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J. OKIES

2,353,355

DISPENSING CONTAINER

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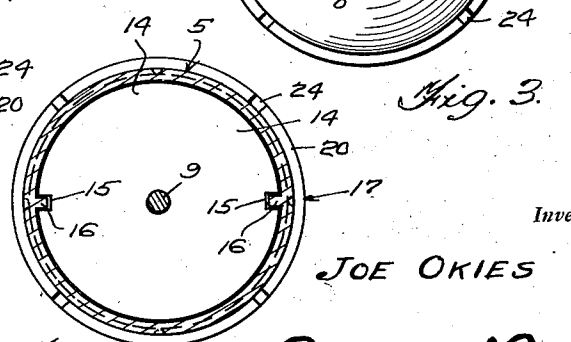
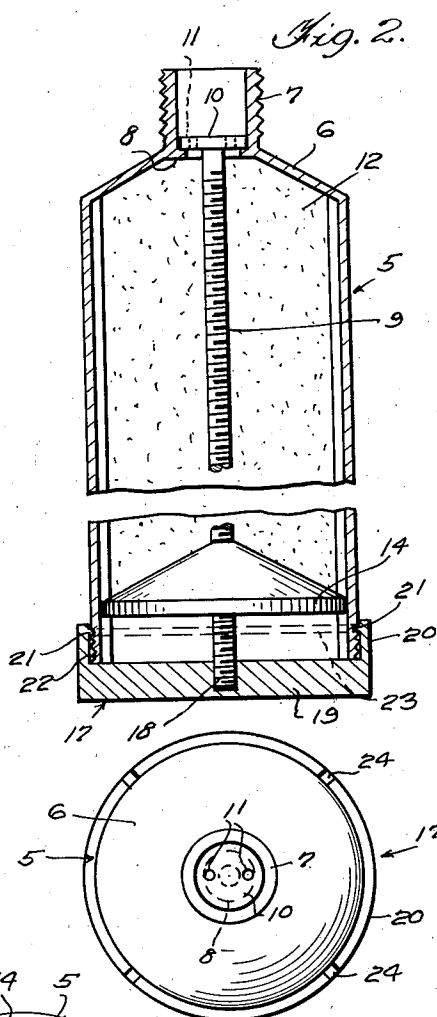
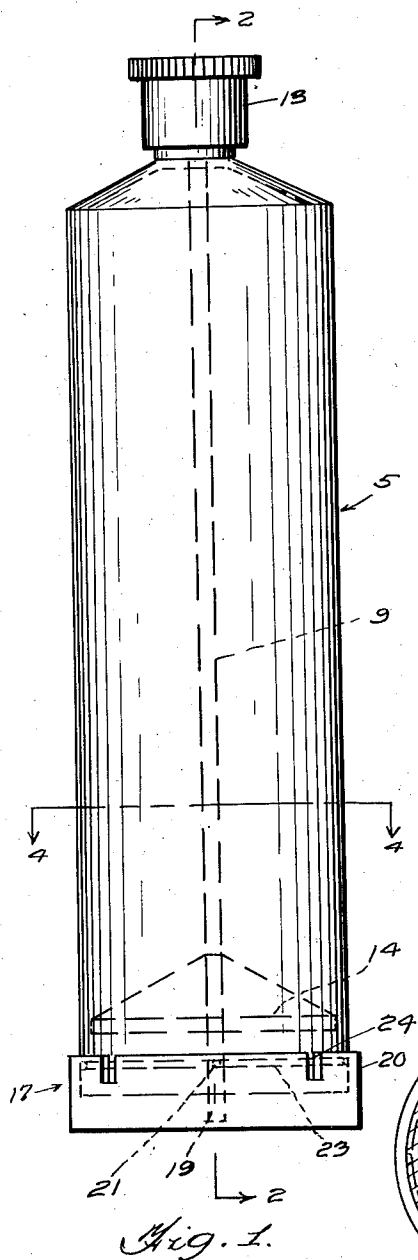


Fig. 4.

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UNITED STATES PATENT OFFICE

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DISPENSING CONTAINER

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1 Claim. (Cl. 221-79)

The invention relates to improvements in dispensing containers of the tubular type wherein a plunger or piston is provided to discharge the contents as wanted, and the primary object of the invention is to provide a simple and practical arrangement of this character which can be produced at relatively low cost from readily available materials.

Other important objects and advantages of the invention will be apparent from a reading of the following description taken in connection with the appended drawing, wherein for purposes of illustration a preferred embodiment of the invention is shown.

In the drawing:

Figure 1 is a general side elevational view of the embodiment.

Figure 2 is a contracted and transverse vertical sectional view taken through Figure 1 along the line 2-2 and looking in the direction of the arrows.

Figure 3 is a top plan view of the device.

Figure 4 is a horizontal sectional view taken on the line 4-4 of Figure 1 and looking in the direction of the arrows.

Referring in detail to the drawing, the numeral 5 generally designates an elongated hollow cylinder formed of suitable sheet material, such as metal or plastic and characterized by a frusto-conical wall 6 formed at its apex with a tubular exteriorly threaded nipple 7, the axially inward end of the nipple being formed with an interior annular shoulder 8.

A screw 9 arranged axially in the container has a flat disk-like head 10 closely but rotatably fitting in the bore of the nipple 7 and located just forwardly of the interior shoulder 8, the disk being provided with at least two holes 11 through which the fluid or paste-like material 12 in the container passes into the nipple for discharge from the nipple 7 when the threaded cap 13 is removed from the nipple, and the piston is operated.

Threaded on the screw 9 is a conical disk-like piston 14 which has diametrically opposed peripheral notches 15 which slidably receive corresponding diametrically opposed longitudinally arranged ribs 16 formed or constructed on the interior of the side walls of the cylinder 5 from the rear end of the cylinder as far as the wall 6, as indicated in Figure 2 of the drawing. The initial position of the plunger or piston 14 is adjacent the rear end of the cylinder 5 and its final position is in engagement with the tapered wall 6 with which it conforms to expel substantially all of the contents of the tube 5.

The screw 9 is turned by the screw base 17 into which the rear end of the screw is socketed as indicated by the numeral 18, the base being in the form of a disk which is flattened on its bottom as indicated by the numeral 19 to enable the

tube to be stood up on end to conserve shelf space and render it more convenient in use. An annular rim 20 rises from the edges of the base 17 and is provided at equally circumferentially spaced points with knobs 21 which are so designed as to act as threads in screwing the base 17 on the external threads 22 on the rear end of the cylinder 5 in putting the base into operative position. At the forward end of the threads 22 is an annular groove 23 into which the knobs 21 pass as they leave the threads 22. The rim 20 is tensioned inwardly so as to snap the knobs into place in the groove 23 and the desired deformability of the rim 20 is enhanced by the formation of slots 24 in the upper edge of the rim 20, the said slots being substantially equally circumferentially spaced around the rim and disposed midway between the adjacent knobs 21.

With the base 17 in place and the screw cap 13 removed from the container, the desired amount of contents 12 may be dispensed through the nipple 7 by turning the cap 13 in the proper direction so as to cause the screw 9 to revolve and to carry the piston 14 toward the nipple 7 and exert the necessary expelling pressure on the contents 12 and to cause the same to exude through the holes in the disk 10 and pass out of the bore of the nipple 7. The arrangement of the ribs 15 engaging the notches 16 in the piston 14 keeps the piston working smoothly and non-revolubly in the cylinder 5, and the screw feed of the piston enables an even and uniform discharge of the contents of the cylinder until all of the contents have been exhausted.

Although there is shown and described herein a preferred embodiment of the invention, it is to be definitely understood that it is not desired to limit the application of the invention thereto except as may be required by the scope of the subjoined claim.

Having described the invention what is claimed as new is:

A dispensing container comprising a tube having a reduced discharge neck at the front end thereof, means to discharge the contents of the tube out of said neck comprising a rotary screw shaft in the axis of the tube, a piston threaded onto the shaft for feeding forwardly under rotation of the shaft, and a closure cap for the rear end of said tube rotatable on said end and fixed to said shaft, and means to oppose end thrust of said shaft and piston rearwardly and providing a bearing for the front end of the shaft comprising an annular rib in said neck, and a circular flat head fast on said front end of the shaft fitting in said neck for rotation therein and bearing against said rib, said head being apertured to permit passage of the contents of the tube through the same.

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