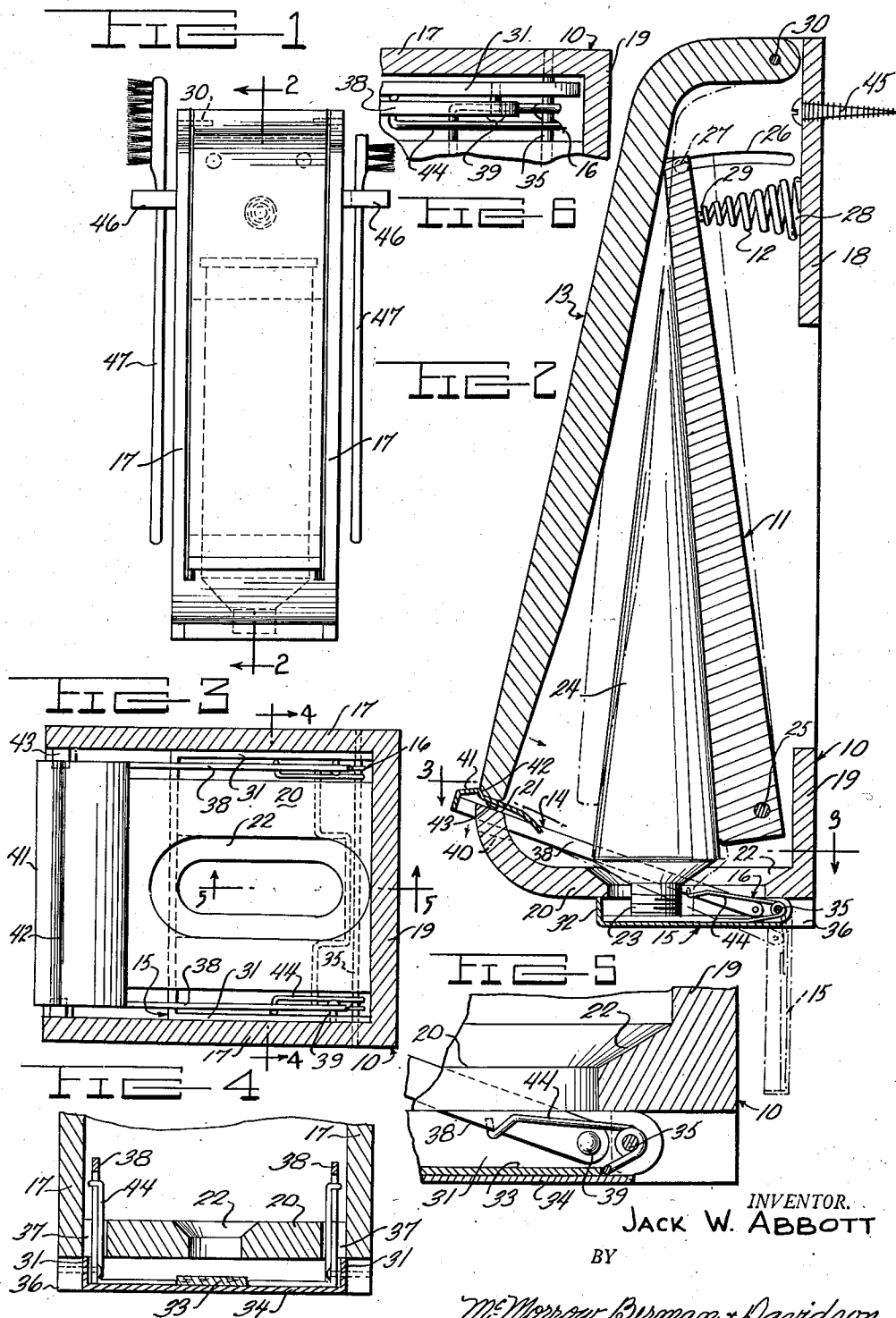


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J. W. ABBOTT

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PASTE DISPENSER IN WHICH TWO PIVOTALLY MOUNTED MEMBERS
COMPRESS A COLLAPSIBLE TUBE BETWEEN THEM
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INVENTOR.
JACK W. ABBOTT
BY

McMorrow, Burman & Davidson
ATTORNEYS

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PASTE DISPENSER IN WHICH TWO PIVOTALLY MOUNTED MEMBERS COMPRESS A COLLAPSIBLE TUBE BETWEEN THEM

Jack W. Abbott, Merchantville, N. J.

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This invention relates to paste dispensers, and more particularly to a dispenser attachable to a wall to hold a collapsible tube of tooth paste or similar material, and operative to dispense the paste from such a tube for use.

It is among the objects of the invention to provide an improved paste dispenser of highly sanitary character, which can be formed of a ceramic, metallic or synthetic resin plastic material, and which can be easily attached to the wall of a room, such as a bathroom, which will contain an entire tube of material, such as tooth paste, and will progressively dispense the contents of such a tube until the tube is entirely empty, which has a tube closure cap automatically movable to open position while material is being dispensed from the tube, and automatically closed by the action of resilient means when the dispensing operation is discontinued, and which is strong and durable in construction, simple and economical to manufacture, and neat and attractive in appearance.

Other objects and advantages will become apparent from a consideration of the following description, and the appended claims, in conjunction with the accompanying drawing, wherein:

Figure 1 is a front elevation of a tooth paste dispenser illustrative of the invention;

Figure 2 is a longitudinal cross-section on an enlarged scale of the dispenser illustrated in Figure 1, and is taken substantially on the line 2-2 of Figure 1;

Figure 3 is a transverse cross-section taken substantially on the line 3-3 of Figure 2;

Figure 4 is a longitudinal cross-section of a fragmentary portion of the dispenser, and is taken substantially on the line 4-4 of Figure 3;

Figure 5 is a longitudinal cross-section of a fragmentary portion of the dispenser on a still further enlarged scale, and is taken substantially on the line 5-5 of Figure 5; and

Figure 6 is a transverse cross-section on an enlarged scale of a fragmentary portion of the mechanism illustrated in Figure 3.

With continued reference to the drawing, the tooth paste dispenser comprises, in general, a base 10, a backing member 11 pivotally connected at its lower end to the base, a compression spring 12 resiliently urging the upper end of the backing member outwardly of the base, a cover member 13, pivotally connected at its upper end to the base, a catch assembly 14 for the lower end of the cover member, a closure cap 15 for closing the neck opening of a collapsible paste

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tube positioned in the dispenser, and a torsion spring 16 for resiliently urging the closure cap 15 to open position.

The base 10 is of rectangular shape, and has a pair of spaced-apart, substantially-parallel, continuous side walls 17, and a back wall structure comprising an upper portion 18 and a lower portion 19, joined at their edges to corresponding edges of the side walls to hold the side walls in their spaced-apart, substantially-parallel relationship and substantially perpendicular to the back wall structure. The base also comprises a bottom wall 20, extending outwardly from the bottom of the back wall structure along the bottom edges of the side walls. This bottom wall is curved upwardly near its edge remote from the back wall, to provide an upwardly-facing, downwardly and inwardly-inclined edge 21, and is provided with an elongated, beveled opening 22 to receive the neck 23 of a collapsible tooth paste tube 24 received in the dispenser, the longitudinal center line of the opening 22, being disposed substantially perpendicular to the back wall structure 19.

The backing member 11 is a rectangular plate receivable between the side walls 17 of the base 10, and tapering in thickness from its lower to its upper end. Near its lower end, this backing member is pivotally connected to the base by a pivot pin 25 extending transversely through the backing member and through the side walls of the base. Near the upper end of this backing member, the side walls are provided with respective, arcuate guide slots 26, and the backing member is provided near its end with projections 27 in the form of pins, extending through the corresponding guide slots 26 to limit outward movement of the backing member away from the rear wall structure of the base under the force of the spring 12. The upper portion 18 of the rear wall structure, and the backing member 11 are provided with spring-retaining extensions 28 and 29, respectively, received in the opposite ends of the compression spring 12 to hold the spring in operative position between the backing member and the rear wall structure of the base. The spring 12 is of conical form to permit the upper end of the backing member 11 to closely approach the rear wall.

The cover member 13 is also a rectangular plate, preferably of tapering thickness toward its ends, and is longitudinally curved near its upper end to extend from the outer edges of the side walls, back substantially to the rear wall structure 18, and is pivotally secured at its up-

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per end to the side walls by pivot pins 30 extending through the respective side walls and into the cover member. This cover member extends downwardly substantially to the outer edge 21 of the bottom wall 20, and is inclined somewhat downwardly and outwardly when its bottom edge is in alignment with the outer edge of the bottom wall, as illustrated in Figure 2. The upper end of the backing member 11 bears against the inner side of the cover member 13 so that the spring 12 resiliently urges the lower end of the cover member outwardly away from the back wall structure. When the tube 24 is properly mounted in the dispenser, as illustrated in Figure 2, the lower end of the cover member 13 may be manually pushed inwardly to squeeze the tube between this cover member and the backing member to force the desired quantity of tooth paste, or other material, out of the neck 23 of the tube, which neck is received in the opening 22 of the bottom wall.

The closure cap 15 is preferably a rectangular structure underlying the bottom wall 20 in covering relationship to the opening 22, and is provided on at least three sides with marginal flanges constituting two sides 31 and a front end wall 32. A lining 33 of cork, or some similar resilient material, is provided in the cap 15 to contact the end of the tube neck 23 to seal the paste in the tube when the cap is closed.

The sides 31 of the cap are extended somewhat rearwardly of the bottom plate 34, and are apertured to receive a pivot pin 35, which extends through apertured lugs 36, provided on the base 10 below the bottom wall 20 to pivotally connect the cap to the base.

The bottom wall 20 is provided with two elongated slots 37, disposed one slot at each side of the opening 22, and a pair of spaced-apart, substantially-parallel links or arms 38 extend respectively through the slots 37. Corresponding ends of the arms 38 are pivotally connected to respective sides 31 of the cap by respective pivot pins 39, disposed somewhat forwardly of the pivot pin 35. The arms 38 are received in respective notches 40 in the outer edge portion of the bottom wall 20, and extend somewhat outwardly of the bottom wall. A thin walled resilient catch 41 is secured at its ends to the outer end portions of the links 38, and is provided with a ridge 42, which operatively engages the lower end of the cover member 13 to hold the cover member against movement outwardly of the outer edge 21 of the bottom wall 20. The catch 41 can be depressed, however, to release the lower end of the cover member so that the cover member can be swung outwardly and upwardly about the axis of pivot pin 30 to give access to the interior of the dispenser for the replacement of a paste tube.

The arms 38 are releasably held in the respective notches 40 by corresponding lugs 43, projecting inwardly from the side walls, and the cap 15 is resiliently urged to its opened position, indicated in dotted lines in Figure 2, by the torsion spring 16. This spring has two arms 44 provided at their outer ends with hooks engaged respectively with the lengths 38, and has loops overlying the inner surface of the bottom wall 34 of the cap to urge the cap downwardly about the pivot pin 35.

With this arrangement, when the lower end of the cover member 13 is forced inwardly to compress the tube 24 between the cover member and the backing member 11, the catch 41 is released by the cover member, freeing the links 38

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so that spring 16 is effective to swing the closure cap from its closed to its open position. A tooth brush may then be disposed below the neck of the tube to receive tooth paste forced from the tube. It will be noted that there will be sufficient space between the cover plate and the tube to permit complete opening of the closure cap before the cover plate comes into contact with the side of the tube. As soon as manual pressure on the lower portion of the cover plate is released, spring 12 pushing against the upper end of backing member 11, forces the cover member outwardly, and as soon as the lower end of the cover member strikes the ridge 42 of the catch 41, it pulls on the links 38 in a direction to return the closure cap to its closed position, sealing the end of the tube neck 23.

The upper part of the rear wall structure is provided with suitable apertures for screws 45, or other suitable fasteners, by means of which the dispenser can be firmly attached to a wall, and respective apertured extensions 46 are provided on the outer sides of the side walls 17 of the upper ends of the latter to provide racks for tooth brushes 47.

The elongated shape of the opening 22 permits the neck 23 of the paste tube to move toward the rear wall structure of the base as the contents of the tube are progressively dispensed, as shown in dotted lines in Figure 2, so that the device is operative to flatten the entire length of the collapsible tube and substantially empty the tube.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is, therefore, to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are, therefore, intended to be embraced therein.

What is claimed is:

1. A paste dispenser comprising a rectangular base having side walls, a back wall structure interconnecting said side walls and a bottom wall having an elongated, beveled opening therein for receiving the neck of a paste tube and an upwardly curved portion opposite said back wall structure, a backing member in said base overlying said back wall structure and pivotally connected at its lower end to said side walls, a compression spring between the upper end of said backing member and said back wall structure, said side walls having arcuate guide slots therein at the upper end of said backing member and said backing member having projections near its upper end extending into said guide slots to limit movement of the upper end of said backing member away from said back wall structure under the influence of said spring, a cover plate receivable between said side walls and pivotally connected at its upper end to said base at the upper end of said back wall, said cover plate being curved near its upper end toward said back wall structure and extending from the upper end of said back wall substantially to the outer edge of said bottom wall and bearing against said backing member at the upper end of the latter, a hollow closure cap pivotally connected at one end to said base to underlie said bottom wall in covering relationship to said tube neck-receiving opening, said bottom wall having elongated slots therein disposed one slot at each side of said

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opening, a pair of links each connected at one end to a respective side of said closure cap and extending through respective slots in said bottom wall to the outer edge of the latter, a catch for the bottom edge of said cover plate secured to said links and overlying the outer edge of said bottom wall, said catch being operative to hold the bottom edge of said cover plate against movement outwardly of the outer edge of said bottom wall but being releasable to permit outward and upward swinging of said cover plate for access to the interior of said dispenser to replace a paste tube therein, said cover plate being movable inwardly at its lower end to compress a paste tube against said backing member and force paste from the tube neck received in said bottom wall opening and returned to its outward position as limited by said catch by said compression spring, and a torsion spring connected between said cap and said base to move said cap to open position when said cover is moved inwardly releasing said catch, said cap being returned to closed position by engagement of said cover member with said catch to pull on said links when said cover member is moved outwardly by said compression spring.

2. A paste dispenser comprising a rectangular base including a back wall structure, a pair of side walls and a bottom wall having an upwardly facing outer edge, a backing member overlying said back wall structure and pivotally connected near its lower end to said base, a compression spring interposed between said back wall structure and said backing member near the upper end of the latter, a cover plate pivotally connected at its upper end to said base near the upper end of the latter and extending downwardly in contact with the upper end of said backing member to the outer edge of said bottom wall in overlying relationship to said backing member, said cover plate and said backing member being spaced apart to receive a paste tube therebetween and said bottom wall having an opening therethrough receiving a tube neck, a closure cap pivoted to said base and having a closed position in which it underlies said bottom wall in covering relationship to said bottom wall

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opening, spring means urging said closure cap to open position, a catch engageable with the bottom end of said cover plate, and means connecting said catch to said closure cap to move said cap to closed position when said catch is moved by said cover plate under the influence of said compression spring.

3. A paste dispenser comprising a rectangular, hollow base, a backing member in said base and pivotally connected at its lower end to the latter, a cover plate receivable in said base and pivotally connected at its upper end to said base near the upper end of the latter, a compression spring carried by said base and urging the upper end of said backing member and the bottom end of said cover plate outwardly of the base, said backing member and cover plate being spaced apart to receive a paste tube therebetween and said base having a tube neck-receiving opening in the bottom thereof, a closure cap pivotally connected to said base to underlie the bottom of said base in covering relationship to said opening, spring means resiliently urging said closure cap to open position away from the bottom of said base, and means connected to said closure cap and engageable by the bottom end of said cover plate to move said closure cap to closed position.

4. A paste dispenser comprising a rectangular hollow base, a backing member in said base pivotally connected at its lower end to said base adjacent the lower end of the latter, a cover plate receivable in said base and pivotally connected at its upper end to said base near the upper end of the latter, and a compression spring carried by said base and engaging said backing member near the upper end of the latter urging the upper end of said backing member and the bottom end of said cover plate outwardly of said base, said backing member and cover plate being spaced apart to receive a paste tube therebetween and said base having a tube neck receiving opening in the bottom thereof.

JACK W. ABBOTT.

No references cited.