July 22, 1941. M. E. HOFFMAN 2,250,022

TOOTH PASTE DISPENSER

Filed May 29, 1940

Fig. 1.

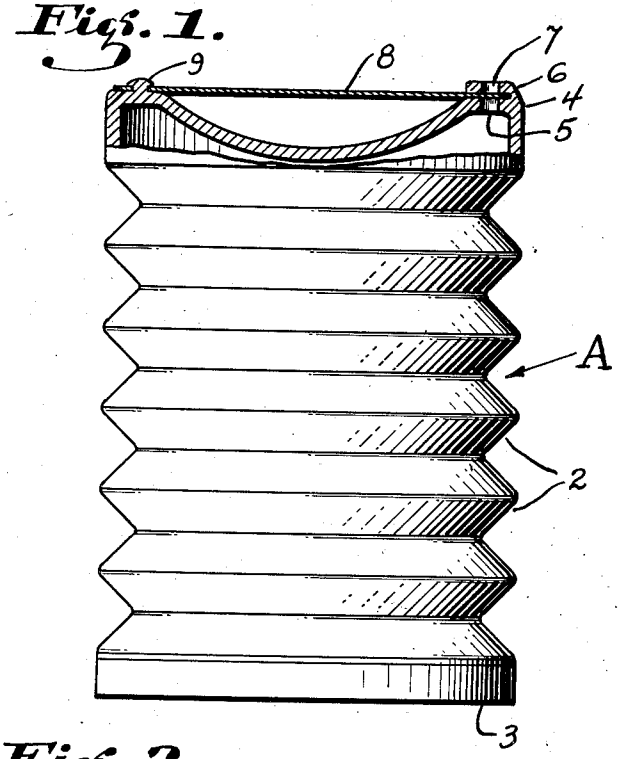
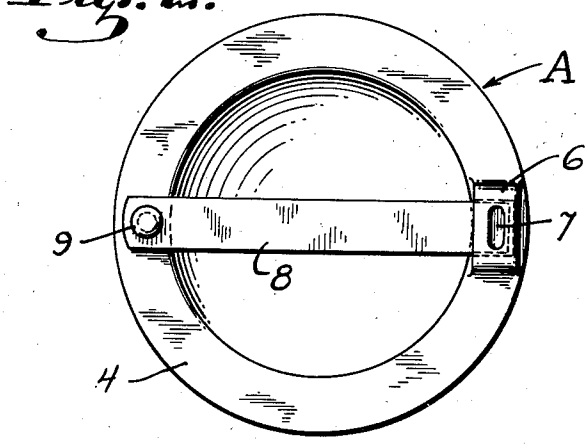


Fig. 2.



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TOOTH PASTE DISPENSER

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3 Claims. (Cl. 221—60)

This invention relates to a combination container and dispenser for semi-liquid or paste-like substances such as toothpaste, face creams, lubricants, greases, paints, etc.

The object of the present invention is generally to improve and simplify the construction and operation of devices of the character described; to provide a compressible or collapsible container which is provided with a discharge orifice and a cooperating closure in the form of a valve; and further, to provide a valve which opens the discharge orifice when pressure is applied to the container and valve and which automatically closes when pressure is released.

The container and the valve mechanism employed are shown by way of illustration in the accompanying drawing, in which

Fig. 1 is a side elevation of the combination container and dispenser, partially in section; and

Fig. 2 is a plan view of the head and the valve mechanism employed.

Referring to the drawing in detail, A indicates a container for the reception of toothpaste or similar materials. The container is made of any suitable soft metal, such as lead, tin, or a combination of the same, and is corrugated or pleated throughout its length as shown at 2, to permit compression and collapsing thereof. The lower end of the container is closed by a bottom end 3, while the upper end is provided with a head 4 in which is formed a discharge orifice 5. The head is circular in shape and its upper face is depressed or concave, for a purpose hereinafter to be described.

Formed integral with the head, or suitably secured thereto, is a valve guide and retaining lug 6, and formed therein in alignment with the orifice 5 is a discharge opening 7. Extending crosswise of the head is a flat, comparatively narrow spring 8, one end of which is anchored or secured, while the other end extends under the lug 6 and normally functions to close the openings 5 and 7. The spring forms a slide or cut-off valve, as by applying pressure to the spring substantially midway of its length it will bend downwardly into the depression formed in the head, and as one end of the spring is anchored, the opposite end will move endwise, thus uncovering the openings 5 and 7; and conversely, will automatically close the same when pressure is released. Any suitable method of securing or anchoring the end of the spring may be employed, but it is preferred to perforate the end of the spring so that it may receive a pin 9, which may be riveted over after the spring has been placed in position, as such a structure simplifies both manufacture and assembly, it being understood that the pin may be formed as an integral part of the head, particularly if a die casting operation is resorted to.

The bottom closure may also be made in any suitable manner, but should be sufficiently rigid to permit a uniform pressure to be applied to the end of the collapsible container during discharge or dispensing of the contents. Also, it is desirable that the tension or resistance of the spring to bending when finger pressure is applied should be very slight; that is, in actual operation the thumb is placed on the bottom of the container and the index finger on the spring, when by exerting a slight pressure the spring bends or moves into contact with the surface of the depressed head and opens the discharge orifice. Further pressure may then be applied by the fingers to force the paste out of the orifice, and after the desired amount of paste or other material contained has been discharged, release of pressure on the spring permits it to straighten out, thereby shearing off the paste and closing the orifice.

The valve mechanism is exceedingly simple both in construction and operation. The valve opens by a slight application of pressure and closes automatically when pressure is released. There are no caps or other parts to be removed and replaced, and thus there are no parts that can be misplaced or lost. The normal position of the valve is the closed position, hence sanitation is maintained and evaporation, leakage or loss of the contents is eliminated.

Having thus described and illustrated my invention, what I claim and desire to secure by Letters Patent is:

1. A combination container and dispenser for pastes and like substances, comprising a compressible collapsible container for the paste, a head member on one end and having a discharge orifice formed therein, a flexible leaf-type spring extending crosswise of the head, anchor means securing one end of the leaf to the head, the other end of the leaf extending over and forming a closure for the discharge orifice, and a lug on the head under which the leaf extends and whereby the leaf is held in closing engagement with the discharge orifice, said leaf being bendable by finger pressure exerted midway of its length so as to impart movement to the free end of the spring to and away from the discharge orifice.

2. A combination container and dispenser for

pastes and like substances, comprising a compressible collapsible container for the paste, a head member on one end and having a discharge orifice formed therein, other means forming a closure for the opposite end of the container, a guide lug on the head having a discharge opening formed therein in alignment with the discharge orifice, and a flat narrow spring extending crosswise of the head, one end of said spring being anchored to the head and the other end extending in under the guide lug and normally closing the discharge orifice and the aligned discharge opening, said spring being bendable by finger pressure exerted midway of its length so as to impart movement to the free end of the spring to and away from the discharge orifice.

3. A combination container and dispenser for pastes and like substances, comprising a compressible collapsible container for the paste, a head member on one end and having a discharge orifice formed therein, other means forming a closure for the opposite end of the container, a guide lug on the head having a discharge opening formed therein in alignment with the discharge orifice, a flexible leaf-type spring extending crosswise of the head, one end of said spring being anchored to the head and the other end extending in under the guide lug and normally closing the discharge orifice and the aligned discharge opening, and a depression formed in the head beneath the spring, said spring being bendable by finger pressure exerted midway of its length.

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