J. L. HITZ.

TOOTH BRUSH.

APPLICATION FILED MAY 21, 1908.

915,349. Patented Mar. 16, 1909.

Fig. 1.

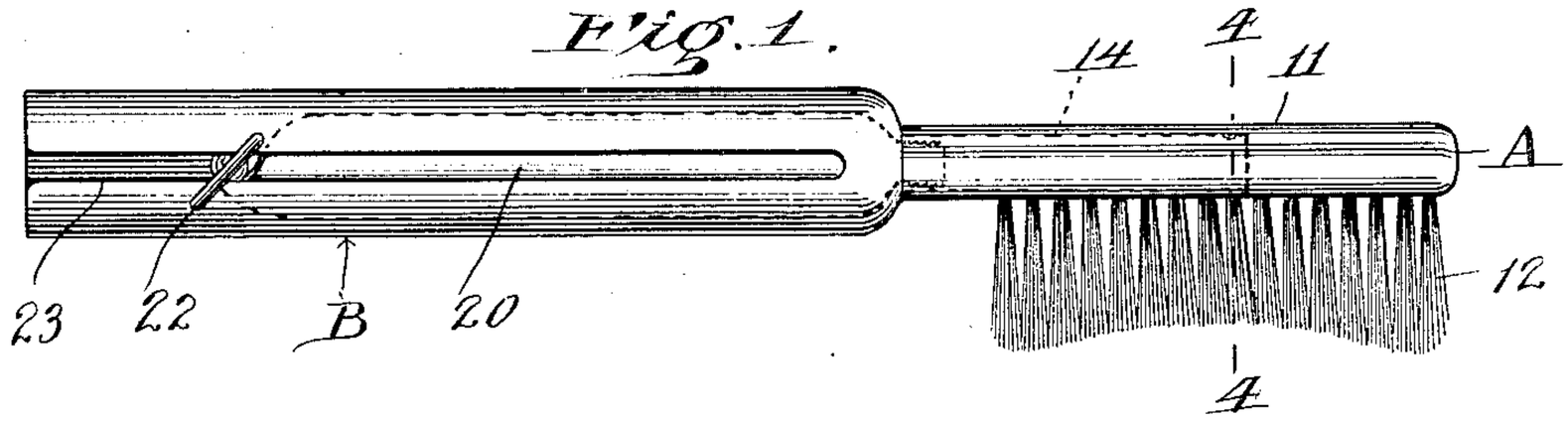


Fig. 2.

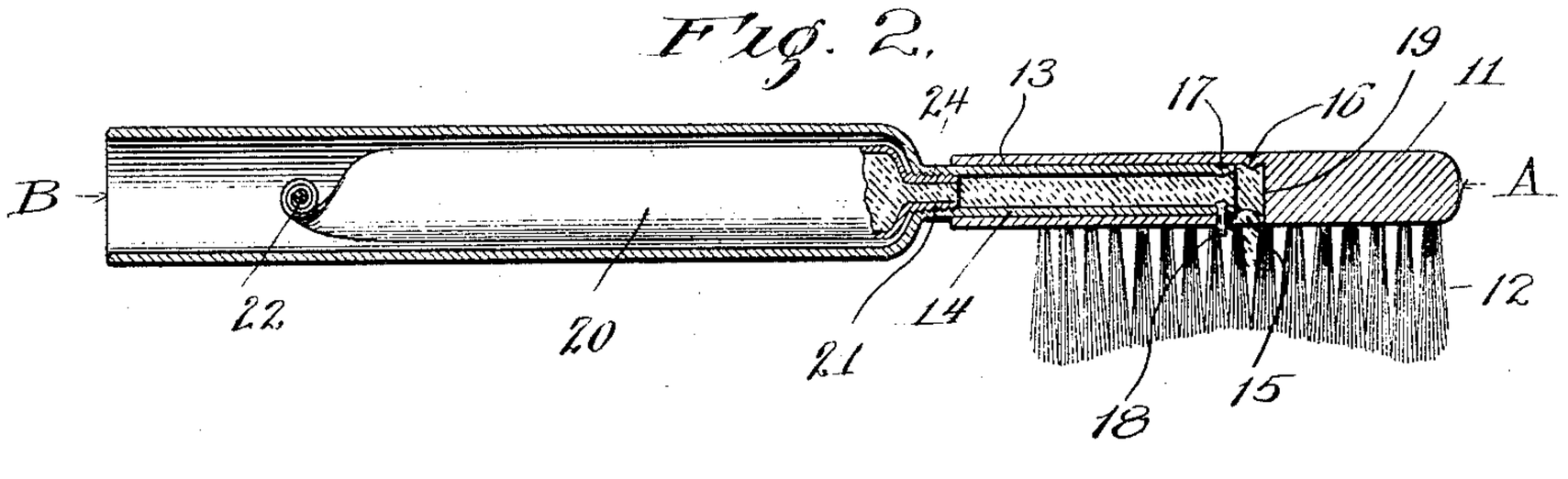


Fig. 3.

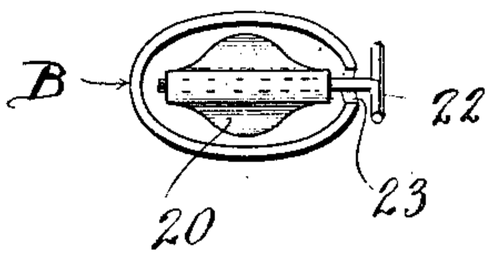


Fig. 4.

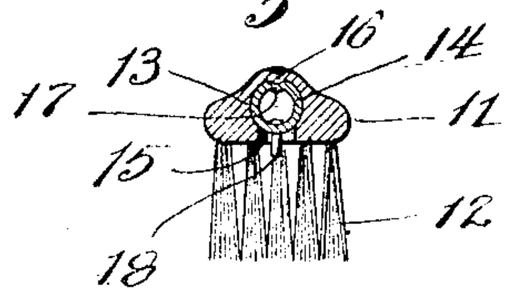
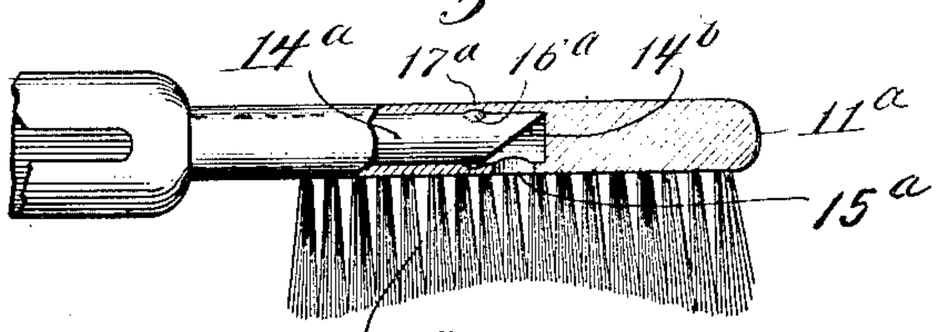


Fig. 5.



Witnesses:

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by Charles O. Sherry

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UNITED STATES PATENT OFFICE.

JESSE L. HITZ, OF CHICAGO, ILLINOIS.

TOOTH-BRUSH.

No. 915,349. Specification of Letters Patent. Patented March 16, 1909.

Application filed May 21, 1908. Serial No. 434,012.

To all whom it may concern:

Be it known that I, JESSE L. HITZ, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tooth-Brushes, of which the following is a specification.

This invention relates to improvements in tooth brushes and its object is to provide means whereby a quantity of tooth paste or other semi-solid dentifrice may be contained within the handle of the brush, and a small quantity thereof forced into the bristles of the brush, whenever it is desired to use the same.

Another object is to provide means whereby the ordinary commercial soft metal tube, such as is frequently used to contain tooth paste, may be secured in the handle and a quantity of the paste fed into the bristles.

Another object is to simplify and cheapen devices of this kind and to otherwise improve upon the construction thereof.

To such end this invention consists in certain novel features of construction and arrangement, a description of which will be found in the following specification and the essential features of which will be more definitely pointed out in the claims appended hereto.

The invention is clearly illustrated in the drawings furnished herewith, in which—

Figure 1 is a side view of the preferred form of my brush. Fig. 2 is a central, vertical, longitudinal section thereof, showing the parts in the position occupied when the outlet or discharge port is opened to discharge a quantity of the paste. Fig. 3 is an end view of the handle and tube contained therein. Fig. 4 is a vertical cross section taken on the line 4—4 of Fig. 1 and Fig. 5 is a view partly in side elevation and partly in vertical, longitudinal section of a slightly modified form of construction.

Referring to these drawings, A, represents the head of the brush, and B, the handle. The head comprises the usual back 11, having the bristles 12, upon its lower face and said back is provided with a central, longitudinal bore 13, which is adapted to receive the neck 14, of the handle B. Said neck is longitudinally movable in the bore and forms a passageway which opens out through an outlet or discharge port 15, formed at the end of the bore 13.

I desire to provide some simple means for preventing accidental longitudinal movement of the parts when the outlet port is closed by the neck 14, and as shown this consists in a small knob 16, which may be formed by indenting the wall of the back 11, and said knob is adapted to enter and seat itself in a depression 17, formed in the neck 14. It is evident that when this knob is seated in the depression, some little force must be exerted to move the back upon the neck. I have provided means for keeping the outlet port 15, clear, and as shown, this means consists in a cleaning pin 18, which is secured in the neck 14, and adapted to move back and forth across the opening 15, whenever the back 11, is moved upon the neck 14. It is evident that this opening may be closed by pushing the back 11, toward the handle until the end of the neck covers the opening 15, and engages with the end wall 19, of the bore 13, and that by reason of the engagement of the knob 16, with the depression 17, the neck 14, will be securely held in place over the opening 15.

I prefer to make the handle in the form of a flattened or oval shaped tube, as seen in Fig. 3, and this handle is adapted to receive a "tube" 20, such as is usually employed to contain the tooth paste. The neck 21, of the tube 20, is threaded, and upon said threaded neck is ordinarily screwed a cap (not shown). This cap is first unscrewed and the tube screwed into an internally threaded portion 24, of the neck 14. Communication is thus established between the interior of the tube and the outlet opening 15, and it is evident that by reducing the size of the tube 20, the contents thereof may be forced out through the outlet opening 15. I provide a key 22, upon the end of the tube which key projects out through a slot 23, formed in the wall of the handle where it may be conveniently grasped by the user to wind up the tube. By winding up the tube the size thereof is decreased and the contents forced out through the neck 14, and opening 15, and in between the bristles of the brush. When the tube is empty it may be removed by first unwinding the same until the key is brought beyond the end of the handle, whereupon the tube may be unscrewed from the internal threads in the neck 14, and a filled tube screwed into place to take the place of the empty one.

In operation the back 11, is pulled forward to uncover the discharge opening 15, after which the key is given a slight turn, thus

forcing a quantity of the tooth paste out through the opening 15. The back 11, is then pushed back, closing the opening 15, after which the brush may be used in the ordinary manner. This forms an exceedingly simple and convenient device and one which is not liable to get out of order. Furthermore, whenever it is desired to clean out the brush the tube 20, may be unscrewed and water allowed to run through the handle and bore 13.

In the construction shown in Fig. 5, the neck 14^a, is revolubly mounted in the back 11^a, of the brush and the end of said neck is cut off on an angle as shown at 14^b. This provides an overhanging end which will cover the opening 15^a, when the parts are in one position or the handle may be turned half way around so that the opening will be uncovered. I prefer to employ devices for properly positioning the back of the brush with respect to the neck, and as shown, have provided a knob 16^a, upon the neck which is adapted to engage with depressions 17^a, formed in the bore of the back. This contrivance is arranged to hold the back in a position whereby the outlet opening will be either covered or uncovered by the end of the neck 14^a.

More or less variations of the parts are possible without departing from the spirit of my invention, and I desire therefore not to limit myself to the exact construction shown and described.

I claim as new and desire to secure by Letters Patent:

1. In a tooth brush, the combination with a bristle carrying back having a longitudinal bore and a transverse outlet opening, of a handle having a tubular neck slidably seated in said bore in the back and adapted to be moved longitudinally of the bore to cover or uncover the transverse outlet opening.

2. In a tooth brush, the combination with a bristle carrying back, having a longitudinal bore and an outlet opening, of a handle having a tubular neck movably seated in said bore in the back and adapted to form means for covering and uncovering the outlet opening, and a tooth paste tube adapted to be secured in said holder with its interior in open communication with the neck of the handle.

3. In a tooth brush, the combination with a bristle carrying back having a longitudinal bore therein and a transverse outlet opening, of a handle for said brush having a neck which is movably supported in said bore and arranged to cover or uncover the outlet opening thereof, and a paste tube having a screw threaded neck adapted to engage with an internally screw threaded portion of the neck of the handle.

4. In a tooth brush, the combination with a bristle carrying back having a longitudinal bore therein and a transverse opening, of a tubular handle having a longitudinal slot in its side wall and a neck movably seated in said bore in the back and adapted to form means for covering or uncovering the transverse outlet opening, and a paste tube secured in the neck of said handle and having a winding key extending out through said slot in the handle.

5. In a tooth brush, the combination with a bristle carrying back having a longitudinal bore and a transverse outlet opening, of a longitudinally slotted handle having a neck movably seated in said bore and adapted to cover or uncover the transverse outlet opening, and a paste tube having a screw threaded neck adapted to be screwed into the neck of the handle, and having a winding key extending out through said slot in the handle.

6. In a tooth brush, the combination with a bristle carrying back having a longitudinal bore and an outlet opening, of a handle adapted to contain a paste tube, and having a neck slidably mounted in the bore of the back for covering or uncovering the outlet opening, and a cleaning pin secured in said neck and adapted to traverse the outlet opening whenever the back is moved upon the neck.

7. In a tooth brush, the combination with a bristle carrying back, having a longitudinal bore and a transverse outlet opening, of a paste tube supporting handle having a neck movably mounted in said bore and adapted to be moved with relation to the transverse outlet opening to cover or uncover said transverse outlet opening, and means for locking the back upon the neck against longitudinal movement.

8. In a tooth brush, the combination with a bristle carrying back having a longitudinal bore, and an outlet opening, of a tube supporting handle having a neck slidably mounted in said bore for covering or uncovering said outlet opening, a knob upon the back and a recess upon the neck arranged to engage said knob to lock the back upon the neck against longitudinal movement therewith.

In witness whereof I have hereunto executed the above specification at Chicago, Cook county, Illinois, this 19th day of May 1908.

JESSE L. HITZ.

Witnesses:

CHARLES O. SHEREY,

FANNIE F. RICHARDS.