Nov. 17, 1931. W. F. ERRIG 1,832,287

DISPENSER

Filed July 9, 1930

Fig. 1.

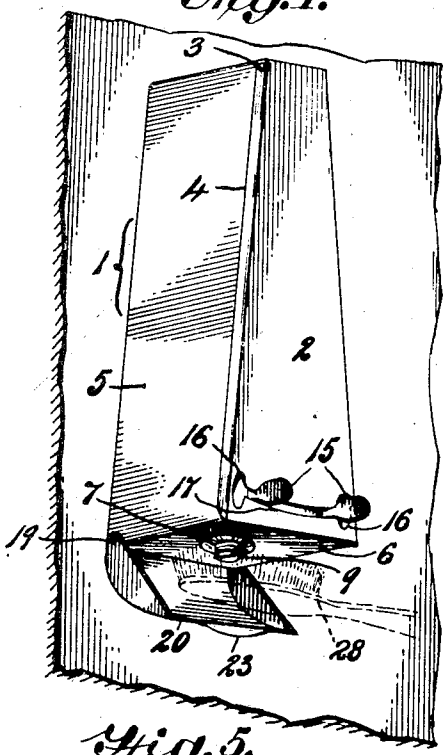

Fig. 2.

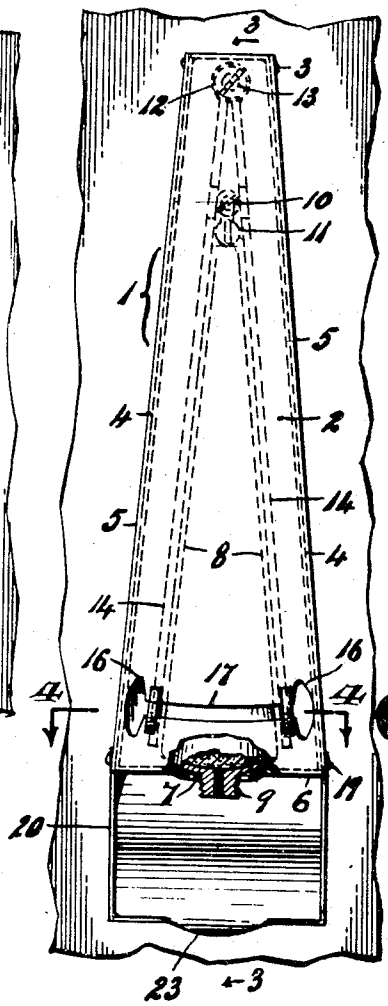

Fig. 3.

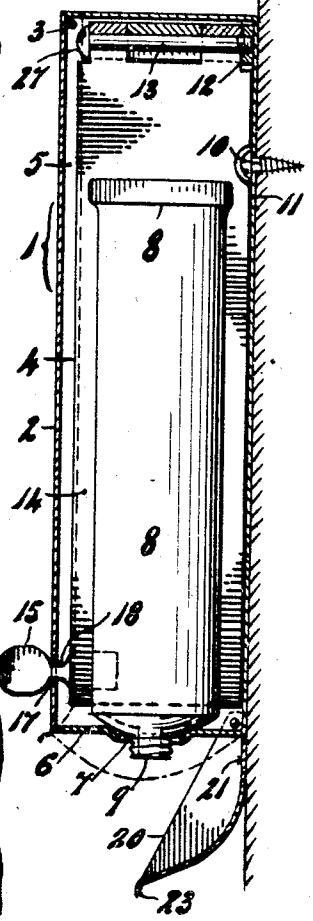

Fig. 5.

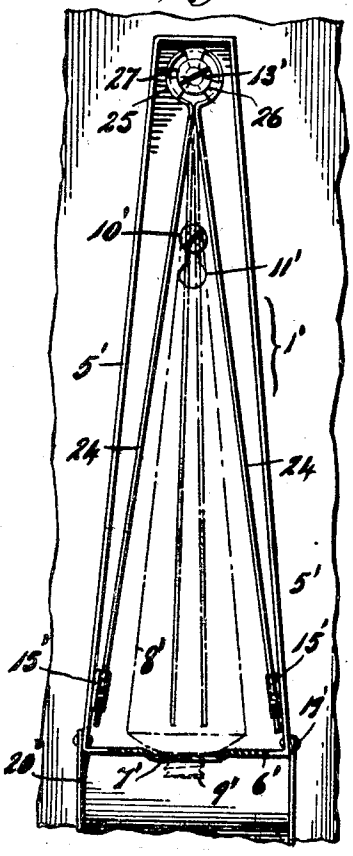

Fig. 6.

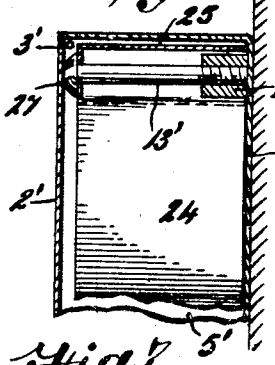

Fig. 4.

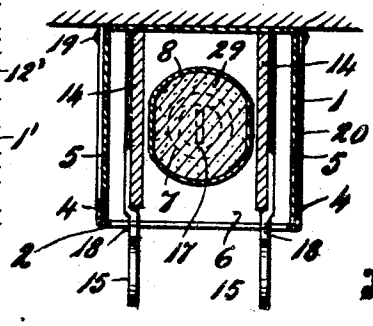

Fig. 7.

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UNITED STATES PATENT OFFICE

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DISPENSER

Application filed July 9, 1930. Serial No. 466,716.

This invention relates to dispensers or means adapted to evacuate the contents of flexible tubes, containing plastic or semi-plastic substance, in desired quantity.

More particularly the instant invention has reference to devices of the type embodying a holder for the flexible tube and a co-active pressure element or elements operative to exude the content of said tube in more or less measured quantities.

Primarily I aim to provide a dispenser for tubes of plastic or semi-plastic material characterized by a pressure-exerting means which when released, subsequent to ejectment of the requisite quantity of material, is automatically retracted from pressure-exerting influence upon the tube, incident to the inherent retractive capacity of such materials, whereby wastage is avoided and the dispenser is maintained in sanitary condition at all times.

Another object of this invention is to provide a dispenser of the type referred to which protects the tube free of accidental distortive action and atmospheric influences tending to cause exudation of its contents otherwise than when needed for use.

A further object of the invention is to provide a dispenser for flexible tubes of dentifrice, shaving soap or cream, and other pasty commodities which is efficient in use, compact, sanitary, and well adapted for tubes of all standard sizes.

A still further object of the invention is the provision of a simple, attractive and comparatively inexpensive dispenser of the kind referred to which is exceptionally effective for the purposes for which it has been devised.

With the foregoing and other objects in view as will be apparent from the following description considered in conjunction with the accompanying sheet of drawings, my invention essentially comprises a casing for holding the collapsible tube with a contained pressure exertable element or elements subject to automatic expansive influence when released after contraction to periodically exude the contents of said tube; while the following claims serve to define those features deemed novel and patentable.

In the drawings:

Fig. 1 is a perspective view illustrative of my improved dispenser in operative position.

Fig. 2 is a front view of the dispenser with a closure member in open position, and certain parts in section for added cleanliness.

Fig. 3 is a central vertical section through the dispenser as viewed in the direction of the arrows 3—3 in Fig. 2.

Fig. 4 is a horizontal section on the plane designated 4—4 in Fig. 2.

Fig. 5 is a face view, with the cover removed, of a modified form of the invention.

Fig. 6 is a slightly enlarged, sectional view of the upper portion of the preceding illustration, and at right angles thereto; and,

Fig. 7 is a detail view hereinafter fully explained.

Referring more in detail to the accompanying drawings my novel dispenser comprises a casing or holder, comprehensively designated 1. The casing or holder 1 is preferably, although not essentially, of somewhat wedge-shape in outline as clearly appreciated from Figs. 1, 2 and 5, more particularly, while it is suitably formed of appropriate sheet material, such as metal, and provided with a fall-down closure 2, at the front, hinged thereto at 3; said closure being conveniently provided with angle flanges 4 to snugly fit the side walls 5 of the casing or holders.

The bottom wall 6 of the casing or holder 1 is centrally dished and apertured at 7 to afford a seat for an inverted collapsible tube 8 of standard size, the neck 9 whereof projects through said aperture. Attention is here directed to the fact that the collapsible tube 8, when inserted in the casing or holder 1, first has the usual screw cap, not shown, removed and that it is disposed therein edge on, as readily understandable from Figs. 2 and 5; while, when the device 1 is suspended by appropriate means 10 engaged with an inverted key-hole slot 11 in the back wall thereof, said tube 8 will be positioned substantially plumb or vertical. Obviously the casing or holder 1 may be otherwise supported or positioned in use, and an additional or other securing means 10 applied if deemed desir-

able; or said casing or holder may be otherwise disposed than vertical.

In the upper or smaller end of the casing or holder 1, I rigidly secure a bearer element 12 suitably bored and threaded to afford stationary support for a pivot pin or member 13. In the embodiment of my invention shown by Figs. 1–4 inclusive the member 13 serves as the pintle or hinge pin for comparatively substantial leaves or pressure-exerting components 14, provided with attached or integrally formed finger holds or keys 15, coplanar therewith. These finger holds or keys 15 are adapted for easy passage through appropriate apertures 16, in the aforesaid fall-down closure 2, at the ends of an arcuate slot 17. Now it will be readily understood that when the finger holds or keys 15 are moved apart into registry with the apertures 16, the closure 2 may be upwardly swung on its pivot 3 for the insertion or removal of a collapsible tube 8, in an obvious manner. On the other hand it is to be particularly noted that when the device is in the normal, or out-of-use position, the shanks 18 of the finger holds or keys 15 are engaged in the slot 17 and thereby serve to secure the closure 2 against elevation, while said slot functions as a guide for the shanks 18 in using the device as later on explained.

Hinged at 19 to the lower back edge of the casing or holder 1 is a scoop-like cap 20 that serves when the device is not in use to close in and protect the neck 9 of the tube 8. This cap 20 embodies a flat portion 21 adapted to engage the wall 22 against which the device is suspended and an actuator portion 23, as clearly understandable from Fig. 3 more particularly; while it is made to have a snap action when moved to the open position shown, or when closed as indicated in dot-and-dash on the just referred to view; so that it cannot remain in any intermediate position, whereby proper use of the device is safeguarded.

In the embodiment of my invention shown in Figs. 5 and 6, all corresponding parts to those previously explained are similarly designated plus a prime suffix, and in order to avoid repetitive description, only those features differing therefrom will be referred to. In place of the comparatively substantial hinged members 14 I make use of a unitary pressure exerting means in the form of opposing spring leaves 24, integral with a tubular section 25, having radially directed centering tongues 26 for free engagement with the shank of the pivot pin or member 13′, at the back of the head 27 thereof, in an obvious manner. The spring leaves 24 are also provided with integrally formed, or attached, finger holds or keys 15′; and it will be readily appreciated that due to said leaves embodying a degree of inherent recoil, they will be retained normally expanded in divergent relation; as shown in Fig. 5. Furthermore by forming the leaves 24 with a slight degree of longitudinal curvature they will have a somewhat rolling effect outwardly and inwardly relative to the axis of the tubular section 25, when activated, upon the tube 8′, with incidental increase of the suction action on the contained plastic when such leaves are released after ejection of a desired quantity thereof.

In operation, and assuming that a tube 8 or 8′ of tooth paste, for example only, is in position in the casing or holder 1, it is only necessary to snap down the cap 20, place the tooth brush 28—Fig. 1—below the neck 9, and move the finger holds or keys 15 or 15′ toward each other between the thumb and forefinger. Movement of the finger holds or keys 15 or 15′ slightly in the manner just referred to, radially collapses the hinged leaves 14, or spring leaves 24, with consequentive pressure-exertion from opposite directions upon the collapsible tube 8 or 8′, axially outward thereof from the sealed end, and evacuation of the needful quantity of the paste 29—Fig. 4—onto the brush 28. Release of the slight pressure upon the finger holds or keys 15 or 15′ instantly results in radial expansion of the leaves 14 or 24 with resultant suction of the extending plastic or paste 29 into the neck 9 or 9′ or the tube 8 or 8′, respectively; while it will be readily understood that the brush 28 is moved laterally to apply such paste therealong in the known manner. Again it will be apparent that the action of the device is in a direction from the sealed end of the tube 8 or 8′ toward the neck thereof so as to effect gradual exudation of the entire content in an efficient, as required, sanitary manner.

Furthermore it is thought that the convenience of the device will be clearly understood and that it insures economical operation, inasmuch as all the contained matter in the tube 8 or 8′, is evacuated only as and when desired; while said device fulfills all the objects set forth in the preliminary statement as to this invention.

Finally it is to be understood that deviations from the described embodiments of my invention are permissible providing such variations do not depart from the scope of the following claims or the prior art prohibits.

Having thus described my invention what I claim is:—

1. A dispenser for a collapsible tube comprising a wedge-like open-front casing therefor, a fall-down cover to close in the casing, a pair of opposed resilient members hinged in the narrower end of the casing adapted to exert radially-collapsive longitudinal pressure on the tube with automatic recoil when released, finger holds on said members whereby they are operated, said finger holds being adapted for passage

through apertures in the cover and guidance in an arcuate slot therein in maintaining the cover in closed position, and a scoop like snap closure protecting the neck of the tube with a flat portion for the purpose specified.

2. A dispenser for a collapsible tube comprising a wedge-like open-front casing having a central flaring aperture in its bottom to support the tube in vertical position, a fall-down cover hinged to the upper narrower end of the casing to close in the same, opposing leaf members hingedly mounted in the upper end of the casing and adapted to move in unison, finger holds on said leaf members projectible through apertures in the fall-down cover and co-active with an arcuate slot therein in maintaining the same normally closed, and a scoop-like snap closure at the bottom of the casing with a flat portion for the purposes specified.

3. A dispenser for a collapsible tube comprising a wedge-like open-front casing having a central flaring aperture in its bottom to support the tube in vertical position, a fall-down cover hinged to the upper narrower end of the casing to close in the same, said cover having an arcuate slot, a unitary recoil member embodying opposing leaves and a medial tubular portion pivoted in the upper end of the casing, finger holds on said member extending through the cover where opposing sections thereof may be radially collapsed, said finger holds being co-active with the slot in the cover in maintaining the same normally closed, and a scoop-like snap closure at the bottom of the casing with a flat section for the purposes specified.

4. A dispenser for a collapsible tube comprising a wedge-like open-front casing having a central flaring aperture in its bottom to support the tube in vertical position, a fall-down cover hinged to the upper narrower end of the casing to close in the same, said cover having an arcuate slot, a unitary recoil member embodying opposing leaf longitudinally placed sections with a connecting tubular portion having radially directed centering tongues at one end whereby it is pivoted in the casing, finger holds on said member extending through the cover where opposing sections thereof may be radially collapsed, said finger holds being co-active with the slot in the cover in maintaining the same normally closed, and a scoop-like snap closure at the bottom of the casing with a flat section for the purposes specified.

Signed at Philadelphia, Pennsylvania, the 7th day of July, 1930.

WILLIAM F. ERRIG.