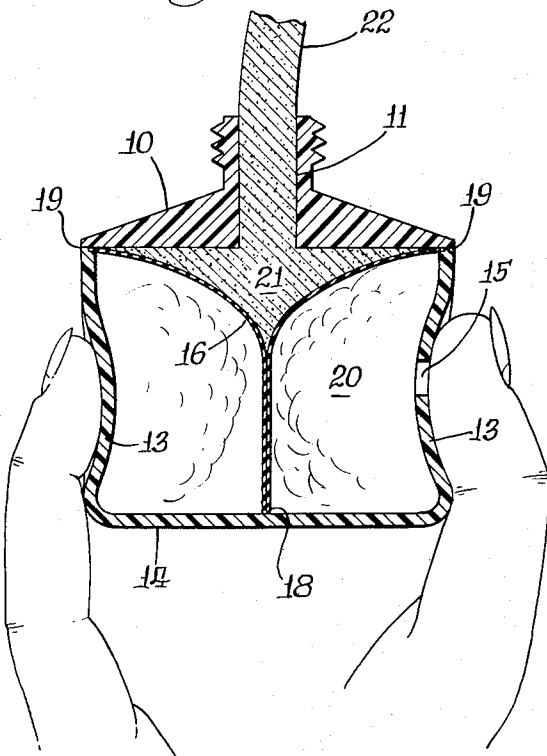
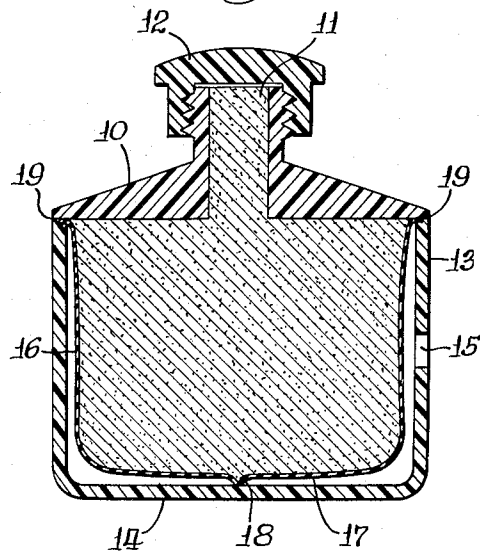


Fig. 3.



INVENTOR.
Jack R. Ferries
BY
L. F. Hammond
Att'y.

1

2,743,038

PASTE DISPENSER

Jack R. Ferries, Villa Park, Ill.

Application December 4, 1952, Serial No. 324,023

2 Claims. (Cl. 222—95)

This invention relates to dispensers for fluid or semi-fluid materials and has specific reference to a novel, improved and simplified merchandising package for substances such as toothpaste, shaving cream or any viscous pastes, salves, creams or ointments.

It is a primary object of the invention to provide an efficient, attractive merchandising package which is simple and economical to manufacture, yet while automatically dispenses viscous material without the need of any valves, pistons, pumps or other rotating or sliding mechanical parts.

It is a still further object of the invention to provide a unique dispensing package wherein a stream or ribbon of the material within the package may be quickly and conveniently ejected by merely squeezing the outside of the container, yet wherein the container is flexed only momentarily and thus retains its original appearance at all times, so that the attractiveness of the original package is never lost, even after the material enclosed therein is completely exhausted.

A further object of the invention is to provide a dispensing package for fluid or semi-fluid materials wherein the materials are effectively protected against evaporation or solidification within the container, even though the material may be gradually used over a long period of time.

A still further object of the invention is to provide an improved paste ejecting arrangement within the package wherein the paste, cream or other material contained therein may be automatically dispensed from the package without any appreciable waste.

The foregoing objects are accomplished according to the present disclosure by the provision of a container comprising an outer shell and an inside bag, from which the paste is dispensed by air pressure. In its preferred form, the exterior container is formed of material sufficiently stiff to be entirely self-sustaining, but yet sufficiently resilient and yieldable so that a portion of its wall may be momentarily flexed inwardly by pressure of the thumb or fingers, to apply pressure to the bag within it. The inside bag is a limp, waterproof, internal membrane generally conforming to the interior shape of the outer container when initially filled with the material to be dispensed, yet arranged to gradually collapse as the material within the container is used.

The preferred embodiment of the invention is illustrated in the drawings of this specification, wherein:

Figure 1 is a plan view of a preferred embodiment of the invention;

Figure 2 is a side elevational view thereof;

Figure 3 is a central sectional view of the dispensing package as it appears when substantially filled with viscous material, and

Figure 4 is a central sectional view similar to Figure 3 and illustrating the action of the dispenser when the exterior walls thereof are manually distorted to expel paste through the dispensing outlet.

As illustrated, the dispenser includes an exterior con-

2

tainer formed of an upper end or top portion 10 which may be of relatively rigid plastic or metal. This member has a dispensing outlet 11 and a cap 12 which serves as an airtight closure for the container when not in use. As shown, the outer container is of cylindrical form, with resilient side walls 13 and a bottom portion 14. These may be of plastic, if desired. An open vent aperture 15 is provided, preferably in one of the resilient walls 13. Within the outside container walls 13 is an inside flexible bag 16 having a closed end 17 secured to the bottom wall 14 at 18. This may be of any plastic, etc., of airtight, waterproof nature, yet strong and entirely pliable. The upper end of the bag 16 comprises a mouth portion which surrounds and is in communication with the dispensing outlet 11 and which is sealed to the marginal edges of the top portion 10 and to the upper edges of the side walls 13 in a peripheral seam 19.

When the dispenser is filled, the interior bag 16 will be distended to approximately its full capacity and will in a general way conform to the inside shape of the exterior container (Figure 3). At this time it will be apparent that the paste or cream within the container is protected against evaporation and hardening of the contents by a waterproof, airtight seal established by the airtight, waterproof walls of the inside bag 16.

When some of the paste is to be dispensed from the container, however, the cap 12 is removed and the operator will grasp the container firmly enough to flex the exterior tubular side walls 13 inwardly as shown in Figure 4. In doing this, the operator will place one finger over the vent orifice 15 so that any air within the exterior container will be compressed within the chamber 20 and will exert pressure against the flexible bag 16 to expel paste from the outlet 11 as indicated at 22. When the operator's grasp upon the side walls 13 of the container is released, the walls will spring back to their original contours. At this time air will be admitted through the vent 15 to the chamber 20, and since the membrane of the bag 16 is entirely limp, it will have no tendency to return to its original position. It will therefore remain in a position such as illustrated in Figure 4, for example, wherein it will be ready to repeat the operation upon subsequent application of force to the side walls of the container.

It is to be noted, however, that in the form of the invention shown, the bag 16 is made fast to the bottom of the container at some point such as 18, so that the inward collapsing movement of the membrane of this bag is controlled sufficiently to prevent the membrane from assuming a position directly across the outlet 11. Thus, there is no likelihood of the outlet becoming clogged, and as the bag 16 is gradually collapsed, it will assume a shape such as illustrated in Figure 4, and as the last of the paste within the tube is ejected the bag will come into contact with the top 10 of the container, so that all of the material therein will be dispensed. The exterior of the container will show no permanent distortion even after the paste within the container is completely exhausted, however, so that it will be unchanged in size, shape or appearance, and will retain the original attractiveness of any contours, designs or labels that may be applied thereto throughout the useful life of the package.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

1. A paste dispenser comprising an outer container having a dispensing outlet therethrough; said container being of self-sustaining, stiff material and having a yieldable and resilient portion adapted to be flexed inwardly by manually squeezing the container; an inside flexible bag in said container, said bag being of waterproof, air tight, limp membrane impervious to viscous substances

3

and having a mouth portion sealed around the dispensing outlet of the outer container to provide an imperforate sealed enclosure for the substances to be dispensed; an air vent comprising an unobstructed aperture in the outer container on an exposed external surface thereof whereby the vent may be closed by the hand of the operator in squeezing the container, with the inner end of the vent in communication with a space between the inside of the container and the outside of the paste bag therein; together with a connection between the closed end of the paste bag and the inside of the container at a point remote from the dispensing aperture therein, to prevent the membrane of the paste bag from closing the aperture.

2. A paste dispenser comprising an outer container, having one relatively rigid end portion with a dispensing outlet therethrough, a yieldable but self-sustaining, relatively stiff tubular body marginally joined to said end portion, with at least a portion of said body sufficiently yieldable and resilient as to be flexed inwardly by manually squeezing the container; an inside paste bag in said container, said paste bag being of waterproof, airtight, limp membrane generally conforming to the interior shape of said body and having a closed end and a

4

mouth portion sealed around the rigid end portion with the interior of said bag in communication with the dispensing outlet of the container, whereby said bag provides an imperforate sealed enclosure for viscous substances to be dispensed; an air vent comprising an unobstructed aperture on an exposed external surface of the tubular body whereby the vent may be closed by the hand of the operator in squeezing the container, the inner end of the vent being in communication with the space between the inside of the tubular body and the outside of the paste bag therein; together with a connection between the one end of the paste bag and the inside of the tubular body at a point remote from said dispensing aperture, to prevent the membrane of the paste bag from closing the aperture.

References Cited in the file of this patent

UNITED STATES PATENTS

863,260	Butterfield	Aug. 13, 1907
2,126,973	Piquerez	Aug. 16, 1923
2,564,359	Fuller	Aug. 14, 1951
2,608,320	Harrison	Aug. 26, 1952