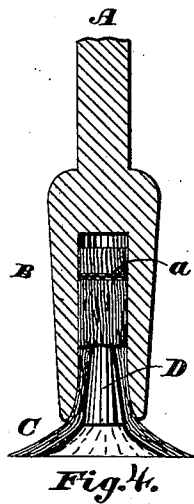
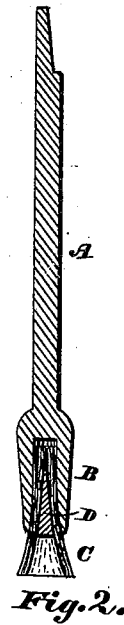
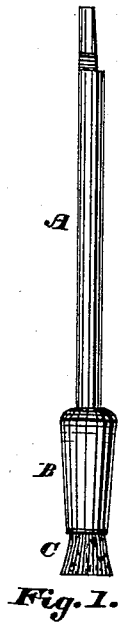
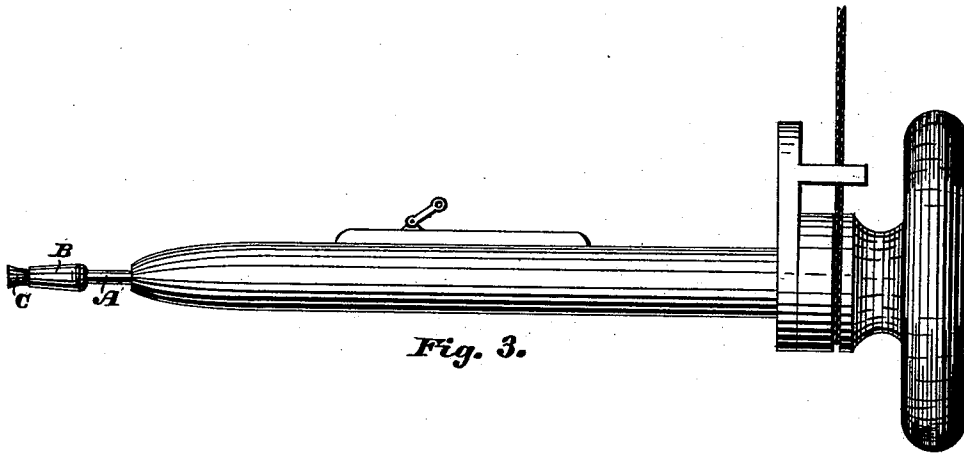


(No Model.)

L. W. BALLARD.
DENTAL ENGINE BRUSH.

No. 361,806.

Patented Apr. 26, 1887.



WITNESSES

Harry Freese
John E. Mornet.

INVENTOR
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UNITED STATES PATENT OFFICE.

LUTHER W. BALLARD, OF ALLIANCE, OHIO.

DENTAL-ENGINE BRUSH.

SPECIFICATION forming part of Letters Patent No. 361,806, dated April 26, 1887.

Application filed November 9, 1885. Serial No. 182,166. (No model.)

To all whom it may concern:

Be it known that I, LUTHER W. BALLARD, a citizen of the United States, and a resident of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Dental-Engine Brushes; and I do hereby declare that the following is a full, clear, and exact description of the same, which will enable others skilled in the art to make and use the same, reference being had to the annexed drawings, and to the letters and figures of reference marked thereon, in which—

Figure 1 is a side elevation. Fig. 2 is a longitudinal section. Fig. 3 is a side elevation of the brush proper, showing it properly adjusted in the mandrel. Fig. 4 is an enlarged sectional detail view of the brush and its cup or thimble, showing the manner of connecting and securing the removable bristles, and also the position assumed by their free ends when the brush is in operation.

The present invention has relation to dental-engine brushes having removable brushes designed and calculated to be used in removing discolorations upon the natural teeth, and also removing any foreign substances which may be collected upon the teeth; and its nature consists in the different parts and combination of parts, hereinafter described, and particularly pointed out in the claim.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, A represents the brush-shank, which may be substantially of the form shown in the drawings, and is so arranged that it will enter and be securely held in the mandrel of a dental engine, and so that it can be easily detached from said mandrel. This mandrel is rotated by any suitable motive power, and at one end is provided with a central longitudinal opening for the reception of the shank A, which fits therein and is rotated with the mandrel. The front or forward end of the shank A is provided with the thimble or cup B. Said cup or thimble may be formed with the shank A, or it may be made separate and attached in any desired manner. Within the cup or thimble B are placed the

bristles of the brush C, which may be of the same kind as are commonly used in the ordinary hand tooth-brushes.

The bristles forming the brush C are removable and held in proper position by means of the conical-shaped wedge D, substantially as shown in Figs. 2 and 4.

For the purpose of conveniently placing the removable bristles in the thimble or cup B, the tip or upper ends of said bristles are tied together by means of the string or wire *a*, as seen in Fig. 4.

It will be seen that as the brush C is forced against the teeth or gums the bristles will assume the position shown in Fig. 4, and for the purpose of preventing the mouth of the thimble or cup B from cutting the bristles the inner and outer edges of said thimble or cup are beveled or rounded, as shown in the drawings.

It will be seen that by my peculiar arrangement I am enabled to provide a new brush at a very little expense for each operation by removing the bristles and inserting new ones.

It will be understood that any kind of tooth-powder may be placed on the brush C.

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

In a dental tool, the combination, with a rotatable mandrel adapted to be inserted and rotated in the common dental engine having a central longitudinal opening, of the brush-shank A, detachably fitted into said opening, the cup or thimble B, connected with the outer end of said shank, said cup or thimble being provided with a central opening having inner and outer rounded edges, the brush formed of bristles connected at their inner ends and removably inserted into said cup or thimble, and the wedge D, for detachably securing the brush in place, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

LUTHER W. BALLARD.

Witnesses:

JOSEPH FRASE,
FRED W. BOND.