

(No Model.)

G. A. BOWMAN.
TOOTH BRUSH.

No. 461,661.

Patented Oct. 20, 1891.

FIG. 1.

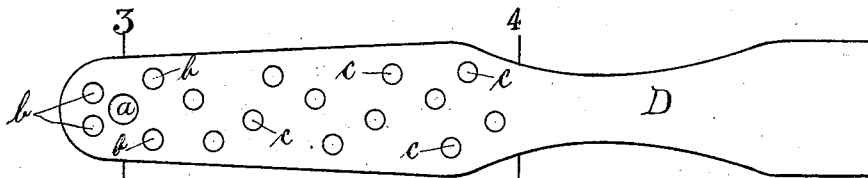


FIG. 2.

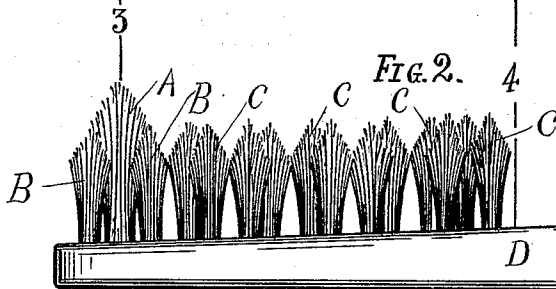


FIG. 3.

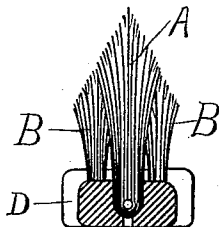


FIG. 4.

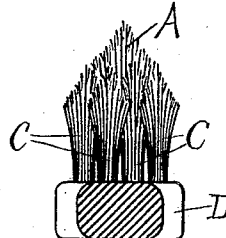
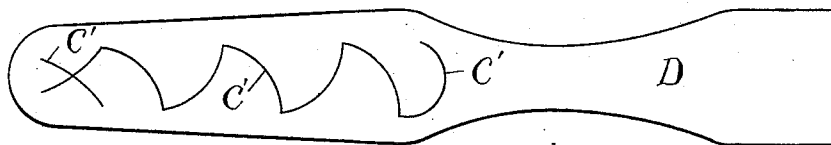


FIG. 5.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE A. BOWMAN, OF ST. LOUIS, MISSOURI.

TOOTH-BRUSH.

SPECIFICATION forming part of Letters Patent No. 461,661, dated October 20, 1891.

Application filed November 15, 1890. Serial No. 371,563. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. BOWMAN, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have
5 invented certain new and useful Improvements in Tooth-Brushes, of which the following is a full, clear, and exact description.

My invention relates to the form of brushes for cleaning teeth, or more particularly in
10 the form and arrangement of the tufts of bristles forming the brush; and it consists in the peculiar form and construction of the prominent tuft at the end of the brush and the peculiar arrangement of the tufts of bristles forming the body, as hereinafter described.

The object of my invention is to produce a brush which, first, having the comparatively higher and more prominent tuft at the
20 end, which is of acknowledged advantage, shall have such tuft constructed so as to be durable and effective, and, second, in the body of the brush shall have the tufts so arranged as to enter the cavities and depressions between the teeth to the greatest advantage.

In the accompanying drawings, which serve to illustrate my invention, and in which like letters of reference denote like parts, Figure
30 1 is an under side view of the brush stock or back, showing the holes into which the tufts are drawn. Fig. 2 is a side view of the brush portion of my improved brush. Fig. 3 is a sectional view taken on the lines 3 3 in Figs. 1 and 2. Fig. 4 is a back end view of the
35 brush or a cross-section taken on the lines 4 4 in Figs. 1 and 2; and Fig. 5 is a view, as in Fig. 1, showing the curves on which, in the general arrangement, I propose, as hereinafter described, to put the tufts of my brush.

The advantage of having the bristles at the end higher than the rest of the brush is acknowledged; but in my improved brush I make this prominent end by placing a tuft A
45 somewhat larger than the general tufts in the brush centrally near the end of the stock, as shown at *a* in Fig. 1, and around this large tuft A, I place the several surrounding tufts B, placed (see *b b*, Fig. 1) so that they act as a support to and stiffen the central tuft A. The
50 group, as a whole, is trimmed so as to give the tuft a pyramidal or cone shape, as shown in the side view in Fig. 2 and in the sectional view in Fig. 3.

It is my purpose, while forming a full brush,

as shown in the side view in Fig. 2 and in the back end view in Fig. 4, to make each tuft C separate and distinct in itself, as shown in Fig. 1, (see *c c*,) each trimmed so as to be somewhat pointed and pyramidal in shape
60 and to place them in openings, which are, as shown on curves C', Fig. 5, inclined transversely and longitudinally to the stock of the brush, as shown by the plan view in Fig. 5. By surrounding the central tuft A by the
65 tufts B, which, as before stated, tend to support and brace the tuft A, I am enabled to make this tuft at the end of the brush more prominent and of a comparatively more distinctly separate character than I would otherwise
70 be able to do, thereby making it more efficient and lasting; and while, as shown, I make up my brush so that there is no space in using the brush but what would be acted on by the brush within its limits, yet the
75 distinctly separate positions of the tuft C will permit them to enter more conveniently and effectively the interstices and depressions between the teeth and do more thoroughly the work they are intended to do, and, further,
80 placing then on the curves, as shown, will greatly facilitate in this, in following more closely the curves in and around the teeth and gums, as well, in some measure, as in following the more or less curved motions of the
85 hand in using the brush. The pyramidal form in which by this separated position I am enabled in my brush to give the tufts, further adds to its efficiency as a whole.

I claim—

1. A brush provided on its end with a large conical-shaped tuft, said tuft being supported by similarly-shaped smaller tufts, substantially as and for the purposes described.

2. A brush provided with zigzag series of independent tufts and separate conical-shaped end tufts, substantially as and for the purposes described.

3. A brush provided with a zigzag row of tufts, said tufts arranged on alternately curved lines, substantially as and for the purposes described.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 4th day of November, 1890.

GEORGE A. BOWMAN.

Witnesses:

J. S. HORNSBY,
A. RAND.