May 13, 1952 T. M. DENDY 2,596,217

COMBINED TOOTHBRUSH HOLDER AND POWDER DISPENSER

Filed Feb. 1, 1950

Fig. 1.

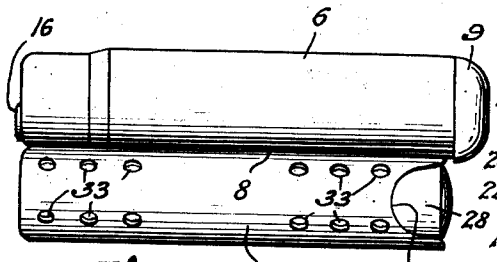


Fig. 2.

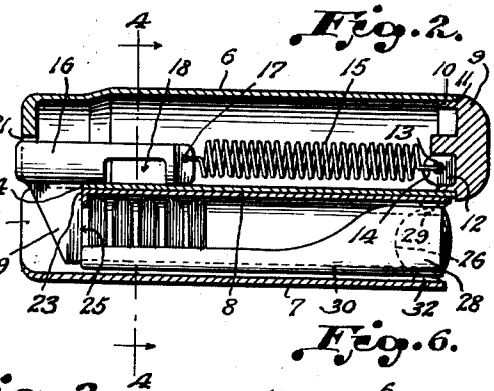


Fig. 4.

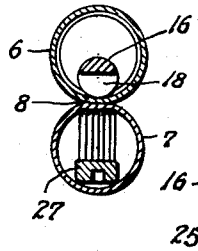


Fig. 3.

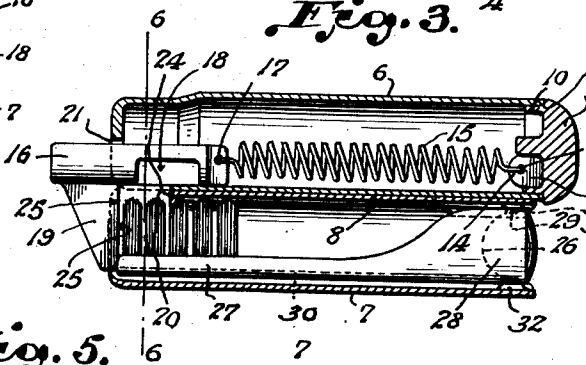


Fig. 6.

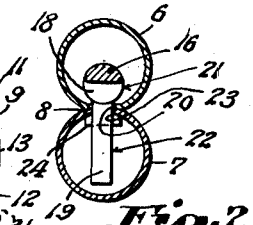


Fig. 7.

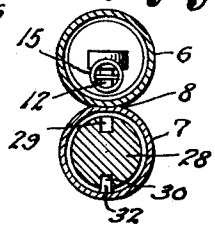


Fig. 5.

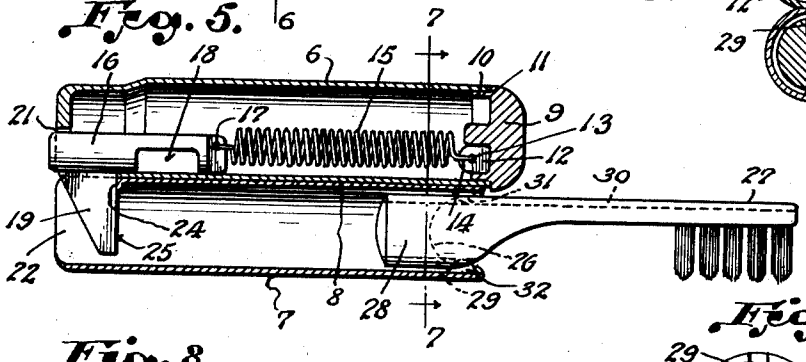


Fig. 8.

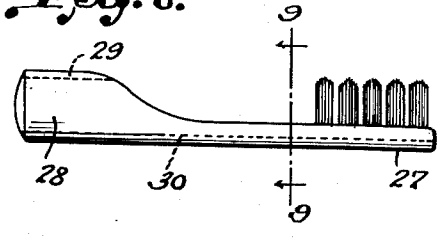
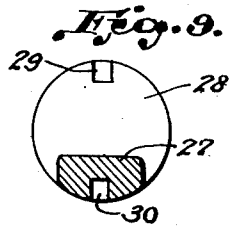


Fig. 9.



INVENTOR.
Tally M. Dendy
BY
Eugene E. Stevens
ATTORNEY.

Patented May 13, 1952

2,596,217

UNITED STATES PATENT OFFICE

2,596,217

COMBINED TOOTHBRUSH HOLDER AND POWDER DISPENSER

Tally M. Dendy, Jackson, Miss., assignor of one-third to S. Buford Key and one-third to Victor Vance, both of Jackson, Miss.

Application February 1, 1950, Serial No. 141,745

6 Claims. (Cl. 132—84)

1

This invention relates to a combined tooth brush holder and powder dispenser.

An object of the invention is to provide a tooth brush holder and powder dispenser, the same comprising an upper container for the powder and a lower container for the tooth brush, both containers made into a single unitary structure.

A further object of the invention incorporates a closure cap for the powder container, said powder container having a powder dispensing opening and a valve operable to open and close said dispensing opening and a spring connecting the closure cap and the valve.

A still further object of the invention is attained wherein the spring, which is placed within the powder container, upon expansion and contraction, agitates the powder within the powder container.

Another object of the invention incorporates a valve having a lug depending within the tooth brush container, said lug being engaged by the end of the tooth brush when the same is pushed inwardly within its receptacle whereby the valve will be moved to uncover the opening in the powder receptacle against the action of the spring, whereupon powder within the receptacle is deposited upon the brush bristles, the brush then being withdrawn and the valve automatically closing.

A further object of the invention utilizes the powder container and brush receptacle as a handle for the tooth brush when the latter is withdrawn and turned end for end.

A still further object of the invention is to provide a downwardly extending lip portion within the brush receptacle and adjacent the powder dispensing opening, said lip engaging the brush bristles during the valve operation to spread the same and thereby allow the powder to fall between the brush bristles.

Another object of the invention provides the tooth brush handle part with opposite grooves, and corresponding tongues on the inner surface of the open end of the brush receptacle which prevents relative rotative movement of the tooth brush when the same is being used.

A further object of the invention provides an opening in the rear ends of both the powder receptacle and the tooth brush holder through which the valve projects when the same is moved to uncover the dispensing opening.

Other objects and advantages will become apparent when taken in connection with the accompanying detailed description and drawings, in which—

2

Fig. 1 is a view in side elevation of the powder container and tooth brush holder;

Fig. 2 is a vertical sectional view partly in section showing the valve in its retracted position;

Fig. 3 is a vertical sectional view partly in section showing the valve in its extended position;

Fig. 4 is a section on the line 4—4 of Fig. 2;

Fig. 5 is a vertical sectional view, showing the tooth brush removed from its casing and with its handle mounted within the open end of the casing in position for use;

Fig. 6 is a section on the line 6—6 of Fig. 3;

Fig. 7 is a section on the line 7—7 of Fig. 5;

Fig. 8 is a side view in elevation of the tooth brush and its handle; and

Fig. 9 is a section on the line 9—9 of Fig. 8.

Referring specifically to the drawings, in which like numerals indicate similar parts throughout the various views, the powder container is shown at 6, the same being made of some transparent plastic material or the like. A tooth brush holder is shown at 7, the same being constructed of a transparent plastic material, the powder container 6 and tooth brush holder 7 being fused or adhesively secured together along their respective bottom and top sides as at 8.

The powder container has an open front end which is adapted to be closed as by a removable cap 9, said cap having an annular inwardly extending ring 10 which is adapted to fit tightly within the open end of the container, the cap further being provided with an annular shoulder 11 abutting the extreme ends of the open end of the power container. The cap is further provided on its inner side with a lug 12 which has an opening 13 therein, said opening receiving one end 14 of a tension spring 15. The other end of the spring 15 is connected to the inner end of a tubular slidable valve 16 as through an opening 17 formed therein through which the spring end is adapted to project.

The valve 16 consists of a barrel or tubular portion, said tubular portion being recessed or cut away from side to side as shown at 18, the tubular portion of the valve adjacent its front end being provided with a downwardly extending and integral flat lug 19. The power container is provided adjacent its rear end and in its bottom surface with an opening or passage 20 which, when the valve 16 is projected beyond the powder container, registers with the cut-away portion 18 of the valve and provides a passage from the powder container to the inner end of the tooth brush holder. The powder container is provided with a circular opening 21 at its lower rear end through which the valve 16 is projected. Likewise, the

tooth brush holder is provided at its rear end with a vertical slot 22 through which the lug 19 passes when the valve is projected outwardly. The inner end of the passage 20 and likewise the inner end of a slot 23 formed in the upper surface of the tooth brush holder acts as a stop 24 which is engaged by the inner side 25 of the valve lug 19 which arrests the inward movement of the valve, said valve being normally urged to its inner or closed position as by the spring 15.

The tooth brush holder is open at its front end, and on opposite sides is cut away as at 26 to provide finger grips so that the handle of the tooth brush can be grasped when it is desired to remove the same from its holder.

The tooth brush comprises a bristle end 27 and an enlarged handle end 28, the enlarged end 28 frictionally engaging the inner surface of the outer open front end of the tooth brush container, whereby the brush is frictionally held within the holder. The brush handle is further provided on its top surface adjacent its end with a groove 29 and on its back surface with a groove 30 which extend the entire length of the tooth brush. The grooves 29 and 30 are adapted to receive small tongues or lugs 31 and 32 formed on the upper and lower surfaces of the tooth brush holder and, of course, extending inwardly. The function of the grooves and cooperating tongues or lugs is to prevent any rotative movement of the tooth brush when it is placed in position for use. The tooth brush is normally placed within its container or holder 7 with its bristle-containing end 27 inwardly, said end abutting the inner edge of the valve lug 19. In this position the tooth brush can be urged inwardly as by pressure from the finger on the handle end portion 28, which movement of the tooth brush causes the valve 16 to slide and be projected past the end of the container walls and thereby register the recessed or cut-away portion of the valve with the powder discharge opening 20, whereupon powder will be deposited upon the bristles of the tooth brush. Upon the release of pressure from the tooth brush handle, the valve will close under action of the spring 15, and the tooth brush will be returned to its normal position within the holder. In such return movement the lip 24 will spread the brush bristles and cause the powder to move down between the same. The tooth brush holder is provided adjacent opposite sides and near the inner end thereof with rows of air or ventilating holes 33.

In the assembly and operation of the device, the valve 16 with the spring 15 attached thereto is moved into place, whereupon, with the cover 9 removed, the spring end 14 is grasped and passed through the opening 13 in the cap lug 12, the cap then being placed on the open end of the powder container. It will, of course, be understood that the container has been filled with powder and the same can be replenished from time to time by merely removing the cap 9. The tooth brush, with its bristle end forward, is then inserted within its casing until the same engages the inner edge 25 of the lug 19, the tongues 31 and 32 registering with the grooves 29 and 30 of the tooth brush handle. Now, when pressure is applied, as by the user's thumb or the like, to the tooth brush handle end, the valve 16 will slide and be projected past the end of the container, the passage or recess 18 registering with the opening 20 and admitting powder to fall onto the tooth brush bristles. Upon the release of pressure on the tooth brush handle, the valve, through the action of the spring 15, will return to close the opening and at the same time move the tooth brush back to its starting position. The lip 34, during the return movement of the valve and brush, engages the bristles and spreads them apart, which causes some of the powder to move downwardly between the bristles. During the operation of the valve 16 the spring 15 is expanded and contracted, such expansion and contraction causing agitation of the powder within the powder container, whereby the same is kept in a flowable and granular form, free from caking.

The tooth brush can now be grasped between the fingers and withdrawn from its casing, whereupon the enlarged handle end is inserted and lodged within the open end of the tooth brush container, in which position, and with the powder container and the brush casing acting in the capacity of a handle for the brush, the same can be used in its normal manner of use, after which the brush is removed from the casing and reversed and reinserted within the casing, the above procedure being repeated for each use of the brush.

It is not intended that the invention be limited to the exact construction shown, but various changes and modifications are possible within the scope of the following claims.

I claim:

1. A unitary powder dispenser and toothbrush holder comprising in combination, a powder container and toothbrush-receiving receptacle integrally united one on top of the other, a cap for the container, a slidable cylindrical plug valve in said container and a tension spring connected between the cap and the valve, the container and receptacle having registering discharge openings therein, an integral lug on the valve extending through the openings and into one end of the toothbrush receptacle, the valve and its lug being movable through keyhole shaped openings in the rear faces of the container and receptacle, and a toothbrush operable in the receptacle and engaging the valve to uncover the discharge openings, and oppositely disposed lugs adjacent the open end of the toothbrush receptacle, the toothbrush having grooves in its handle registering with the said lugs.

2. In a combined toothbrush holder and powder dispenser comprising an elongated casing having superposed powder and toothbrush receiving chambers and a powder passage opening communicating therebetween adjacent one end of said chambers; the combination of a lineally slidable valve in said powder chamber and having a projection extending through said powder passage opening into said brush chamber, the brush chamber being open at its end remote from said valve projection, the casing end at the site of said powder passage opening having a cutout aligned with said valve and its projection to admit of outward passage of the same, and spring means acting upon said valve to normally restrain it against outward movement through said cutout under the action of a toothbrush head against said projection.

3. In a combined toothbrush holder and powder dispenser comprising an elongated casing having superposed powder and toothbrush receiving chambers and a powder passage opening communicating therebetween adjacent one end of said chambers; the combination of a lineally slidable valve in said powder chamber and having a projection extending through said powder passage opening into said brush chamber, the brush

chamber being open at its end remote from said valve projection, the casing end at the site of said powder passage opening having a cutout aligned with said valve and its projection to admit of outward passage of the same, spring means acting upon said valve to normally restrain it against outward movement through said cutout under the action of a toothbrush head against said projection, a toothbrush removably carried in said toothbrush receiving chamber, and slidably interengaging means carried by the brush and its chamber for guiding the brush in its movement against said valve projection and for retaining the brush against rotation relatively of the brush chamber.

4. In a combined toothbrush holder and powder dispenser comprising an elongated casing having superposed powder and toothbrush receiving chambers and a powder passage opening communicating therebetween adjacent one end of said chambers, the combination of a lineally slidable valve in said powder chamber and having a projection extending through said powder passage opening into said brush chamber, the brush chamber being open at its end remote from said valve projection, the casing end at the site of said powder passage opening having a cutout aligned with said valve and its projection to admit of outward passage of the same, a powder-agitating tension spring in said powder chamber and having one end connected to said valve, said powder chamber having a filling opening at its end remote from said valve, and a closure for said filler opening and connected to the other end of said tension spring whereby the spring tends to hold the valve in passage closing position and the filler opening closure in place.

5. In a combined toothbrush holder and powder dispenser comprising an elongated casing having superposed powder and toothbrush receiving chambers and a powder passage opening communicating therebetween adjacent one end of said chambers, the combination of a lineally slidable valve in said powder chamber and having a projection extending through said powder passage opening into said brush chamber, the brush

chamber being open at its end remote from said valve projection, the casing end at the site of said powder passage having a cutout aligned with said valve and its projection to admit of outward passage of the same, a powder-agitating tension spring in said powder chamber and having one end connected to said valve, said powder chamber having a filling opening at its end remote from said valve, a closure for said filler opening and connected to the other end of said tension spring whereby the spring tends to hold the valve in passage closing position and the filler opening closure in place, a toothbrush removably carried in said toothbrush receiving chamber, and slidably interengaging means carried by the brush and its chamber for guiding the brush in its movement against said valve projection and for retaining the brush against rotation relatively to the brush chamber.

6. In a combined toothbrush holder and powder dispenser comprising a casing having superposed powder and toothbrush receiving chambers and a powder passage opening communicating therebetween adjacent one end of said chambers; the combination of a lineally slidable valve operable to close said powder passage, said powder chamber having a filling opening at the end opposite to said valve, a closure for said filling opening, and a powder agitating tension spring in said powder chamber and having one end connected to said valve and the other end to said closure whereby to tend to maintain both the valve and closure in their operative positions.

TALLY M. DENDY.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
245,051	Bell	Aug. 2, 1881
1,006,857	Ljutica	Oct. 24, 1911
1,989,575	Wandel	Jan. 29, 1935
2,003,093	Seeley	May 28, 1935
2,253,514	Fisher	Aug. 26, 1941