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RESERVOIR APPLICATOR

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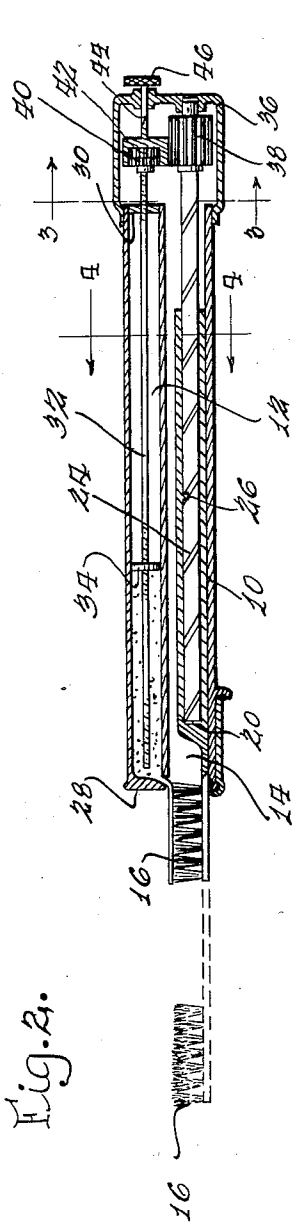


Fig. 2.

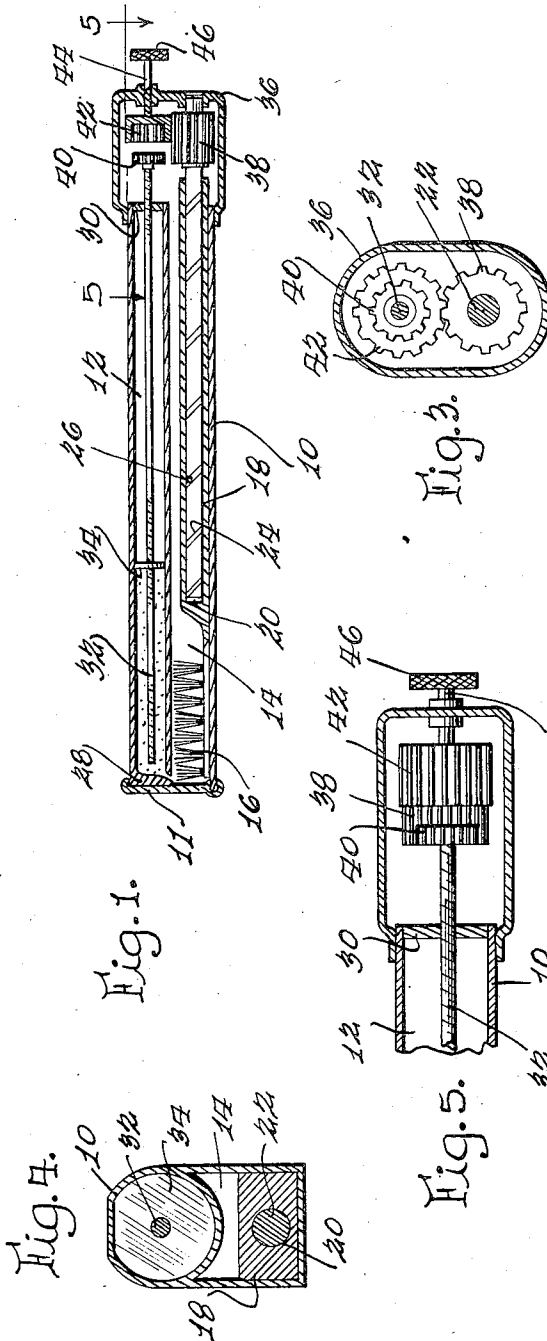


Fig. 1.

Fig. 4.

Fig. 3.

Fig. 5.

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## RESERVOIR APPLICATOR

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8 Claims. (Cl. 132-84)

This invention relates to improvements in fountain or reservoir applicators and is more particularly adapted for devices of this character associated with a receptacle or closure therefor whereby the applicator may be sanitarily housed when not in use and the reservoir sealed against leakage.

Objects of the present invention include the provision of a reservoir applicator which may be sanitarily sealed from the atmosphere to provide, if desired, a conveniently portable device of particular value to travelers; the association with such a device of means whereby the applicator may be mechanically unhoused for use and contents of the reservoir discharged in a simple and positive manner; the adaptability of such means to also regulate the volume of material discharged and such additional objects and advantages as will hereinafter be apparent.

The invention broadly comprehends the provision of common means associated with a housed reservoir applicator to uncover the applicator and effect the discharge of contents of the reservoir. While the principles of the invention have herein been selected for exemplification in a combined tooth brush and dentifrice holder, it is to be understood that this embodiment is for illustration only, and is not intended to limit the many adaptations of the broad inventive concept aforesaid. Further, it is understood that the specific mechanical means herein illustrated and described represents merely a convenient manner of adapting the principles of the invention for use and does not limit the real invention, which contemplates the provision of numerous other means which may improve and modify in a variety of material respects the herein specific structure.

In the accompanying drawing:—

Fig. 1 is a longitudinal section of a toothbrush and dentifrice receptacle which embodies the principles of my invention;

Fig. 2 is a view similar to Fig. 1, showing the device in operation;

Fig. 3 is a section on the line 3-3 of Fig. 2, looking rearward;

Fig. 4 is a section on the line 4-4 of Fig. 2 looking forward, and

Fig. 5 is a section on the line 5-5 of Fig. 1.

Referring in detail to the drawing, 10 represents a receptacle provided with a closure 11 and divided into a reservoir chamber 12 and a brush chamber 14. Brush 16 is provided with an elongated shank 18 extending into the brush chamber and fitting snugly therein, as shown in Fig. 4,

which view also indicates that the shank 18 is axially bored at 20 to receive an elongated shaft 22 having a rapid pitched thread 24 in which rides a pin 26 integral with shank 18.

Reservoir chamber 12 is provided at its forward end with a nozzle 28 to direct the discharge of paste or other dentifrice therefrom upon the brush 16. Removably secured in any suitable manner at the rear end of chamber 12 is a cap 30 threadedly apertured centrally to receive a screw 32 which extends substantially axially into chamber 12 and threadedly supports a follower 34 adapted to snugly fit in the chamber for the pressure discharge of contents therefrom upon the rotation of screw 32 and consequent forward movement of the follower 34.

Detachably carried in any convenient manner by the rear end of receptacle 10 is a housing 36 in which is disposed means for selectively actuating the position of the brush and the discharge of dentifrice. Journalled to shaft 22, whose end is supported by the rear wall of the housing, is a gear 38. Journalled to the extended end of screw 32 is a toothed clutch 40 adapted to be received by the clutch portion of a combined clutch and gear 42 whose gear portion is constantly in engagement with gear 38. Extending rearwardly of member 42 and projecting through the housing apertured to receive it, is shank 44, rigidly carrying at its end outside the housing a knurled knob 46 adapted to reciprocate as well as rotate the combined clutch and gear member 42.

It is now apparent that rotation of knob 46 will cause rotation of meshed gears 42 and 38 and elongated shaft 22, whose rapid pitched thread engaging pin 26 will reciprocate brush shank 18 to project brush 16 into exposed position or withdraw the same into the chamber, as desired. Forward movement upon knob 46 will engage element 42 and clutch 40 and turning of the knob will thereupon rotate screw 32 and the follower 34 threadedly carried thereby will expel contents of chamber 12.

In operation of the device above described, closure 11 is swung open and counter-clockwise turn of knob 46, which is pulled back to disengage the clutch, will cause brush 16 to move forwardly. When the forward end of the brush, or any desired portion thereof, passes nozzle 28, knob 46 is pushed forwardly to engage the clutch and cause the pressure discharge of dentifrice upon the brush. When the quantity desired has been discharged, the knob is pulled back to disengage the clutch and continued rotation thereof will

project the brush into fully extended position for use. To again house the brush, the knob is turned in a clockwise direction, while the clutch is out of engagement. To refill chamber 12 when its contents have been exhausted, housing 36 is removed from the receptacle 10 and cap 30 is unfastened, whereby screw 32 and follower 34 may be withdrawn from the chamber and the desired material inserted. Follower 34 may be manually rotated toward the cap end of screw 32 before the elements are replaced for use.

Having thus described the invention, I claim:

1. In a reservoir applicator, an applicator housing and common actuating means for unhousing the applicator and discharging contents of the reservoir upon the applicator.

2. In a reservoir applicator, an applicator housing and common actuating means for unhousing the applicator and controllably discharging contents of the reservoir upon the applicator.

3. In combination with a receptacle containing a reservoir and an applicator for contents thereof, common means for projecting the applicator from the receptacle and discharging contents of the reservoir.

4. In combination with a receptacle containing a reservoir and an applicator for contents

thereof, common means for projecting the applicator from the receptacle and controllably discharging contents of the reservoir.

5. In combination with a receptacle containing a reservoir and an applicator for contents thereof, common means for projecting the applicator from the receptacle and controllably discharging contents of the reservoir while the applicator is being projected.

6. In combination, a receptacle containing a reservoir and an applicator, and means for projecting and retracting the applicator with respect to the receptacle, said means actuating the pressure discharge of contents of the reservoir.

7. In combination, a receptacle containing a reservoir and an applicator, and means for projecting and retracting the applicator with respect to the receptacle, said means actuating the pressure discharge of contents of the reservoir while the applicator is being projected.

8. In combination, a receptacle containing a reservoir and an applicator, means for projecting and retracting the applicator with respect to said receptacle and means for discharging contents of the reservoir while the applicator is being projected.

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