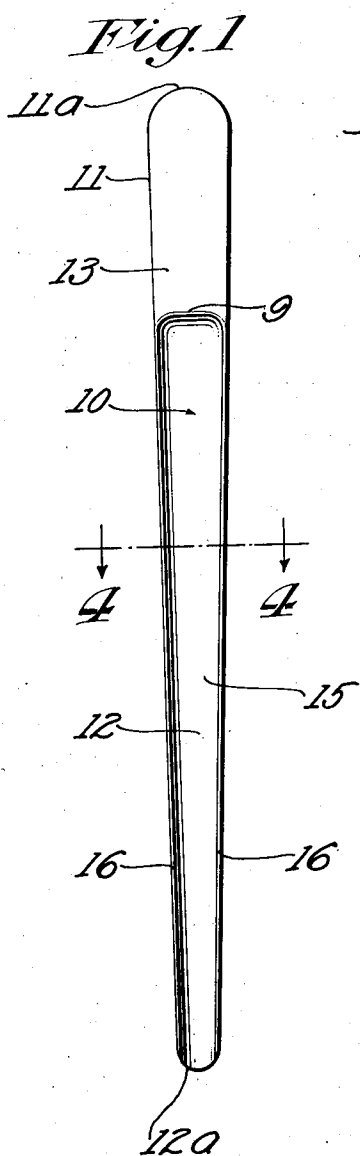
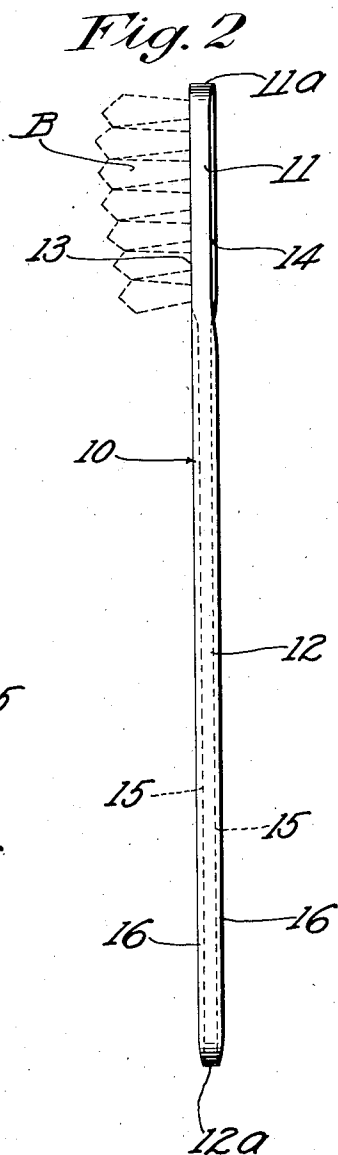
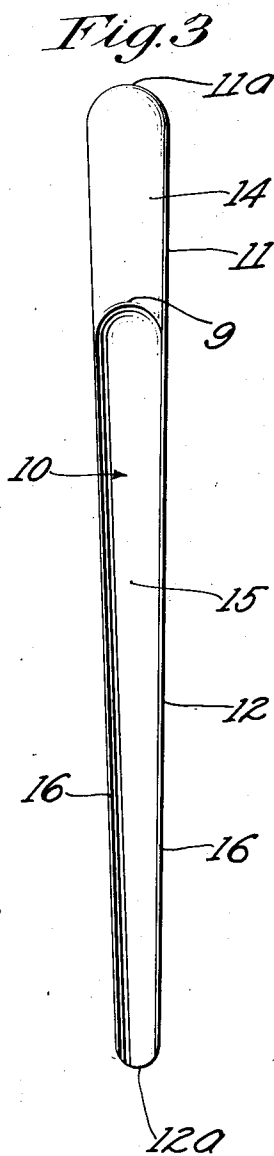
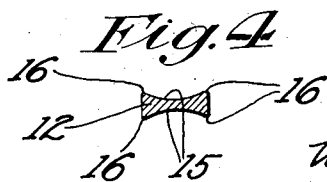


Dec. 18, 1934.

W. S. ELLIOT
TOOTHBRUSH HANDLE
Filed May 8, 1933

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UNITED STATES PATENT OFFICE

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TOOTHBRUSH HANDLE

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Application May 8, 1933, Serial No. 669,949

1 Claim. (Cl. 15—143)

My invention relates generally to tooth brushes and more particularly to tooth brush handles which are made of pyroxylin or similar material.

Heretofore, the manufacturing processes employed in making tooth brush handles have all been complicated and expensive and the evolution of the handle from the blank form to the finished article has required a series of intricate molding operations in molds having specially formed and expensive die members. One reason for this was that the previous tooth brush handles had neck portions which involved curves that had to be provided for, either in the die members themselves, or by separate cutting or stamping operations, to form the neck portion of the handles. Moreover, since a considerable readjustment of material was necessary in transforming the blank into the finished handle, it was necessary to employ a relatively high degree of heat in the molds. This had a tendency to distort the finished handle and to render the brush liable to damage. If the bristles and head portion thereof were later immersed in hot water for any considerable period of time, demolding was very likely to occur, which, obviously, was bad from a commercial standpoint. The distorted handle was also likely to become split or cracked during the stapling operation of applying the tufts of bristles thereto. These previous types of handles, which, when finished, had round or smooth corners, required a long period of tumbling with pumice or other abrasive material to remove any sharp corners on the handles which resulted from the cutting or blanking operation. This tumbling step of the process obviously increased the cost of production and usually destroyed the highly polished surface of the handle to such an extent that additional operations of polishing and buffing were required to restore the original appearance to the surfaces of the handle.

It is, therefore, one of the objects of my invention to provide a radically different and novel tooth brush handle which is pleasing in appearance, relatively simple and inexpensive to manufacture, and one which can be manufactured with a minimum loss or waste of material.

A further object of my invention is to provide an improved tooth brush handle capable of being manufactured by a comparatively simple process involving a minimum of operations, one which is of relatively light weight but of stable construction capable of withstanding the severe test of the bristling operation without the danger of splitting or cracking of the material during

said operation, and one which is convenient and comfortable for the user to hold while brushing the teeth.

Other objects of my invention will appear from the following description and appended claim when considered in connection with the accompanying drawing forming a part of this specification.

In said drawing:

Fig. 1 is a plan view of the bottom or under face of the handle of my invention.

Fig. 2 is an edge view or side elevation of the handle, showing the tufts of bristles in place.

Fig. 3 is a plan view of the back or top face of the handle.

Fig. 4 is a section taken substantially along the line 4—4 of Fig. 1.

Before explaining in detail the present invention it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawing, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation, and it is not intended to limit the invention claimed herein beyond the requirements of the prior art.

Referring now particularly to the drawing, 10 designates as a whole, the improved tooth brush handle or back of my invention which has a head portion 11 and a handle portion 12. The under face of the head portion 11 is flat, as shown at 13 and receives the tufts B of bristles. The outer face or back of the head may be rounded slightly as shown at 14. The handle portion 12 is provided, on opposite faces, with longitudinally extending depressions or concavities 15 which extend from the inner end of the head portion 11 at the points 9, 9 to substantially the outer curved end 12a of the handle portion. The handle portion 12 has at its opposite side edges, on each face, raised portions 16 (see Fig. 4) providing substantially square corners which extend throughout the length of the handle portion from the points 9 at the inner end of the head portion, to the outer end 12a of the handle portion. That is to say, the handle portion is substantially angular in cross section as best seen in Fig. 4, as distinguished from the ordinary type of handle which is substantially oval-shaped in cross section, having relatively sharp sides or edge portions. These

5 raised portions 16 define the concavities 15 and together they provide a convenient gripping portion for the handle which permits comfortable gripping of the handle by the thumb and fingers of the user, allowing free and easy manipulation of the handle. The entire brush handle or back 10 has a gradual lengthwise diminution in width, providing a continuous lengthwise taper extending from the curved end 11a of the head portion to the curved end 12a of the handle portion. Thus, a new, novel, and modernistic type of neckless handle is provided, in which the sides of the handle are in straight unbroken lines converging from the outer end 11a of the head portion to the outer end 12a of the handle or gripping portion of the brush.

My new handle construction, by reason of its straight sides and the elimination of a neck portion, permits its manufacture from the blank form to the finished handle, with a minimum waste of stock in scrap. Moreover, the concavities on opposite faces of the handle and its longitudinal taper effect a substantial saving in material over previous types of brush handles. Heretofore, in the ordinary or usual manufacturing processes, the cutting or blanking operation in forming the neck portion, produced objectionable sharp corners which had to be removed by a long period of tumbling with pumice or other abrasive material previous to any molding operation. Since the molding operation employed in the manufacture of handles in accordance with my invention may be performed under a relatively low degree of heat, the possibility of distortion of the handle is entirely eliminated. As a result of this, the head and bristles of the brush may be immersed in hot water without the danger of demolding the brush handle. Inasmuch as the manufacturing process is a simple one and since very little change occurs from the handle blank to the finished handle, the original polished surfaces of the handle are not

disturbed, and consequently the steps of tumbling, buffing and polishing are eliminated, although if desirable, a relatively short polishing operation may be performed to impart to the handle a high polish.

By providing a brush back in which the sides of the head and handle portions extend in straight unbroken lines which converge toward the free end of the handle portion, it will be seen that the head portion is of sufficient width to accommodate the necessary bristle tufts. Yet the handle portion, with its gradual taper, is slender and less bulky than if the lines were parallel. Moreover, this type of brush back or handle may be produced from a smaller quantity of stock than previous handles. When longitudinal concavities are provided in one or both faces, an additional saving in stock is effected. The longitudinally extending raised portions or edges by which the concavities are bound or defined, provide in effect, reenforcements or stiffening means for the handle portion. Since these edges do not have to be removed by "tumbling" or some other suitable operation, a considerable saving in labor is effected.

I claim:

A necklace tooth brush handle, comprising a head portion and an elongated handle portion substantially oblong in cross section, said head and handle portions having a continuous taper extending substantially throughout their combined length in the direction of the free end of the handle portion, and said handle portion having longitudinal concavities in its top and bottom faces defined by straight longitudinally extending raised side edges, said concavities tapering gradually and continuously in width from the head end of the handle portion to the opposite end thereof, whereby the handle portion is relatively thinner and narrower than the head portion.

WILLIAM S. ELLIOT.

CERTIFICATE OF CORRECTION.

Patent No. 1,984,787.

December 18, 1934.

WILLIAM S. ELLIOT.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, column 2, line 27, the claim, for "necklace" read neckless; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 5th day of March, A. D. 1935.

Leslie Frazer
Acting Commissioner of Patents.

(Seal)