

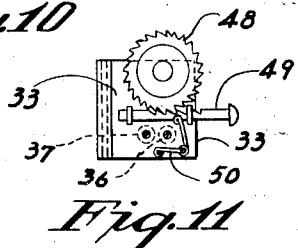
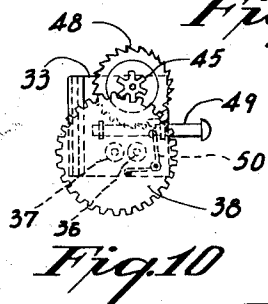
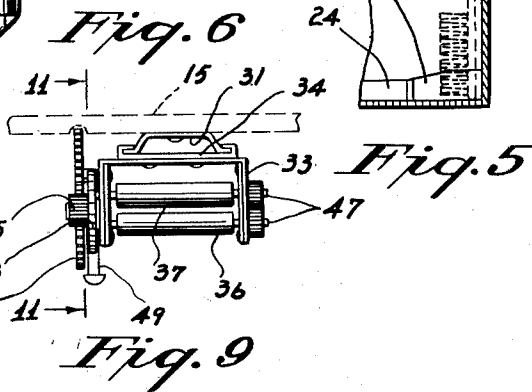
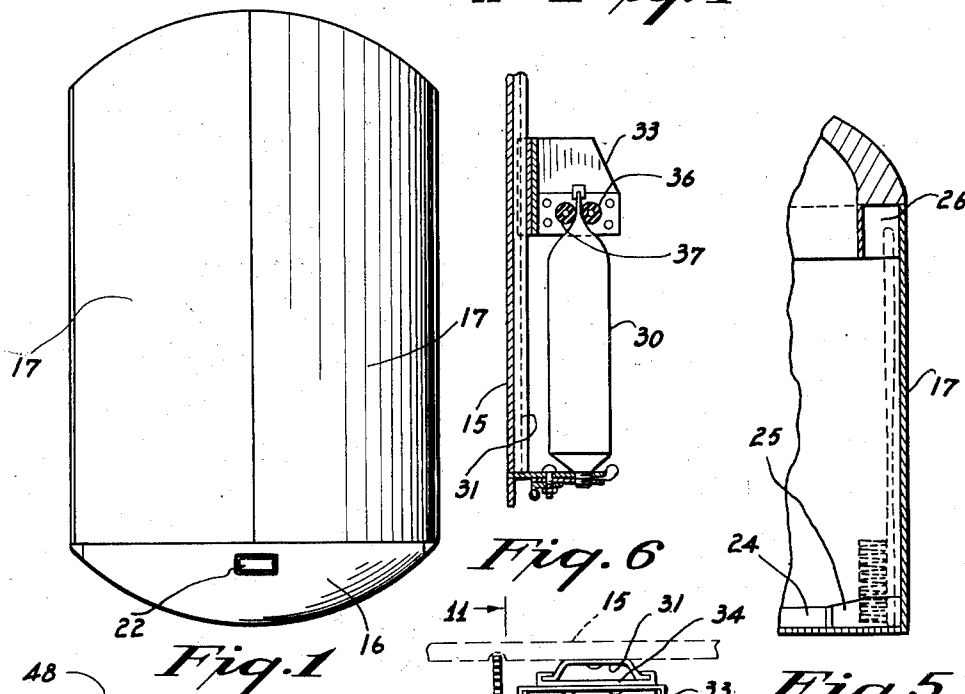
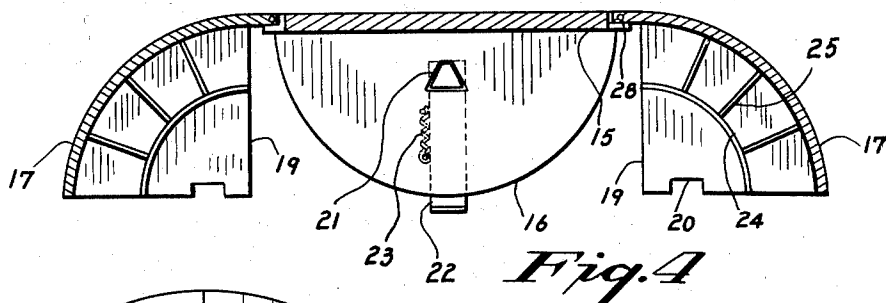
Aug. 7, 1951

V. MECZELSKI
SUPPORTING CASING FOR COLLAPSIBLE TUBE, WITH
MEANS TO EXTRUDE THE TUBE CONTENTS

2,563,733

Filed Oct. 19, 1948

3 Sheets-Sheet 1



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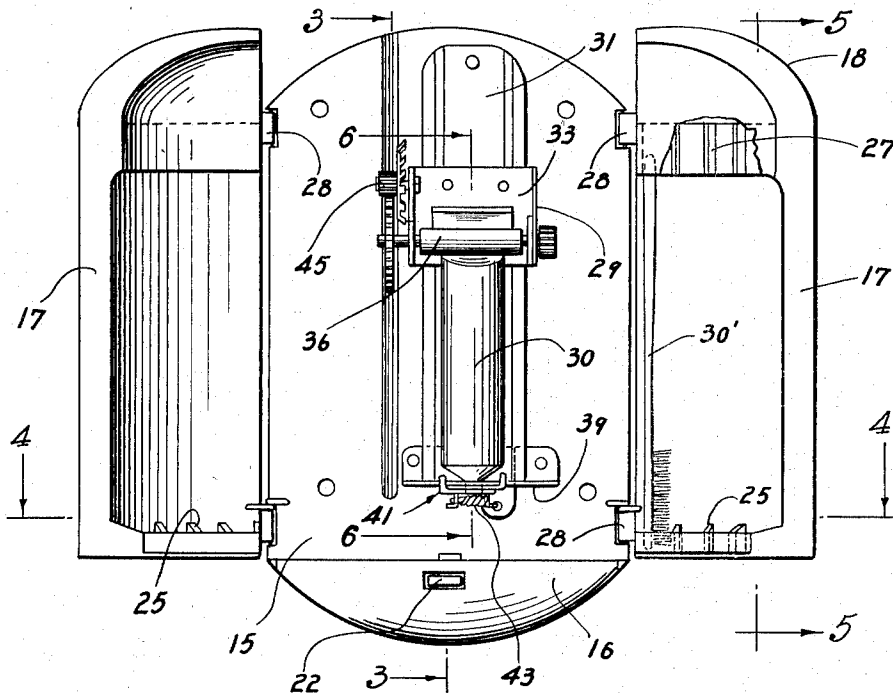


Fig. 2

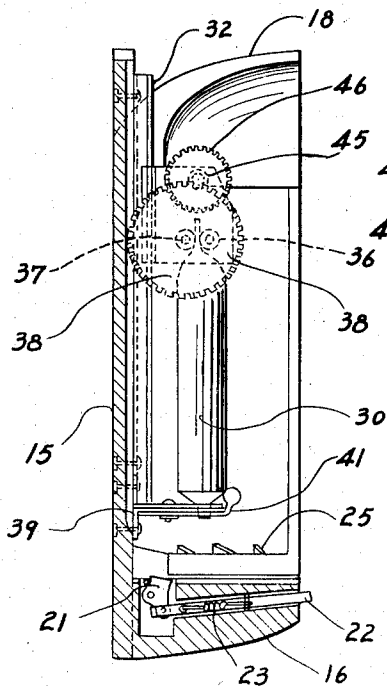


Fig. 3

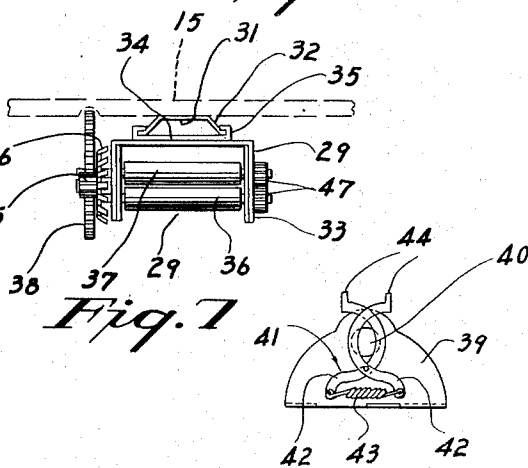


Fig. 7

Fig. 8

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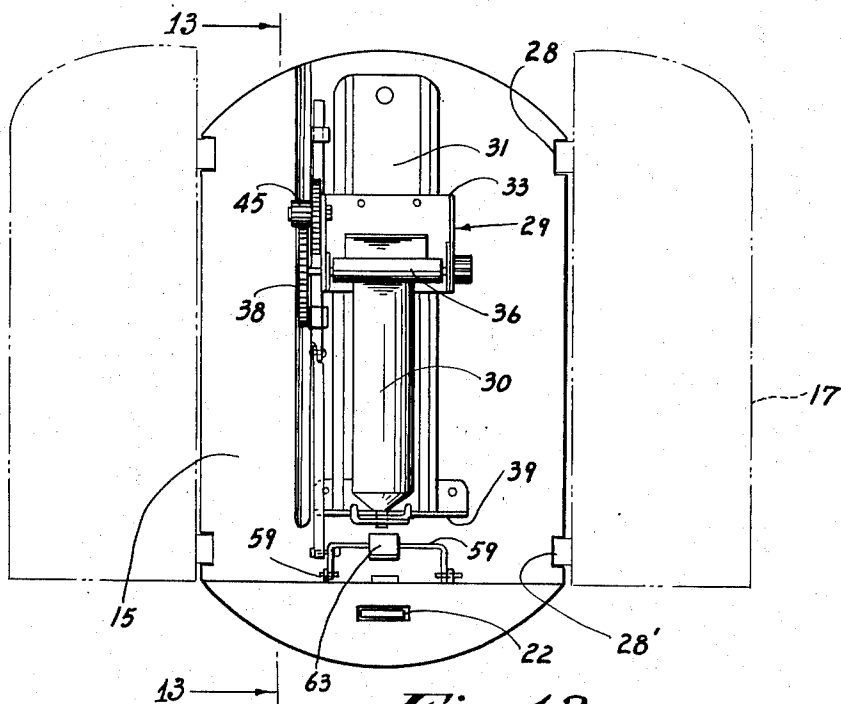


Fig. 12

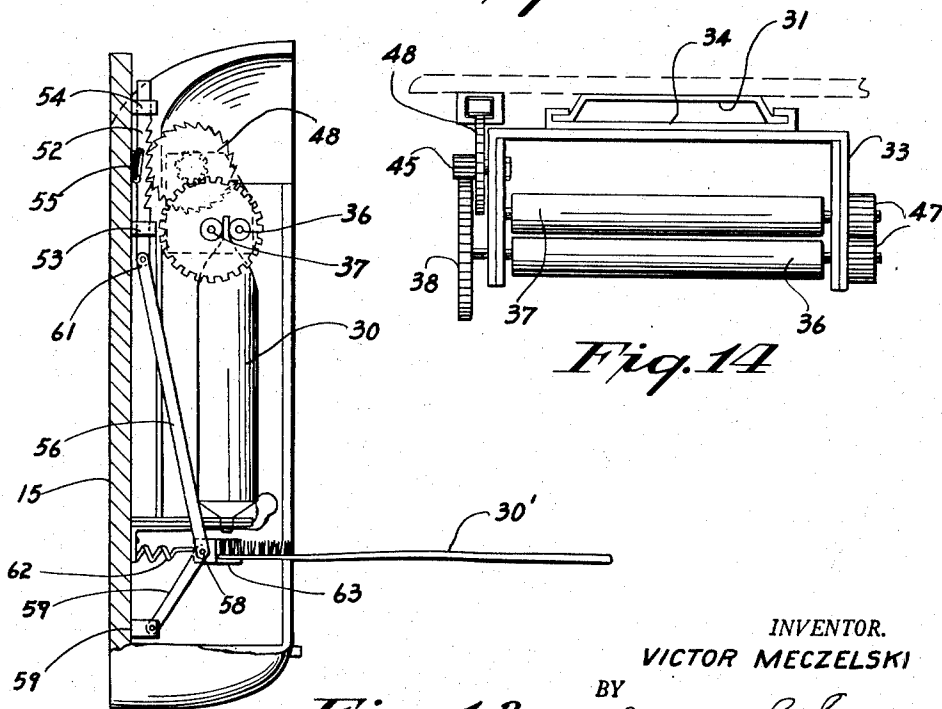


Fig. 14

Fig. 13

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UNITED STATES PATENT OFFICE

2,563,733

SUPPORTING CASING FOR COLLAPSIBLE
TUBE WITH MEANS TO EXTRUDE THE
TUBE CONTENTSVictor Meczelski, New Britain, Conn., now by
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Application October 19, 1948, Serial No. 55,265

3 Claims. (Cl. 222-102)

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This invention relates to improvements in toilet kits of the type embodying a small cabinet or casing adapted to be mounted on the wall of a bath room and having therein means to support tooth brushes and a device to support a collapsible tube of tooth paste and to extrude a desired quantity of the tooth paste onto a selected tooth brush, as needed.

It is an object of the present invention to provide a kit of the above kind embodying a cabinet of improved and simplified construction, whereby the tooth brushes may be supported in the cover parts for ready access as the cover parts are swung open, and whereby the tooth paste may be conveniently extruded onto a selected tooth brush, when the cabinet is opened.

It is another object of the present invention to provide an improved device to support a collapsible tube of tooth paste in an inverted position and to provide an easily operated manual mechanism to extrude the tooth paste from the tube.

Still another object of the invention is to provide an operating mechanism for tooth paste tubes which operates from a thrust of the tooth brush under the outlet and in position simultaneously to receive the tooth paste.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a front elevational view of the kit in closed condition.

Fig. 2 is a similar view of the kit in open condition.

Fig. 3 is a vertical section taken on line 3-3 of Fig. 2.

Fig. 4 is a horizontal section on line 4-4 of Fig. 2.

Fig. 5 is a vertical section on line 5-5 of Fig. 2.

Fig. 6 is a fragmentary vertical section taken through the operating mechanism for extruding the tooth paste from the tube, taken on line 6-6 of Fig. 2.

Fig. 7 is a top plan view of said tube operating mechanism.

Fig. 8 is a bottom plan view of the jaws for gripping the outlet end of the tube.

Fig. 9 is a top plan view, similar to Fig. 7, of a modified form of tube operating mechanism.

Fig. 10 is a side elevational view of the modified tube operating mechanism shown in Fig. 9.

Fig. 11 is a sectional view of the modified tube operating mechanism, taken on line 11-11 of Fig. 9.

Fig. 12 is a front elevational view of another

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modified form of a tube operating mechanism wherein the tooth brush, when located under the tube outlet and thrust inwardly against a member, effects the actuation of the mechanism.

Fig. 13 is a vertical sectional view of the tube operating mechanism shown in Fig. 12 and taken on line 13-13 thereof.

Fig. 14 is a top plan view of the tube operating mechanism shown in Fig. 12.

Referring now particularly to Figs. 1 to 8, the present kit includes a small cabinet composed of a flat back wall 15, a semi-circular main bottom wall 16, and a pair of similar substantially segmental-cylindrical hinged doors 17 having respectively segmental top and bottom walls 18 and 19 which abut each other and the back wall 15, with the bottom door walls 19 disposed on the main bottom wall 16, when the cabinet is closed. The edges of the bottom door walls 19 which abut when the doors are closed are provided with notches 20, and a spring-projected pivoted catch 21, mounted in the main bottom wall 16, engages in these notches to hold the doors closed. Slidable in and projecting through the front of bottom wall 16 is a push rod 22 operable to release the catch 21, the push rod being operatively connected at its rear end to the catch 21 and being projected forwardly by a spring 23 to normally project the catch. Each door 17 is provided on the inside of its lower end portion with a trough 24 divided into compartments by partitions 25. Near the top, each door is provided on the inside with a deeper inverted trough 26 similarly divided by partitions 27. This provides means on the inside of each door for removably supporting a plurality of tooth brushes in a vertical position. In use, each tooth brush has its handle inserted into a compartment of the deep upper trough 26 until the head of the brush is disposed above an aligned compartment of the shallow lower trough 24 on the same door, whereupon the brush is lowered into the latter trough with the handle still engaged in the first trough as shown in Fig. 2. In this way, the brush is held in place for ready removal by a reversal of the operation described. The doors 17 have suitable hinges 28 at the top and spring hinges 28' at the bottom which act to swing the doors open when unlatched.

Mounted centrally on the inner or front side of the back wall 15 is a tube operating mechanism 29 to support a tube of tooth paste 30 in an inverted position and to extrude desired quantities of the tooth paste from the tube onto the head of a selected tooth brush 30', as needed. This mechanism 29 is shown as including a guide mem-

ber 31 formed of a vertical elongated strip of metal secured on the wall 15 and having its longitudinal edges offset forwardly and bent to provide guide flanges 32. Vertically slidable on the guide member 31 is the mechanism 29 including a U-shaped roller mount 33 centrally fixed to a slide 34 having return bent edges 35 which receive the guide flanges 32 of member 31. Journalled in the sides or legs of mount 33 are the shafts of a pair of extruding rollers 36 and 37 which are adapted to frictionally receive the closed end of tube 30 therebetween. A gear 38 secured on an end of the shaft of roller 37 is operable to rotate the latter so as to move the mechanism downwardly and squeeze the tube 30 and thereby extrude the tooth paste from said tube 30 while the latter is held and supported at its neck end. For the latter purpose, the guide member 31 is provided at its lower end with a forwardly projecting horizontal plate 39 having an opening 40 to receive the neck of tube 30, and provided on the under side of plate 39 is a spring clamp 41 adapted to grip the neck of the tube 30 to hold the latter in place. The clamp comprises co-acting crossed pivoted jaws 42 normally closed by a tension spring 43 which connects their rear ends and having finger pieces 44 on their forward ends which are adapted to be pressed together to release and permit the insertion of or removal of the tube, Fig. 8.

A pinion 45 is journalled on the roller mount 33 in mesh with gear 38, and is provided with a finger actuated operating wheel 46 so that the required slow movement of the operating mechanism 29 may be readily effected. The rollers 36 and 37 are intergeared as at 47 so that both act on the tube to feed the tube operating mechanism 29.

Referring now particularly to Figs. 9 to 11, the pinion 45 which meshes with gear 38 is fixed to a ratchet wheel 48 which is operable by a rack bar 49 loosely slidably mounted on the roller mount 33 and projected forwardly and pressed into engagement with ratchet wheel 48 by a spring 50. The arrangement is such that, when the bar 49 is pressed rearwardly, it turns ratchet wheel 48 to operate the rollers 36 and 37; and when the bar 49 is released, it is returned to its forward position by spring 50 without turning and by freely ratcheting past the ratchet wheel 48.

Referring now particularly to Figs. 12, 13 and 14, there is shown a modified form of tube operating mechanism wherein tooth brush 30' can be used to effect the operation of the mechanism. Instead of using a horizontally extending rack, as in the operating mechanism shown in Figs. 9 to 11, a vertically extending rack 52 is used. This rack is vertically slidable in vertically spaced guides 53 and 54 and is retained against ratchet wheel 48 by a spring 55. A linkage comprising a long link 56 and a short link 57 pivotally connected together at 58 extends between a bracket support 59 and the rack 52. The connection of the link 56 with the rack is made by a pin 61. A spring 62 acts between the pin 58 and the back wall 15 to urge the links 56 and 57 forwardly with a support 63 for the tooth brush 30'. By placing the tooth brush 30' on the support 63 and thrusting the same rearwardly, the rack 52 is elevated and the ratchet wheel 48 is turned whereby to cause the rollers 36 and 37 to be operated upon the upper end of the tooth paste tube 30. Paste will accordingly, be laid upon the tooth brush so that as the tooth brush is taken away, it will be automatically provided with the paste.

The link member 57 is of U shape as shown more clearly in Fig. 12 and is supported by its opposite legs on laterally spaced brackets 59.

It will thus be seen that there has been provided a tooth brush and tooth paste cabinet which, when closed, confines the paste and tooth brush and protects the same against dust and other foreign matter for sanitary purposes. It will also be seen that there has been provided an automatic mechanism for dispensing tooth paste onto the tooth brush by the mere extension of the tooth brush under the outlet end of a tooth paste tube.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What I claim is:

1. In a toilet kit having a back wall, a device for holding a tube of tooth paste in an inverted position and operable for extruding the paste from the tube, comprising a vertically elongated guide plate fixed to said back wall having its longitudinal edges offset forwardly to provide guide flanges, a U-shaped roller mount having a pair of extruding rollers journalled therein, said guide plate having a forwardly projecting tube supporting plate at its lower end provided with an opening to receive the neck of the tube with the closed end of the latter frictionally engaged between said rollers, a slide fixed to said roller mount and engaging the guide flanges of the guide plate to slidably guide the roller mount for vertical movement, and manually operable means to rotate one of said rollers so as to feed the roller mount downwardly and cause collapsing of the tube between the rollers, said means including a gear transmission connected to the rollers, a ratchet wheel connected to said gear transmission and a movable rack engaging said ratchet wheel, a first linkage connected to said rack, a brush support connected to first linkage, and adapted to be moved by pressure applied thereagainst to operate said rack and rotate said rollers, a second linkage connecting said first linkage to the back wall, and means for normally holding said linkage in inoperative position.

2. In a toilet kit, a cabinet having a back wall, front covers adapted to be extended over the front of the back wall and to be opened laterally to provide access to the cabinet, a guide member fixed to the back wall, a tube operating mechanism slidably connected to the guide member and adapted to receive a tube, said operating mechanism including rollers between which the tube is extended, a gear transmission for the rollers with a ratchet wheel, a rack operable upon the ratchet wheel, a first linkage depending from the rack and having a brush support thereon, a second linkage connecting said first linkage to the back wall biasing means tending to keep the brush support extended, said support lying below the outlet of the tube whereby as the brush is inserted on the support and moved inwardly, tooth paste will be dispensed from the tube, and a clamp arrangement for fixing the lower end of the tube.

3. In a toilet kit having a back wall, a device for holding a tube of tooth paste in an inverted position and operable for extruding the paste from the tube comprising an elongated vertically extending guide plate fixed to said back wall, a roller mount, a pair of extruding rollers journalled in said roller mount, a tube supporting plate at the lower end of said guide plate pro-

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vided with an opening to receive the neck of the tube with the closed end of said tube frictionally engaged intermediate said rollers, a slide connected to said roller mount and movable on said guide plate, a gear transmission connected to said rollers including a ratchet wheel, a movable rack engaging said ratchet wheel, a linkage connected to said rack, a brush support connected to said first linkage and adapted to be moved by pressure applied thereagainst to operate said rack and rotate said rollers, a second linkage connecting said first linkage to the back wall and means for normally holding said linkage in inoperative position.

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