

H. H. PHILLIPS.
TOOTH BRUSH.
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1,131,863.

Patented Mar. 16, 1915.

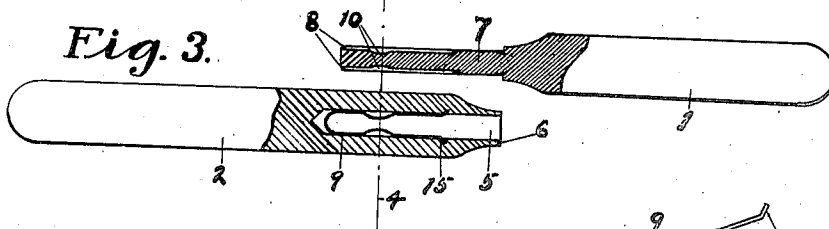
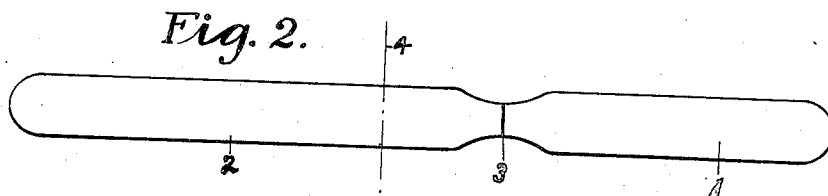
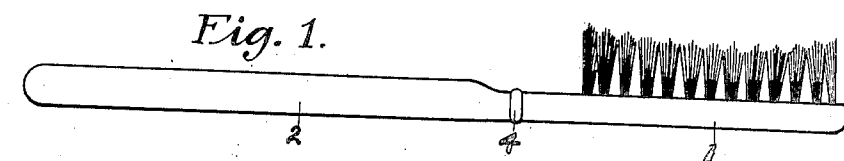


Fig. 4.

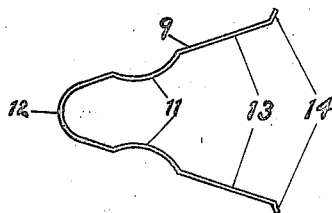
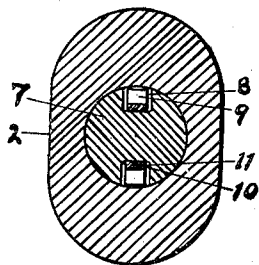


Fig. 5.

WITNESSES:

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TOOTH-BRUSH.

1,131,863.

Specification of Letters Patent.

Patented Mar. 16, 1915.

Application filed November 1, 1913. Serial No. 798,623.

To all whom it may concern:

Be it known that I, HELENE H. PHILLIPS, a citizen of the United States, and a resident of the county of Westchester and State of New York, and whose post-office address is Hotel Gramatan, Bronxville, New York, have invented certain new and useful Improvements in Tooth-Brushes, set forth in the following specification.

This invention relates to tooth brushes, and more particularly to tooth brushes wherein the handle and brush portions are readily detachable in order that when one brush has become worn it may be easily replaced. Such a construction also provides for the use of different styles of brushes with the same handle and, further, makes it practicable to use a relatively costly handle without, in the long run, entailing appreciably more than ordinary expense.

One of the objects thereof is to provide a simple, practical and inexpensive brush of the character described.

A further object is to provide a separable tooth brush of such a construction that the removal of the brush portion may be accomplished quite simply by merely pulling away from the handle, without twisting or turning; and that will insure the parts remaining secure and immovable when the brush is in use.

This invention accordingly consists of the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings wherein is shown one of the various possible embodiments of my invention: Figure 1 is a side elevation; Fig. 2 is a plan view of the back of the brush with the ornamental band removed; Fig. 3 is a view showing the backs of both parts of the brush when detached, the joint being shown in section. Fig. 4 is an enlarged cross-section on line 4—4 of Figs. 2 and 3. Fig. 5 is an enlarged view of the retaining spring.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Before describing the invention in detail, it may be noted that a separable tooth brush, in order to be of any practical value, must be constructed in so simple a manner as to

cause the user a minimum of trouble in the removal and renewal of the brush head. Thus it must be free from locking members requiring manipulation; and yet the parts must be relatively immovable and rigid when in position for use. Then again, the separation must take place naturally, as by simply pulling apart, for the average person has an aversion for an article of common or frequent use which is at all complicated or which requires even a limited degree of skill in handling.

Now referring to the drawings, the tooth brush is seen to consist of a brush-head 1 and handle 2, joined together by a simple but efficient slip or push joint. The line of the joint is indicated at 3 in Fig. 2, and in Fig. 1 the disclosure shows the joint protected and concealed by a band 4, which may be made in a any suitable design or of any desired material. It is to be understood, that instead of having the adjoining surfaces meet in direct abutment, they may be beveled so as to fit one within the other to form a tapered union of the parts; or be formed in different ways to vary the external appearance at the joint.

By reference to Figs. 3 and 4 it will be seen that the handle 2 is provided with an axial opening or chamber 5 extending inwardly from the joint surface 6. This opening is shown circular in cross-section and of uniform diameter, but it will be understood that its cross-section may be different in shape, and the bore tapering, if desired, without departing from the scope of my invention. The brush-head projects beyond the joint surface thereof to form a tongue or male element 7 adapted to fit within the socket or female element 5, and to be embraced snugly therein. Said tongue is grooved as at 8 to provide clearance for the spring 9 when the parts are united. The grooves are formed with bottom concavities, as at 10, adapted to receive therein the convex portions 11 of the spring 9. This spring is composed of a strip of any suitable material bent upon itself as at 12, to provide two legs 13, each of which is bent inwardly, as at 11, and offset at the end, as at 14. The spring is introduced in the opening 5, closed end first, and pushed down until the ends spring into recesses 15 provided in the walls of the opening to receive them. The position of the inserted spring is such that the legs thereof serve as guides for the tongue

7 during its insertion or withdrawal and, when the brush-head is in place in the handle, the convexities of the spring enter the concavities of the grooves. As the spring
5 may be readily distorted under pressure, it will yield as the brush-head is forced into the handle, and will spring into place when the parts come into position. The spring is of sufficient strength and resiliency to hold
10 the said parts immovable during normal use of the brush, and to permit of the brush-head being separated from the handle by a pull straight away therefrom.

It is to be noted that the spring is retained
15 wholly and completely concealed within the socket 5, so that its existence is not apparent from the exterior of the brush, and the smooth surface of the handle remains unbroken.

20 As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or
25 shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed as new and desired to be
30 secured by United States Letters Patent is:—

1. In an article of the class described, the combination of a handle having a longitudinally disposed bore, a friction clamp comprising paired and oppositely disposed
35 spring arms anchored within the bore, a

brush head, and a shank extending from said brush-head having longitudinal grooves formed therein adapted to engage said spring arms.

2. In an article of the class described, the
40 combination of a handle having a longitudinally disposed bore, a friction clamp comprising an elastic strip anchored in the bore and having an inwardly extending resilient detent, a brush head, a shank extending
45 from said brush head having a longitudinally extending groove formed therein adapted to engage said strip and a recess in said groove adapted to receive said detent.

3. In an article of the class described, the
50 combination of a handle having a longitudinally disposed bore, a friction clamp comprising oppositely disposed and connected spring members having inwardly extending
55 detents between their ends and anchoring projections at their ends, said projections engaging said bore, a brush head, a shank extending from said brush head having longitudinal grooves therein and a recess in each
60 of said grooves, the said grooves and recesses being adapted respectively to engage the spring members and detents.

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

HELENE H. PHILLIPS.

Witnesses:

WILLIAM J. ALLEN,
HENRY HAUSSEL.