

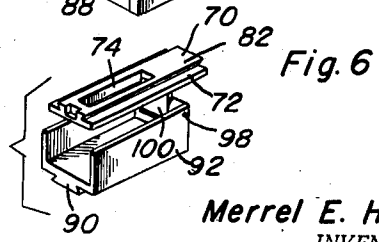
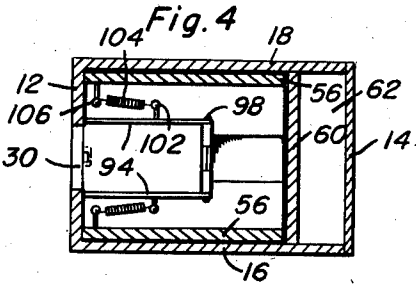
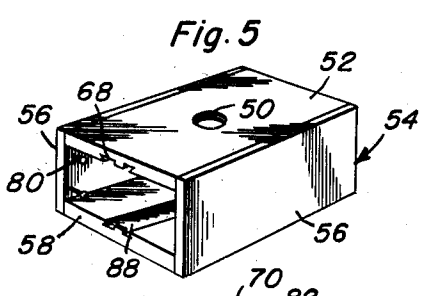
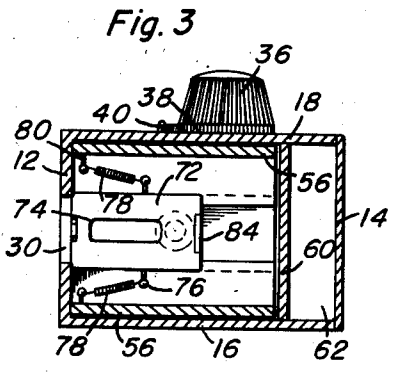
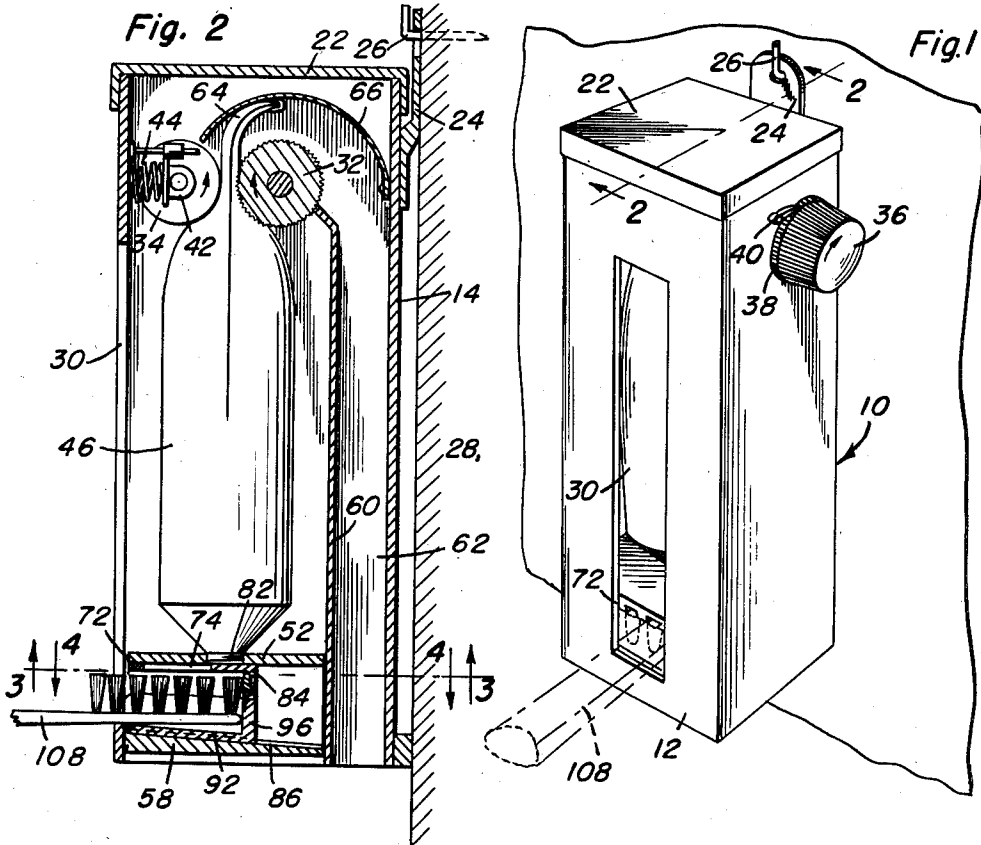
Dec. 23, 1952

M. E. HATCHER  
TOOTH PASTE DISPENSER HAVING BRUSH  
OPERATED SLIDABLE CLOSURE

2,622,768

Filed Jan. 11, 1951

2 SHEETS—SHEET 1



Merrel E. Hatcher  
INVENTOR.

BY *Charles A. O'Brien*  
*and Harvey B. Jacobson*  
Attorneys



# UNITED STATES PATENT OFFICE

2,622,768

## TOOTH PASTE DISPENSER HAVING BRUSH OPERATED SLIDABLE CLOSURE

Merrel E. Hatcher, Richland, Wash.

Application January 11, 1951, Serial No. 205,481

1 Claim. (Cl. 222—102)

1

This invention relates to a device for ejecting tooth paste from a conventional collapsible tube onto a tooth brush in the correct amount and without all the waste and bother encountered in the present hand system of squeezing the tube.

An important object of the invention is to provide a device wherein tooth paste is dispensed upon a tooth brush in response to a rapid insertion and removal of the tooth brush in the device.

Another object of the invention is to provide a tooth paste dispenser which includes a compartment for receiving the collapsed end of the tube and a means for directing this collapsed end continuously into the compartment.

A further object of the invention is to provide a tooth paste dispenser which is relatively simple in design and construction, inexpensive, and very easy to assemble and operate.

These, together with various ancillary objects and features of the invention which will later become apparent as the following description proceeds, are attained by the device, a preferred embodiment of which has been illustrated by way of example only in the accompanying drawings, wherein:

Figure 1 is a perspective view of the device;

Figure 2 is a vertical sectional view taken on the line 2—2 of Figure 1;

Figure 3 is a horizontal sectional view taken on the line 3—3 of Figure 2;

Figure 4 is a horizontal sectional view taken on the line 4—4 of Figure 3;

Figure 5 is a perspective view of a detail of construction;

Figure 6 is a group perspective view of another detail of construction;

Figure 7 is a sectional view similar to Figure 2 showing a different position of the dispensing mechanism;

Figure 8 is a sectional view taken on the line 8—8 of Figure 9;

Figure 9 is an enlarged fragmentary vertical sectional view similar to Figure 7 and showing the dispensing of paste on a tooth brush; and,

Figure 10 is a front elevational view of the device.

Specific reference is now made to the drawings. In the several views in the accompanying drawings and in the following specification reference characters indicate corresponding elements throughout.

The device comprises a vertical hollow casing 10 having front and rear walls 12 and 14 interconnected by side walls 16 and 18, the casing being open at its bottom end as at 20. The casing in-

2

cludes a removable top closure 22 and an apertured bracket 24 for receiving a suitable fastening pin 26 for securing the casing to a supporting wall 28. The front wall is provided with a vertical slot 30 for a purpose soon to appear.

Journalled in the side walls 16 and 18 adjacent the upper end of the casing is a pair of spaced rollers 32 and 34, one of the rollers 32 including an end extending through the wall 18 and carrying at this end a knurled knob 36 for turning the roller. The knob further includes a ratchet 38 and a pawl 40 for retaining the roller 32 in an adjusted rotational position. The other roller 34 is mounted on brackets 42 which are urged by springs 44 toward the roller 32. A conventional collapsible tooth paste tube 46 is provided which is received at its upper end between the rollers which apply squeezing pressure to the tube as will be readily understood.

The tube includes a threaded neck portion 48 from which the usual cap has been removed, the neck portion being removably retained in a threaded aperture 50 of the top wall 52 of a housing 54 which is vertically slidable in the casing 10 and further includes side members 56 and a bottom wall 58. The housing is slidable between the side walls 16 and 18 of the casing, the front wall 12 and a vertically extending partition 60 which is in turn spaced from the rear wall 14 to provide a collapsed tube-receiving compartment 62. As the paste is squeezed from the tube, the collapsed portion 64 thereof enters the compartment being directed therein by an arcuate baffle 66 secured to the rear wall 14 and overlying the roller 32.

The top wall of the housing 54 is provided with dove-tail grooves 68 for slidably receiving the dove-tail tongue 70 of a slide bar or closure 72, the latter further including an elongated slot 74 extending along only a portion of the length of the bar. Laterally extending pins 76 are carried by the side edges of the bar and anchor one end of a pair of springs 78 which are anchored at their other ends to pins 80 secured to the inner surfaces of the side members 56 of the housing 54, the springs normally urging the slide bar toward the front wall 12 of the casing so that the unslotted portion 82 thereof blocks the aperture 50 of the housing. At the edge of the unslotted portion, the slide includes a depending lip 84 for a purpose soon to appear.

The inner surface of the bottom wall 58 is downwardly inclined from the front wall to the partition as at 86 and includes a dove-tail groove 88 for slidably receiving the dove-tail tongue 90 of a

member 92 having side walls 94 and a rear wall 96. Pivoted for vertical movement as at 98 to the rear wall 96 is a dog 100. The side walls 94 include lateral pins 102 to which are anchored one end of a pair of springs 104 which are in turn anchored to pins 106 carried by the side walls 56 of the housing 54. The springs urge the slidable member 92 toward the front of the casing.

In practical operation, the neck portion 48 of the tooth paste tube 46 is threaded into the aperture 50 of the housing 54 and the tube and housing are slid into the casing 10, the upper end of the tube being received between the squeeze rollers 32 and 34. The knob 36 is rotated to apply pressure to the tube which would normally urge the paste contents through the aperture 50 but for the fact that the unslotted portion 82 blocks the aperture 50 and prevents dispensing of the contents. A tooth brush 108 is then pushed into the housing 54 through the slot 30 at the front wall of the casing until the end opposite the handle strikes the rear wall 96 of the slide member 92 pushing the latter toward the partition 60 against action of the springs 104. The dog 100 engages the lip 84 of the slide 72 and moves the latter toward the partition whereupon the slot 74 underlies the aperture 50 uncovering the same for the full movement of the tooth brush toward the partition, during which movement paste is dispensed on the brush as shown clearly in Figure 9. Because of the downward inclination of the bottom wall 86 of the housing 54, the dog 100 becomes disengaged from the lip 84 when the rear wall of the slidable member approaches the partition and the slide 72 snaps back toward the front wall 12 to immediately cut off the further dispensing of paste on the brush. Removal of the brush will allow the slidable member to return whereupon the pivoted dog will reengage the lip 84 of the slide 72 for repeat operation. As the contents of the tube are consumed, the housing 54 moves vertically up the casing 10 and the collapsed portion 64 of the tube is directed by the arcuate baffle 66 into the compartment 62 behind the partition 60. Thus, tooth paste is dispensed in the present de-

vice by a quick insertion and removal of the tooth brush in the casing whereby only a predetermined amount of paste is delivered on the brush.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claim.

Having described the invention, what is claimed as new is:

A dispenser comprising a casing for the reception of a collapsible paste container, means for ejecting paste from the container and means for controlling the discharge of the paste, the second named means including a housing in the casing connected to the container for receiving paste therefrom, a spring closed slidable closure for the container in the housing, a member slidable in the housing for receiving a toothbrush and operable thereby, and means releasably connecting the closure to said member for actuation to open position thereby, the last named means including a lip on the closure, and a dog pivotally mounted on the member and operatively engageable with said lip when said member is moving in one direction in the housing.

MERREL E. HATCHER.

#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

Number	Name	Date
1,156,106	Smart	Oct. 12, 1915
1,873,217	Reid	Aug. 23, 1932
2,533,839	Robinson	Dec. 12, 1950