G. S. HAMPE.

ROTARY TOOTH BRUSH.

APPLICATION FILED JULY 2, 1919.

Patented Nov. 4, 1919.

1,320,616.

FIG. 1.

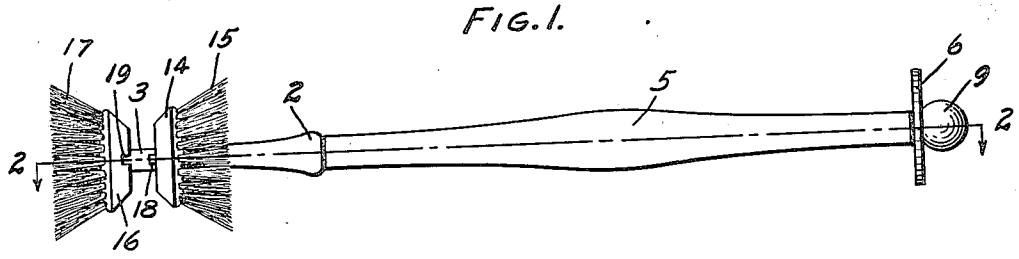


FIG. 2.

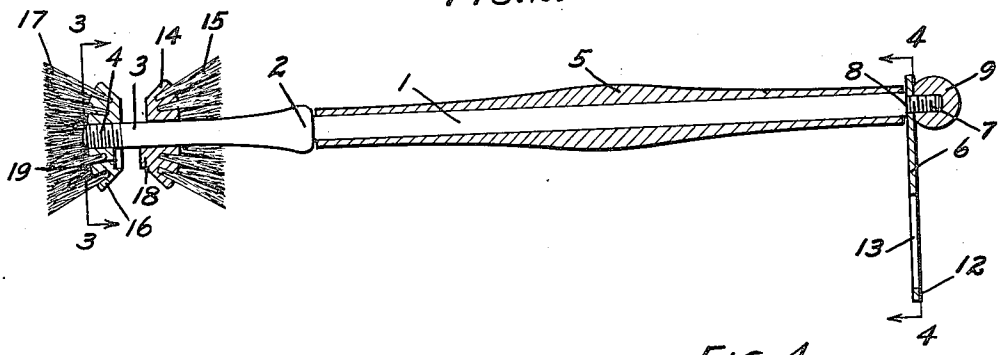


FIG. 3.

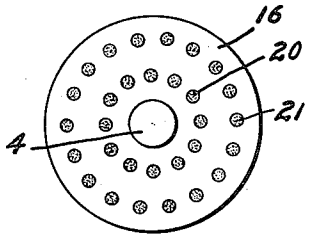
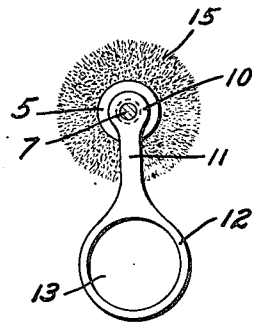


FIG. 4.



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ROTARY TOOTH-BRUSH.

1,320,616. Specification of Letters Patent. Patented Nov. 4, 1919.

Application filed July 2, 1919. Serial No. 308,244.

To all whom it may concern:

Be it known that I, GEORGE S. HAMPE, a citizen of the United States, residing at Alhambra, in the county of Los Angeles and State of California, have invented new and useful Improvements in Rotary Tooth-Brushes, of which the following is a specification.

My object is to make a hand operated rotary tooth brush, and my invention consists of the novel features herein shown, described and claimed.

Figure 1 is a view in elevation of a hand operated rotary tooth brush embodying the principles of my invention.

Fig. 2 is a diametrical longitudinal sectional detail on the line 2—2 of Fig. 1.

Fig. 3 is a cross sectional detail on the line 3—3 of Fig. 2 and looking in the direction indicated by the arrows.

Fig. 4 is a cross sectional detail on the line 4—4 of Fig. 2 and looking in the direction indicated by the arrows.

The shaft 1 is of considerable length and straight and round. The head 2 is formed integral with the shaft 1 and extends in a straight line with the shaft. The stem 3 is formed integral with the head and shaft and has screw threads 4 upon its outer end. The handle 5 is loosely and rotatably mounted upon the shaft 1. The crank 6 fits upon the screw threaded nipple 7 extending from the opposite end of the shaft 1 from the head 2 against a shoulder 8 at the end of the shaft, the nipple being smaller than the shaft, and a nut 9 is screwed upon the nipple against the crank to fix the crank 6 to the shaft.

The crank 6 is cut from a flat plate and has a bearing portion 10 through which the nipple 7 extends, an arm portion 11 extending from the bearing portion 10, and a ring portion 12 at the outer end of the arm 11 and having a large opening 13 adapted to receive a finger of the operator. The bearing portion 10 may be screw threaded and screwed upon the nipple 7 and then the nut 9 serves as a lock nut.

The shaft 1, the head 2, and the stem 3 are preferably formed of aluminum. The nut 9 and the handle 5 are preferably formed of hard rubber.

The brush foundation 14 is circular and has a central opening in which the stem 3 fits loosely. The bristles 15 are mounted in the brush foundation 14 and project toward the head 2. The brush foundation 16 is substantially like the foundation 14, said foundations 14 and 16 being preferably hard rubber, and the brush foundation 16 is screwed upon the threads 4. The bristles 17 are mounted in the foundation 16 and project in the opposite direction from the bristles 15. A tongue 18 extends from the foundation 14 and is adapted to fit in a recess 19 to lock the foundations 14 and 16 together when desired.

The bristles 15 and 17 are arranged in the foundations 14 and 16 substantially alike, and the details of the foundation 16 and the bristles 17 are shown in Fig. 3.

Twelve tufts of bristles 20 are arranged in a row concentric to the center, and eighteen tufts 21 are arranged in a row concentric to the center and outside of the tufts 20 so that the tufts 20 and 21 are staggered relative to each other.

In the practical operation the operator grasps the handle 5 in the left hand, places the bristles 17 against the outer faces of the teeth, places the index finger of the right hand in the opening 13 and operates the crank 6 to produce a rotary motion. When it is desired to clean the inner faces of the teeth the tongue 18 is brought into the recess 19, the bristles 15 placed inside of the teeth, and the handle pulled outwardly to bring the bristles against the teeth and the rotary motion continued.

Various changes may be made without departing from the spirit of my invention as claimed.

I claim:

1. A hand operated tooth brush comprising a shaft having a head fixed at one end carrying an extending stem, a handle loosely mounted upon the shaft, a circular brush loosely mounted upon the stem, adjacent to the end, a second circular brush fixed upon the end of the stem, means for forming a clutch connection between the two brushes and a crank fixed upon the opposite end of the shaft from the brushes having an opening in its outer end adapted to receive a finger.

2. A hand operated tooth brush comprising a shaft having a head fixed at one end carrying an extending stem, a handle loosely mounted upon the shaft, a brush loosely mounted upon the stem adjacent to the end, a second brush fixed upon the end of the stem, means for forming a clutch connection between the two brushes and means upon the outer end of the shaft opposite the brushes for operating the shaft.

In testimony whereof, I have signed my name to this specification.

GEORGE S. HAMPE.