

No. 642,114.

Patented Jan. 30, 1900.

C. L. HALL.  
TOOTH BRUSH.

(Application filed Apr. 3, 1899.)

(No Model.)

Fig. 1.

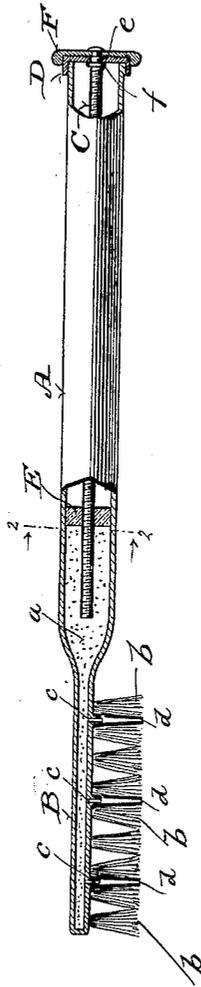


Fig. 2.



Witnesses:  
 Geo W. Young.  
 B. C. Roloff.

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 Charles L. Hall.  
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 Attorney

# UNITED STATES PATENT OFFICE.

CHARLES L. HALL, OF OCONTO, WISCONSIN.

## TOOTH-BRUSH.

SPECIFICATION forming part of Letters Patent No. 642,114, dated January 30, 1900.

Application filed April 3, 1899. Serial No. 711,522. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES L. HALL, a citizen of the United States, and a resident of Oconto, in the county of Oconto and State of Wisconsin, have invented certain new and useful Improvements in Tooth-Brushes; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to that class of tooth-brushes which are formed with hollow handles to contain the dentifrice to be applied to the teeth by the brush; and it consists in certain peculiarities of construction and combination of parts, all as will be fully set forth hereinafter and subsequently claimed.

In the drawings, Figure 1 is a side elevation of a tooth-brush embodying my present improvements, partly broken away or in section to better illustrate certain details of construction. Fig. 2 is a transverse sectional view on the line 2 2 of Fig. 1.

Referring to the drawings, A represents the handle of my tooth-brush, made hollow to contain the dentifrice *a*, preferably a tooth-paste, the said handle being shown as of a practically square form in cross-section, but this being immaterial so long as it is not circular, except at its rear end. At the forward or head end B the said handle is preferably flattened, as shown, but still hollow, and this end is furnished with the usual tufts of bristles *b b* or analogous devices for rubbing against the teeth of the user. The head B is further perforated with a series of holes preferably guarded by nipples *c c*, to which are secured tubes or ducts *d d* of suitable material, such as soft rubber, which extend to about the same distance from the head as the tufts of bristles *b b*.

C is a screw-rod which is about the length of the handle proper, the outer end *e* of said rod passing through a screw-cap D, which latter has an annular flange with interior screw-threads to mesh with threads cut in the exterior surface of the rear end of the handle A, this end being circular for the purpose of engaging with said screw-cap.

E is a follower having a screw-threaded bore through which the said screw-rod C passes, and as the edge of said follower is non-circular and conforms to the shape of the handle when the screw-rod is turned the

follower cannot rotate with it, but must travel back or forth within the hollow handle, according to the direction in which the said screw-rod is turned.

In the preferred construction (illustrated in the drawings) the screw-rod C is provided with a collar *f*, which comes against the screw-cap D, the projecting end *e* of the rod being cylindrical to pass through a circular hole in said screw-cap and beyond that being provided with any suitable device for turning the rod, such as the outer cap F, to which the said end of the screw-rod C is firmly secured, as shown, so that the outer cap F may be turned without disturbing the screw-cap D. In place of the said outer cap F the screw-rod C may be provided with a knob or any other convenient hand-grasp for the purpose of turning the said rod. As stated, the shape of the handle in section is immaterial, and if more convenient to make it circular it is only necessary to flatten its inner surface or provide it with an interior longitudinal rib or otherwise interrupt its interior circularity and to correspondingly shape the adjacent edge of the follower E to accomplish the same result of non-rotation of the latter when the screw-rod is rotated.

The operation of my device will be readily understood from the foregoing description of its construction, taken in connection with the accompanying drawings. The screw-cap D may be removed and the rod C and follower E pulled out and the hollow handle approximately filled with the tooth-paste or other dentifrice. Then the rod C is replaced, with the follower E adjacent to the rear end of the rod and the cap D again screwed to place. Then a turn of the cap or hand-grasp F will rotate the screw-rod C, and thereby move the follower forward, thus forcing the contents of the handle out through the holes and tubes *d d* of the head end, so that as the brush is used the dentifrice will be rubbed thereby upon the teeth of the user.

The handle B may be of celluloid, metal, or any desired suitable material, and the whole device forms a very convenient and attractive toilet article.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a tooth-brush, the combination of an integral tubular handle, open at one end and flattened at its opposite closed end, the inner surface of said tube being non-circular in cross-section, and the exterior surface being circular at the open end and formed with exterior screw-threads; a series of nipples projecting from the flattened end of the brush and having openings communicating with the interior of the tube; tufts of bristles alternating with said nipples; flexible tubes or ducts secured to said nipples; a screw-cap having an annular screw-threaded flange for engagement with the exterior screw-threads on the tubular handle, and provided with a

ble follower having a screw-threaded central opening; a screw-rod passing through the described openings in the said follower and screw-cap and provided with a rigidly-secured collar bearing against said screw-cap; and a rotatable outer cap rigidly secured to the outer projecting end of the said screw-rod and bearing against the said screw-cap.

In testimony that I claim the foregoing I have hereunto set my hand, at Oconto, in the county of Oconto and State of Wisconsin, in the presence of two witnesses.

CHARLES L. HALL.

Witnesses:

GEO. BEYER,  
H. M. BARLAMENT.