

J. H. ABBOTT.
DENTAL BRUSH.
APPLICATION FILED OCT. 22, 1906.

959,191.

Patented May 24, 1910.

Fig. 1.

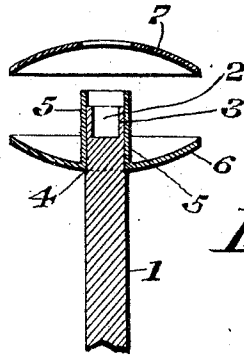


Fig. 2.

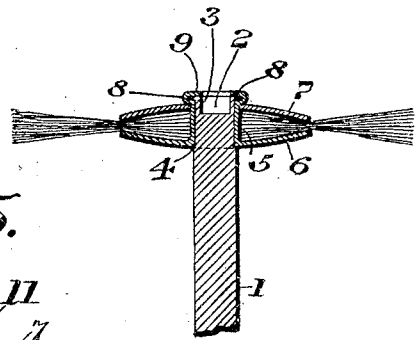


Fig. 5.

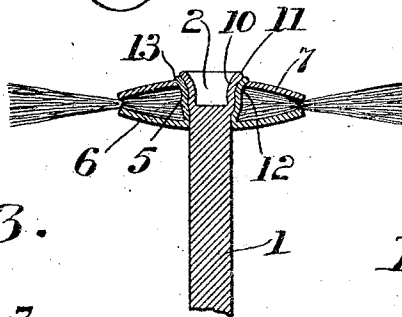


Fig. 3.

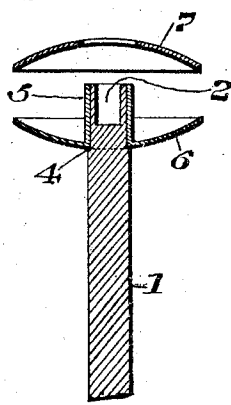
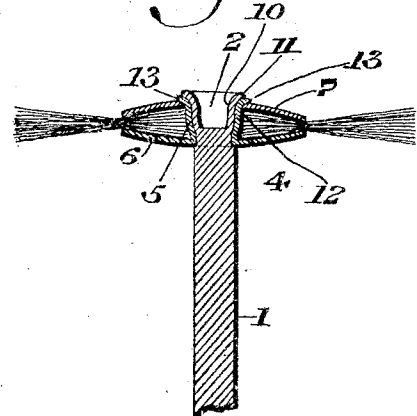


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES HERMAN ABBOTT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE ABBOTT DENTAL BRUSH MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

DENTAL BRUSH.

959,191.

Specification of Letters Patent.

Patented May 24, 1910.

Application filed October 22, 1906. Serial No. 339,917.

To all whom it may concern:

Be it known that I, JAMES HERMAN ABBOTT, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Dental Brush, of which the following is a specification.

My invention relates to dental brushes, and its purpose or object is to provide easy and effective means for fastening or securing the parts of a bristle brush to each other.

Convenient embodiments and forms of my invention are illustrated in the accompanying drawings but it will be understood that changes within the scope of the specification and claims may be made without departing from my invention.

In the drawings:—Figures 1 and 2 represent in cross section one form of my invention, showing the parts in Fig. 1 in a position assumed by them during the construction of the brush and the said parts being in place with the bristles also included in Fig. 2; Figs. 3 and 4 represent corresponding positions and views of another form of construction embodying my invention; and Fig. 5 represents a sectional view of still another form of construction embodying my invention.

Similar numerals of reference indicate corresponding parts in the figures of the drawings.

The numeral 1 designates a mandrel the upper end of which is recessed at 2 thus providing or forming what may be termed a flange 3 on the end of the mandrel.

The mandrel preferably is slightly reduced as indicated at 4 in Figs. 1 to 4 to assist in the retention of the brush retaining parts but if desired the said mandrel may be the full size at the point 4, as illustrated in Fig. 5.

Upon the end of the mandrel I place a snugly fitting sleeve or collar 5 which terminates at one end in a flange 6. Over the sleeve I pass a disk plate or annulus 7 between which and the flange 6 the bristles are to be retained. I then place the bristles between the flange 6 and disk 7 and compress the said flange and disk upon the said bristles to maintain a firm hold thereon and swell or extend outwardly the flange 3 on

the end of the mandrel to retain the parts thereon.

In the form shown in Figs. 1 and 2 I secure the parts on the mandrel by a positive lock which consists in the turning of the end or edge of the flange 3 outwardly as at 8 and turning the end of the sleeve or collar 5 around and over the said outwardly turned portion 8 as indicated at 9 so that the said sleeve or collar and the said mandrel are securely locked or fastened together.

The outward expanding and flaring of the flange 3 at 10 in Figs. 4 and 5, as will be readily seen, is effective to form a head upon the flanged end of the mandrel over which the sleeve or collar cannot pass.

The expanding and flaring of the flange 3 causes a flaring of the sleeve or collar 5, as at 12, and forms a head 13 upon the said sleeve or collar to prevent longitudinal movement of the disk plate or annulus 7.

Although the friction due to the outward swelling or flaring of the parts as illustrated in Fig. 5 is in itself sufficient under ordinary conditions to prevent movement of the sleeve or collar 5 away from the recessed end of the mandrel, the form of construction in which the mandrel is reduced in proximity to said recessed portion is preferred.

It may be noted that the constructions shown in Figs. 1 and 2 of the drawings correspond to the constructions shown in Figs. 7 and 8 of my co-pending application, Serial No. 295,401, filed January 10, 1906, except as to the reduced part which is shown at 4 in the said Figs. 1 and 2 of this application and which is not shown in said application of January 10, 1906.

Having thus described my invention, I claim:—

1. In a device of the character described, a mandrel having an expanded end, a flanged sleeve thereon, the end of the sleeve and the recessed end of the mandrel being flared to form enlargements engaging each other, a disk upon said sleeve retained by the enlargement thereof, and bristles held between the flange of the sleeve and the disk mounted thereon.

2. In a device of the character described, a mandrel having a recessed end, a flanged sleeve thereon, an annulus seated upon said

sleeve, and bristles between the flange and annulus, the recessed end of the mandrel being swelled to retain the sleeve and the annulus in place.

5 3. In a device of the character described, a mandrel having a recessed end, a flanged sleeve thereon engaged by the said extension by reason of the flaring thereof, an annulus upon said sleeve, and bristles retained be-
10 tween the flange of the said sleeve and the said annulus.

4. In a device of the character described, a mandrel having a hollow end enlarged to form enlargements engaging each other, a
15 between the head and the body of the mandrel, a sleeve having a flange and fitting the reduced portion of the said mandrel, an apertured disk surrounding said sleeve, and

bristles held between said disk and flange, the said disk and sleeve being held in posi- 20
tion by said head.

5. In a device of the character described, a mandrel having an expanded end, a flanged sleeve on the said mandrel, the said sleeve extending from the flange toward the said 25
expanded end, bristles surrounding said sleeve, and means on the mandrel between which and the flange on said sleeve the bristles are held, the said means being re-
tained on said mandrel by the expanded end 30
thereof.

JAMES HERMAN ABBOTT.

Witnesses:

JOHN A. WIEDERSHEIM.

C. D. McVAY.

It is hereby certified that in Letters Patent No. 959,191, granted May 24, 1910, upon the application of James Herman Abbott, of Philadelphia, Pennsylvania, for an improvement in "Dental Brushes," errors appear in the printed specification requiring correction as follows: Page 1, line 94, the words "an expanded" should read *a recessed*; page 2, line 6, the words "recessed end" should read *flared extension*, and same page, line 14, the words "enlargements engaging each other, a" should be stricken out and the words *a head, said mandrel being reduced* inserted instead; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 4th day of October, A. D., 1910.

[SEAL.]

E. B. MOORE,
Commissioner of Patents.