Feb. 8, 1944. V. H. FLYNN 2,341,031

CREAM AND PASTE DISPENSER

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FIG. 1

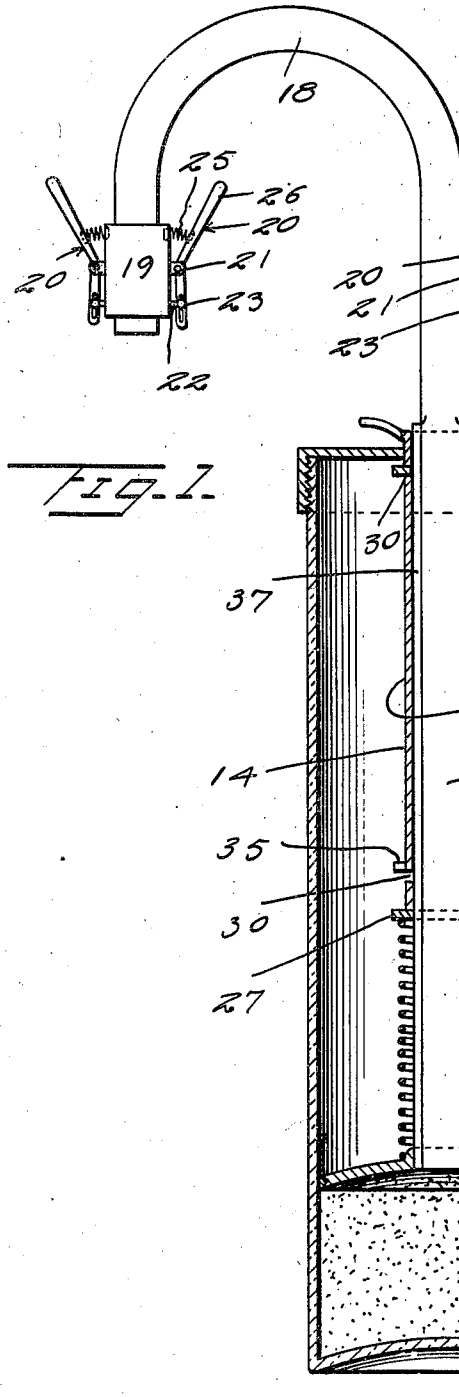
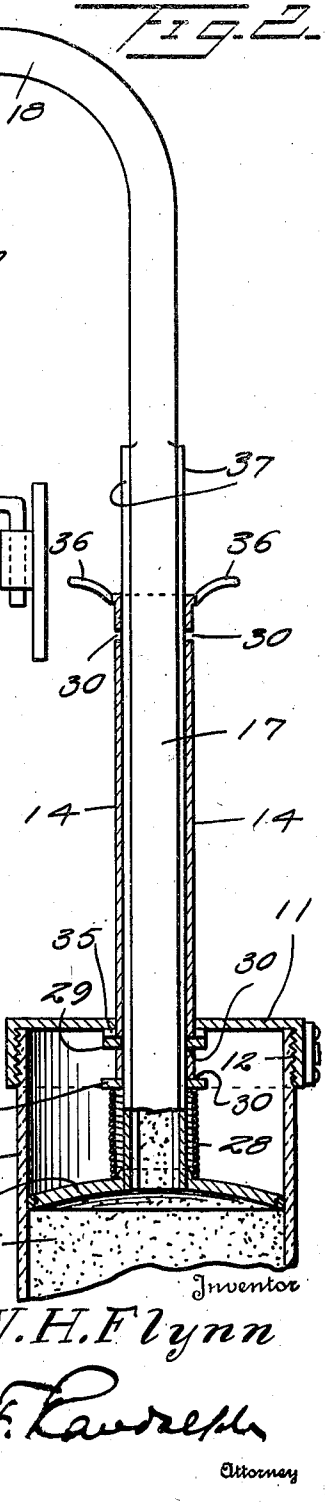


FIG. 2



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Fig. 3.

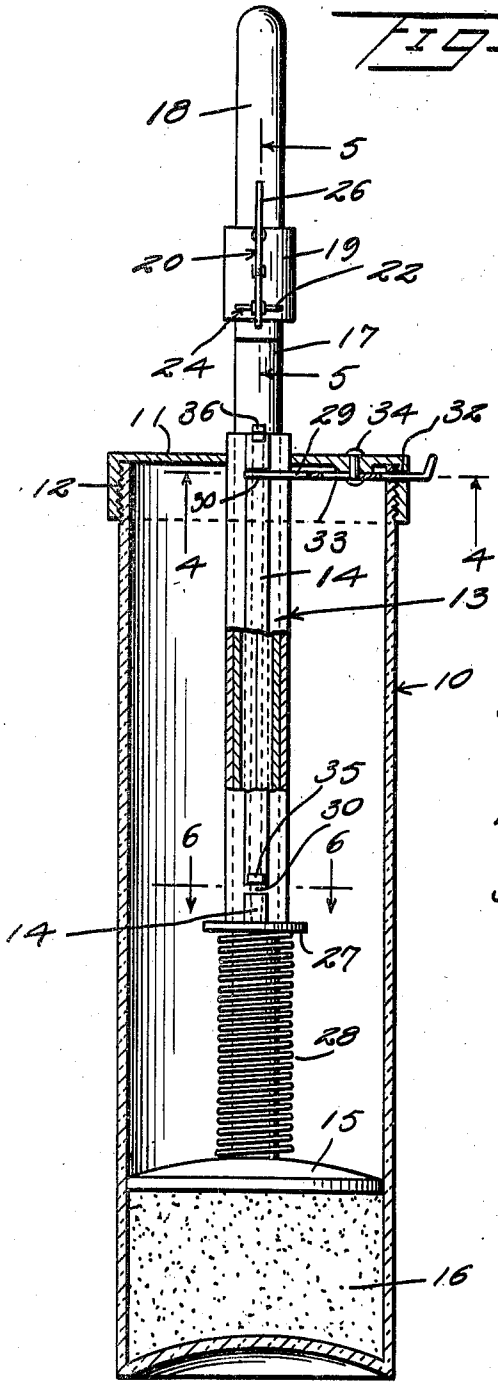


Fig. 5.

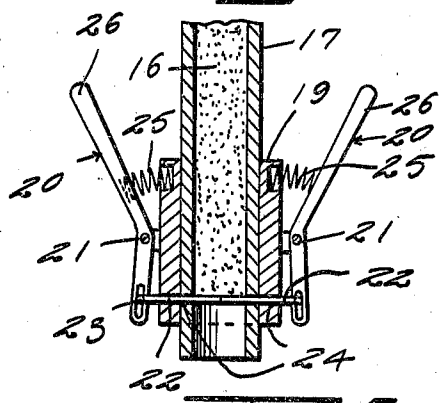


Fig. 4.

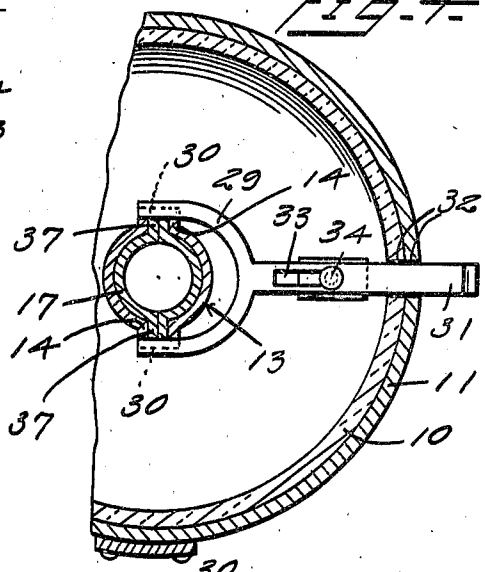
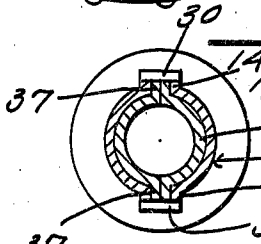


Fig. 6.



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UNITED STATES PATENT OFFICE

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CREAM AND PASTE DISPENSER

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Application August 7, 1942, Serial No. 454,034

4 Claims. (Cl. 221—78)

This invention relates to a dispenser primarily for materials in the form of cream or paste.

It is aimed to provide a device capable of repeated use with containers of materials in cream or paste condition and which containers may be made of glass or any substitute for metal in order to conserve the latter.

A particular object is to provide a novel dispensing means under valve control and in which the material to be dispensed is maintained under pressure so that it will be ejected automatically upon opening of the valve means.

Further, an important object, is to provide novel means wherein the tension on the urging spring for the ejecting piston or follower may be varied so as to be greatest when the container is full and weaker when the container is nearly empty.

The more specific objects and advantages will become apparent from a consideration of the description following taken in connection with accompanying drawings illustrating an operative embodiment.

In said drawings—

Figure 1 is a view partly in elevation and partly in central vertical section, through dispensing apparatus according to my invention;

Figure 2 is a fragmentary view of the parts of Figure 1, with the tube nearly full and the spring at maximum tension;

Figure 3 is a view of the parts of Figure 1 taken at a right angle thereto, with various parts broken away and in sections to disclose details;

Figure 4 is an enlarged horizontal section taken on the line 4—4 of Figure 3;

Figure 5 is a vertical section taken on the line 5—5 of Figure 3; and

Figure 6 is a cross section taken on the line 6—6 of Figure 3.

Referring specifically to the drawings wherein like reference characters designate like or similar parts, I propose to use a receptacle or container 10 which is preferably made of glass, although it may be made of plastic or any other suitable material and during the emergency preferably of a material other than metal in order to conserve the latter. Such container 10 is adapted to be sold in lieu of the present day collapsible tubes and with a screw cap thereon.

In lieu of the screw cap, I use a screw cap 11, in threaded engagement at 12 with the upper end portion of the container 10. Cap 11 has a central opening in which the controlling head 13, in the form of a tube, is mounted for vertical adjustment, such head or tube having diametrically disposed outwardly extending ribs at 14. The hole in the cap 11 conforms in shape to the tube 13 with the ribs 14 and hence, the head or tube cannot turn relatively to the cap 11.

A suitable piston or follower 15 is slidable within the container 10 to expel the paste, cream or the equivalent 16, upwardly through the bore of an outlet tube 17, to the lower ends of which piston 15 is rigidly conected. The upper end of the tube 17 is preferably crooked as shown at 18 and adjacent the free terminal or outlet end thereof has a sleeve 19 rigidly fastened thereto. A pair of levers 20 are pivoted at 21 to the sleeve 19 in order to actuate oppositely movable slide valves 22 to which the levers are connected by pin and slot connections at 23. Valves 22 in closed position abut as shown in Figure 5 and they slide in slots 24 provided through the tube and sleeve 19. Expansive springs 25, mounted in recesses as shown in sleeve 19 and levers 20, urge the levers at their upper ends apart so as to maintain the valves 22 in contact and closed. The valves 22 may be opened by engagement of the fingers with handle portions 26 on the levers.

The head or tube 13 at its lower end is provided with a flange 27, abutted by an expansive coil spring 28, surrounding the tube 18 and also abutting the piston or follower 15. The tube is adapted to be held in two or more adjusted positions or at different elevations, by the engagement of a fork or yoke 29, in series of slots 30 provided at different elevations along the tube or head 13. Yoke 29 has a handle 31 slidably extending through a slot 32 in the depending wall and handle 31 has an elongated slot 33 through which a pin 34 passes and which is suitably fastened to the cap 11. The tube 13 cannot be accidentally lifted out of the cap 11 since it has lugs 35 extending outwardly therefrom and which at the uppermost limit of movement of the tube 18 abuts the under surface of the cap 11 as shown in Figure 2, and since handles 36 on such tube on the exterior of the container 10, limit downward movement of the tube as well as providing means to enable ready adjustment of the tube.

Engagement of the yoke 29 in the lower series of slots 30, as shown in Figure 2, will provide maximum tension for the spring 28 and thus maximum pressure on the piston 15, for ejection of the paste or cream. This pressure is desirable when the container 10 is full or nearly full but is too great when the container is nearly empty. Hence, when the container is full or nearly full, yoke 29 engages the lowermost slots 30 but when the container is nearly empty, yoke 29 is engaged

with the uppermost slots 30 as shown in Figure 1, the pressure on the material 16 under such conditions not being excessive.

The tube 18 has diametric outwardly extending ribs or flanges at 37 which occupy the spaces or grooves of the ribs 14, and, accordingly, the tube 18 cannot turn relatively to the container 10.

Various changes may be resorted to provided they fall within the spirit and scope of the invention.

I claim as my invention:

1. In combination with a container, having an ejecting tube and a piston to force material through the tube, a head slidable relatively to the tube and to the container, means to prevent relative rotation of the tube and head, an expansive spring abutting the piston and the head, and means on the container to secure the head at different elevations to control the tension of said spring.

2. In combination with a container, having an ejecting tube and a piston to force material through the tube, a head slidable relatively to the tube and to the container, an expansive spring abutting the piston and the head, and means on the container to secure the head at different elevations to control the tension of said spring, the container having a slot through which said head passes, said head having a rib interfitted with the container at said opening to prevent turning of the head.

3. In combination with a container, having an ejecting tube and a piston to force material through the tube, a head slidable relatively to the tube and to the container, an expansive spring abutting the piston and the head, and means on the container to secure the head at different elevations to control the tension of said spring, the container having a slot through which said head passes, said head having a rib interfitted with the container at said opening to prevent turning of the head, said head being in the form of a tube surrounding the dispensing tube, and the dispensing tube having a rib interfitted with the rib on the head.

4. In combination with a container, having an ejecting tube and a piston to force material through the tube, a head slidable relatively to the tube and to the container, and an expansive spring abutting the piston and the head, and means on the container to secure the head at different elevations to control the tension of said spring, said head being in the form of a tube surrounding the dispensing tube, and said means consisting of a movable element on the container, and slots in the tube head selectively engageable by said element.

VINCENT H. FLYNN.