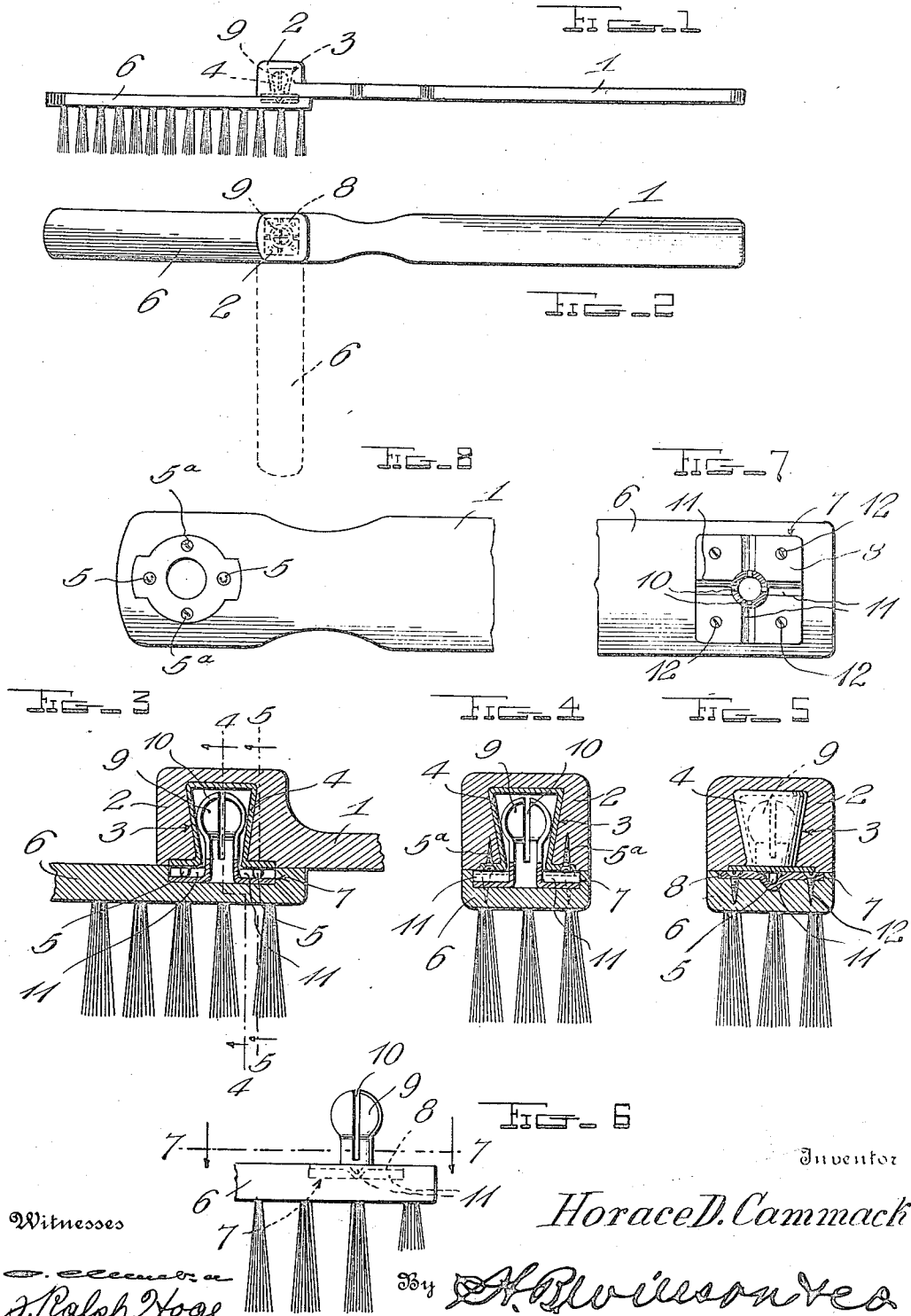


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 TOOTH BRUSH WITH DETACHABLE HANDLE.
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TOOTH-BRUSH WITH DETACHABLE HANDLE.

1,172,109.

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To all whom it may concern:

Be it known that I, HORACE D. CAMMACK, a citizen of the United States, residing at Crossett, in the county of Ashley and State of Arkansas, have invented certain new and useful Improvements in Tooth-Brushes with Detachable Handles; and I do declare the following to be a full, clear, and exact description of the invention; such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to tooth brushes and has for its primary object the provision of means for supporting the head of a brush at right angles to the handle, whereby the teeth may be brushed in a vertical direction toward and away from the gums in a line with the grain of the teeth thereby eliminating the possibility of injuring the enamel and causing the teeth to decay.

A further object of this invention is the provision of means whereby the head of the brush may be supported in alinement with the handle so that the bristles may be drawn horizontally over the teeth if desired.

A still further object of this invention is the provision of means for detaching the handle from the brush to greatly reduce the length of the article whereby it may be easily and conveniently carried.

With these and numerous other objects in view my invention consists of certain novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved device; Fig. 2 is a top plan view of my device showing the brush held at right angles to the handle in dotted lines; Fig. 3 is a central vertical longitudinal section; Fig. 4 is a vertical transverse section taken on the line 4-4 of Fig. 3; Fig. 5 is a vertical transverse section taken on the line 5-5 of Fig. 3; Fig. 6 is an enlarged side elevation showing in detail one end of the brush; Fig. 7 is a horizontal section taken on the line 7-7 of Fig. 6; and Fig. 8 is a bottom view of the end of the handle containing a socket.

In describing my invention I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views in which—

1 designates a handle of the usual type

with one end 2 and having therein a socket 3, the said socket having its inner end slightly larger than the opening thereto. Disposed within the socket is a correspondingly shaped bushing 4 having oppositely disposed flanges extending longitudinally with the handle and countersunk in the end of said handle on either side of the opening. This bushing is secured in the said aperture or socket 3 by fastening members 5^a projecting through an annular flange on said bushing countersunk also in the end of the handle. Depending from the longitudinally extending flanges of the bushing are headed lugs or pins 5, for a purpose to be hereinafter set forth.

The brush proper as shown at 6, comprises a head or back having bristles or the like extending from one of its flat surfaces, and having a rectangular recess 7 near one end in the other flat surface. Disposed within the recess 7 is a correspondingly shaped plate 8 secured thereto by fastening means 12. This plate has an upstanding hollow head 9 struck up from its center and enlarged at its outer end, and the said head is slit as shown at 10 to afford a certain amount of resiliency thereto. The object of having the head 9 enlarged at one end is to make the same slightly larger than the opening of the socket in the end of the handle for a purpose to be hereinafter set forth. The rectangular plate disposed in the brush 6 has transversely and longitudinally extending grooves 11 projecting radially outward from the said head 9.

In the operation of my improved device when it is desired to use the tooth brush to cleanse the teeth vertically, the detached brush is placed at right angles to the handle 1 and the said handle is then attached to the brush by forcing the socket therein, into engagement with the head 9 of the brush. The head 9 of the brush is slightly larger than the opening in the socket of the handle, but is adapted to be compressed while entering the same and then expanding to its normal width within the enlarged end of the socket, thereby forming a fastening to hold the handle and brush together. The depending lugs 5 of the handle which are placed at diametrically opposite points on either side of the opening in the socket are then adapted to engage the grooves 11 that extend transversely across the brush, to

prevent any rotary movement between the handle and the brush and hold the same securely in the position above described.

When it is desired to cleanse the teeth
 5 by drawing the brush horizontally there-
 over, the handle is detached from the brush
 by disengaging the head and socket, and
 then turning the brush so that it will be in
 10 alinement with the handle. The fastening
 operation is repeated as before described
 with the exception of the lugs of the han-
 dle which now engage the two longitudi-
 15 nal grooves of the brush to prevent any ro-
 tary movement and fixedly secure the parts
 in position. Thus it will be seen that the
 improved tooth brush enables a person to
 brush his teeth either in the ordinary way,
 horizontally across the grain, or in the
 20 more correct and sanitary way, vertically
 along their grain. Furthermore, this tooth
 brush having a detachable handle is very
 convenient, especially for travelers inas-
 much as its length may be greatly reduced,
 thereby reducing the inconvenience of trans-
 25 porting the same.

I claim:—

1. A device of the character described
 including a brush, an upstanding head on
 the back of said brush, a handle having a
 30 socket to engage said head, and coacting
 grooves and lugs on said brush and handle
 to hold the brush in adjusted position with
 relation to the handle.

2. A device of the character described
 comprising a brush having a rectangular 30
 recess in its back near one end, a corre-
 spondingly shaped plate adapted to be se-
 cured in said recess, a head having an en-
 larged slit its upper end upstanding from
 the center of the plate, said plate having 40
 transversely and longitudinally extending
 grooves in its upper surface, a handle hav-
 ing a socket to engage the head, and pro-
 jecting lugs from the handle to engage
 the grooves to hold the brush in adjusted 45
 position with relation to the handle.

3. A device of the character described
 comprising a brush, an upstanding head
 having a base plate with transversely and
 longitudinally extending grooves on the 50
 back of the brush, a handle with a socket
 to engage said head, a bushing correspond-
 ingly shaped to the socket and secured
 therein, flanges on the outer end of the
 bushing, and lugs projecting from the said 55
 flanges in the handle to engage the grooves
 to hold the brush in adjusted position with
 relation to the handle.

In testimony whereof I have hereunto
 set my hand in presence of two subscribing 60
 witnesses.

HORACE D. CAMMACK.

Witnesses:

L. W. MOFFATT,
 LAVON BARNETT.