No. 796,980. PATENTED AUG. 15, 1905.

R. D. ANDREWS.

TOOTH BRUSH.

APPLICATION FILED MAY 7, 1904.

Fig. 1

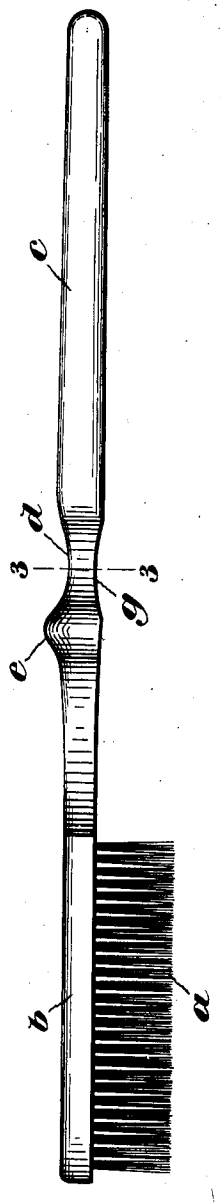
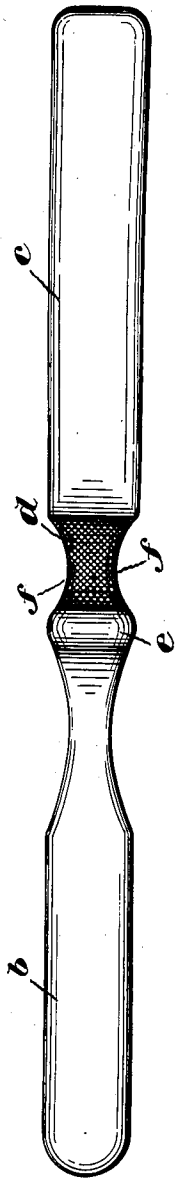


Fig. 3

Fig. 2



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UNITED STATES PATENT OFFICE.

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TOOTH-BRUSH.

No. 796,980. Specification of Letters Patent. Patented Aug. 15, 1905.

Application filed May 7, 1904. Serial No. 206,812.

To all whom it may concern:

Be it known that I, ROBERT D. ANDREWS, a citizen of the United States, residing at Brookline, in the county of Norfolk and State of Massachusetts, have invented an Improvement in Tooth-Brushes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention consists in improvements in tooth-brushes, being more particularly concerned with means for facilitating their ready manipulation.

More specifically, my invention consists in giving to the brush a fulcruming finger or thumb rest upon which the thumb or finger may be repeatedly located and through which as a fulcruming-point pressure may be directed upon the teeth, or movement of the brush-head in the direction of the length of the bristles may be executed with the greatest directness and ease. The function of the tooth-brush being to effect a pressure of the bristles against the teeth through the effort of the holding hand, it is, in effect, a lever of the first order, having, however, in usual and known forms of brushes an unstable and varying fulcrum-point shifting from one part of the back of the handle to another as the position of the hand holding the brush is shifted about and along the same. The fulcrum itself is supplied by the thumb or forefinger of the holding hand resting against the handle-back or that side opposite to the bristles-holding face or by both thumb and finger in conjunction, and the effort to press the brush about its fulcrum is supplied by a remaining finger or fingers or the palm of the hand pressing against the handle on the side opposite to its fulcrum. It will be obvious that the brush still acts as a lever even though it be rigidly grasped, since the pressure must still be transmitted from the handle to the head through a fulcrum-point. No attention has heretofore been paid to the provision of a fulcruming finger-rest upon the back of the handle to give uniformity and certainty to the position of the fulcrum. In the usual form of brushes the forefinger rests upon the brush-back wherever it happens to meet the same and its position there is easily displaced by any change in the position of the hand. A rocking or twisting of the brush to bring the thumb to the back of the handle gives opportunity for and usually insures another shifting of the fulcrum-point. The smooth and polished material ordinarily employed in brush-handles, especially when moistened, tends to slip from the grasp and lose its adjustment to the hand, and this, combined with the difficulty of maintaining the brush in fixed adjustment throughout the series of movements executed by the hand, results in an unconscious but ineffectual effort to retain the brush in such fixed adjustment by tightly gripping the handle, thereby expending unnecessary strength and energy far in excess of what is actually required for this very simple operation. In my invention the fulcruming-rest is located according to the proportions of the brush in the most effective position, and, establishing, as it does, a secure and substantially uniform location for the fulcruming member of the hand, it becomes possible to hold a brush in all required positions with ease and certainty without necessity of a rigid grasp thereupon.

My invention further consists in the provision of means for guiding the thumb or other member normally held upon the handle opposite the fulcruming-rest into or toward such fulcruming-rest when the brush is turned from its normal position for reversal or partial reversal, thus permitting the brush to be turned or rocked upon its longitudinal axis and to be shifted as desired from one fulcruming member of the hand to another without, however, shifting or changing the fulcruming point or rest upon the handle.

My invention will be best understood by reference to the following description, taken in connection with the accompanying illustration, of one specific embodiment which I have submitted for illustrative purposes only, while its scope will be more particularly pointed out in the appended claim.

In the drawings, Figure 1 is a side elevation of a brush embodying one form of my invention. Fig. 2 is a plan of the same looking downward upon the back of the handle, and Fig. 3 is a section on the line 3 3 in Fig. 1.

In the drawings the brush illustrated is provided with bristles *a*, carried in the usual bristles-holding head *b*, which may be, as is usual, formed of any suitable material in one piece with the handle *c* or otherwise, as desired. On the back of the handle, opposite to the bristles-holding face of the head *b*, I have provided a fulcruming finger-rest adapted to locate and with repeated uniformity the point of application of the finger or other fulcruming member to the handle and to permit the pressure exerted at some other point or

points along the handle to be transmitted directly to the bristles and in the direction of their length. Such a rest may obviously assume a great variety of forms; but I have herein shown the same to consist of a portion *d* in the handle-back depressed relatively to the adjacent walls, one of which, *e*, is herein shown as somewhat elevated above the remainder of the back to accentuate the depression *d* and increase its effectiveness. It is to be understood that my invention is not limited to a rest formed merely by a depression or an elevation or any form of the two combined; nor is it limited to any particular mode of altering the shape of the handle, whether by bending the handle as a whole, or by twisting, or carving, or molding, or fluting, or by otherwise so shaping the same as to provide a fulcruming-rest. Furthermore, it will be obvious that a fulcruming-rest may be provided by securing to the handle other members or devices which may also serve the desired purpose. In any case, however, I arrange upon the surface of the handle oppositely-facing bearing portions, which in the brush illustrated are comprised in the oppositely-facing and upwardly-inclined walls of the cavity *d*. This permits the thumb and finger of the user of the brush to find the said bearing portions readily, and through their assistance the brush may readily be given the desired to-and-fro movement, while still maintaining a comparatively loose hold thereon. The location of the fulcruming-rest is preferably at such a position that when the handle end touches against the palm the thumb and forefinger will grasp the brush at the hollowed part and will rest easily and securely thereupon, permitting, however, a firm but adjustable contact between the palm and the handle end to better control the movement and pressure of the brush.

Referring to Fig. 2, it will be seen that the depression *d* referred to is continued around the sides of the brush to provide lateral depressions *f f*, thus providing guiding means by which the thumb or finger, as the case may be, which rests upon the bottom of the handle *g* opposite the fulcruming-rest *d*, may be guided into its proper position upon the rest *d*, and vice versa, as the brush is twisted about its longitudinal axis for reversal or partial reversal. It will be observed that oppositely-facing bearing portions on the edges or sides of the brush-handle are circumferentially alined with those upon the top, so that they merge one into the other and permit the free rolling and twisting of the brush without danger of disengaging the thumb and finger from the said bearing portions.

The face *g* of the brush may, if desired, be depressed, as shown, to provide a better rest for the finger or other member resting thereat. The cross-section of the brush at that point is shown in Fig. 3, where it will be seen that the same permits and facilitates the ready rotation or twisting of the brush about its axis when grasped by the hand, frequent repetition of which becomes necessary during its employment.

It will be obvious that various cross-sectional shapes may be employed and that the depressed portion *g* on the under side of the handle may be omitted entirely without departing from the spirit of my invention; but I have found it advantageous to provide this or similar means for effecting the improved grasp afforded thereby.

Through the employment of my invention the brush can be held loosely in the hand with the thumb or forefinger upon the fulcruming-rest and all manipulations thereof necessary for its effective use may be accomplished and the brush shifted, twisted, and rotated without, however, affecting the selected position of the fulcruming-point which properly directs the pressure from the hand to the teeth through the bristles in the direction of the length of the latter. The thumb and forefinger obtain so secure a grasp of the brush by reason of the larger contact area between them and the brush-handle that when held vertically with the water dripping from the head the brush may be retained by those members alone, permitting, therefore, the water to run down the handle instead of following the hand and wetting the sleeve. Other advantages unnecessary to refer to, many of which will be obvious, will follow the employment of my invention.

It is to be understood that my invention is not limited to the specific form herein shown, but that the same is susceptible of extensive modification without departing from the spirit thereof.

I claim—

A tooth-brush provided with a bristle-holding head having at its under side the usual bristle-tufts and a handle rigidly extended therefrom, the latter being provided at its top side and at both edges with fulcruming rest-surfaces circumferentially alined and presenting oppositely-facing bearing portions, said surfaces furnishing means for permitting the user's fingers engaging the said handle to find the said oppositely-facing bearing portions, respectively, for moving the brush in opposite directions and at the same time permitting the rolling of the brush without losing engagement with said bearing portions.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT D. ANDREWS.

Witnesses:
THOMAS B. BOOTH,
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