

No. 860,435.

PATENTED JULY 16, 1907.

T. H. BANGS.  
TOOTH BRUSH.

APPLICATION FILED AUG. 8, 1906.

Fig. 1

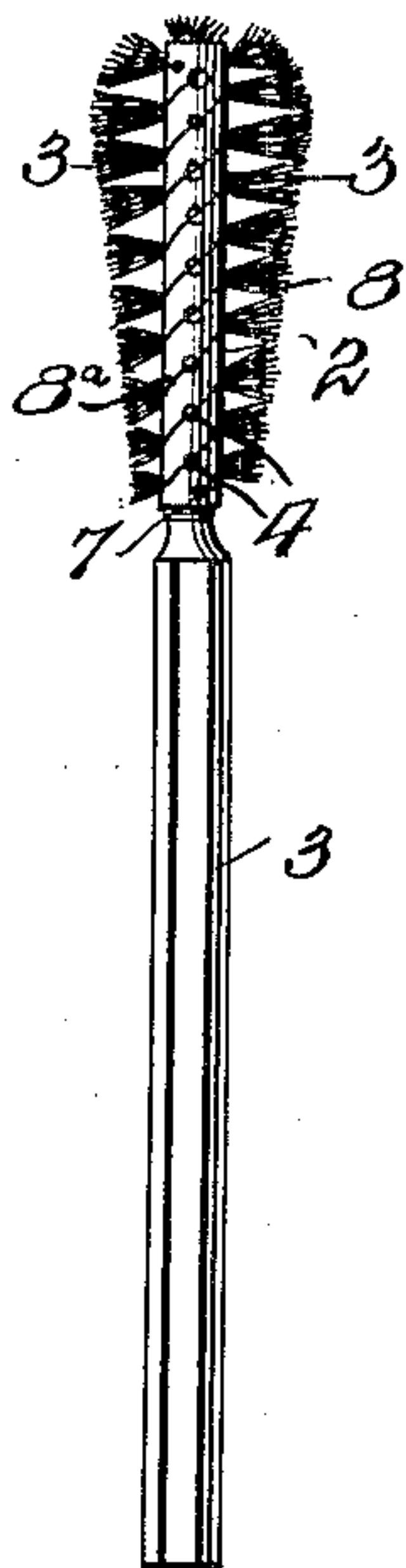


Fig. 4.

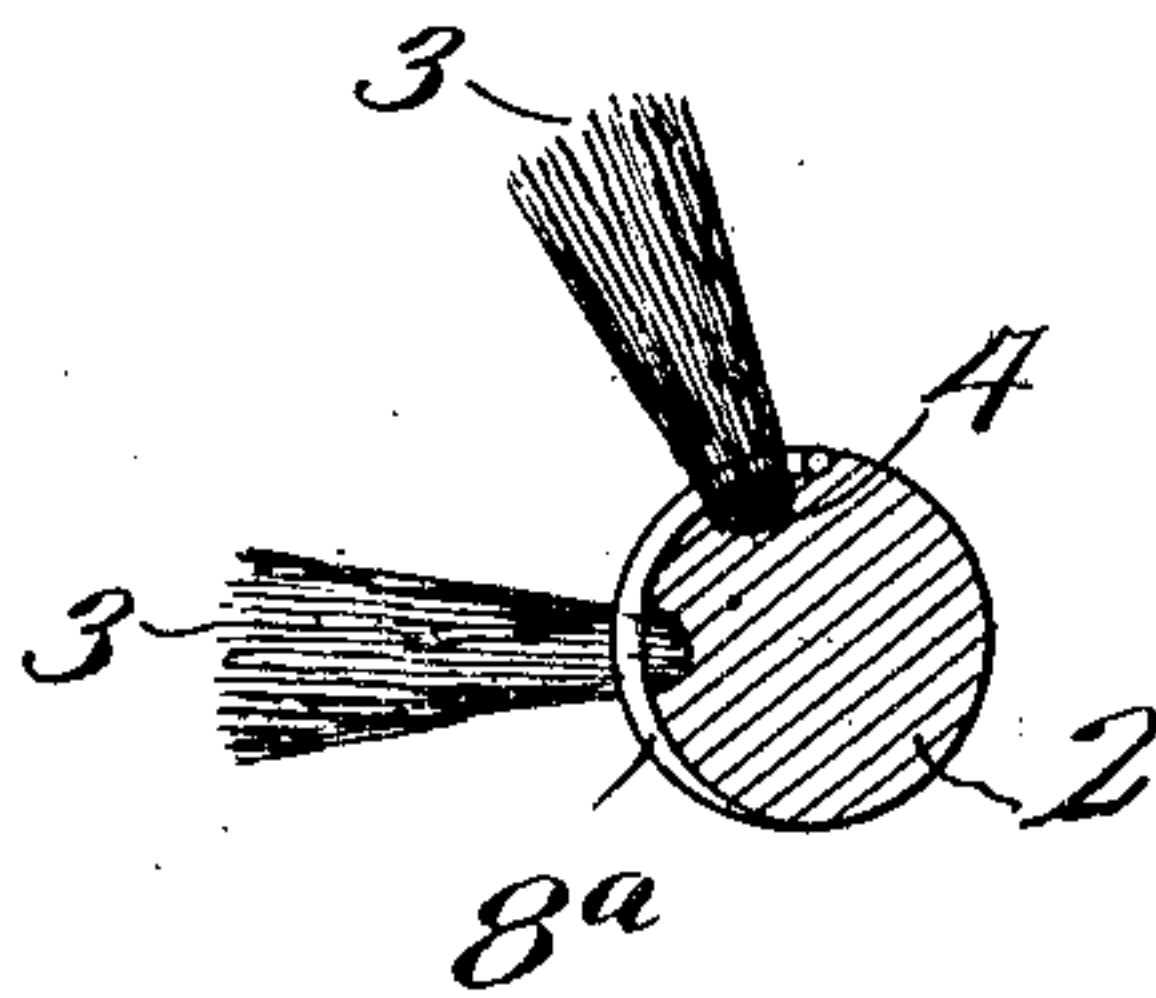


Fig. 2.

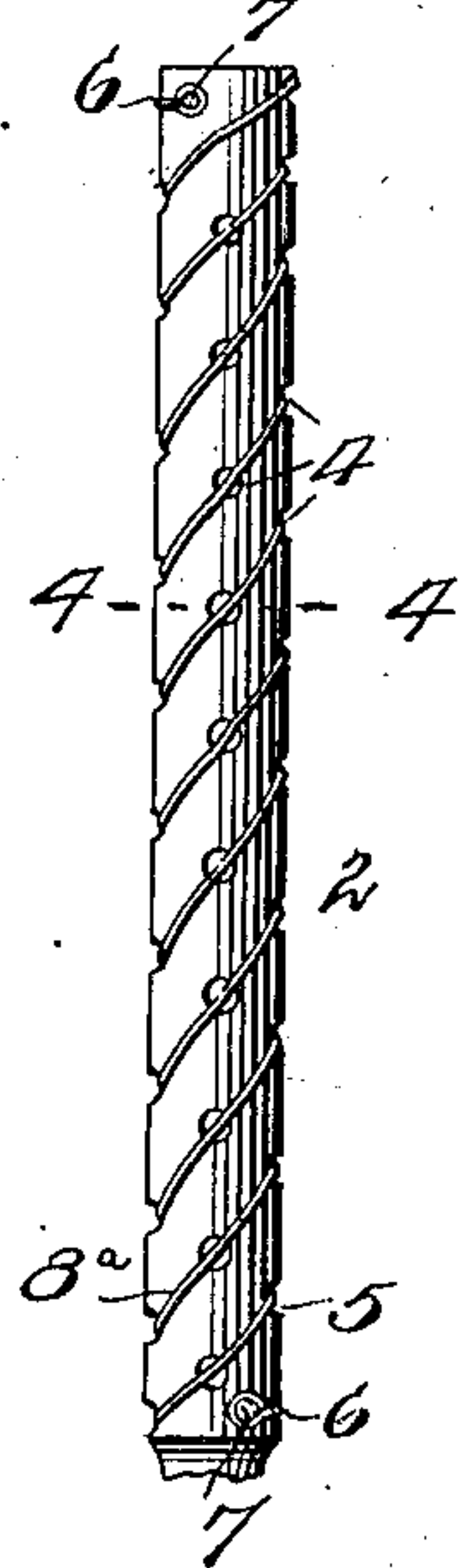


Fig. 3



Witnesses  
Frank Hough  
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# UNITED STATES PATENT OFFICE.

TED H. BANGS, OF ALBUQUERQUE, TERRITORY OF NEW MEXICO.

## TOOTH-BRUSH.

No. 860,435.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed August 8, 1906. Serial No. 329,785.

*To all whom it may concern:*

Be it known that I, TED H. BANGS, a citizen of the United States, residing at Albuquerque, in the county of Bernalillo and Territory of New Mexico, have invented new and useful Improvements in Tooth-Brushes, of which the following is a specification.

My invention relates to tooth brushes, and one of the objects of the same is to provide improved means for securing the bristle tufts in place by means of a single strand of wire.

Another object of the invention is to provide a tooth brush with a round head having a spiral groove therein for the holding wire of the tufts, and a series of sockets in said groove to provide a tapering and rounded brush head.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter fully described, claimed and illustrated in the accompanying drawings, wherein:

Figure 1 is a view in side elevation of a tooth brush constructed in accordance with my invention. Fig. 2 is a similar view of the brush head, and Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is an enlarged cross sectional view on the line 4—4, of Fig. 2.

Referring to the drawings by reference numerals, 2 designates the brush head which is of elongated and circular formation, and which may be constructed of any material suitable for the purpose.

3 designates the brush handle, which may form an integral part of the head 2, or which may be separately made and secured to the head by any usual or preferred means. The head 2 is provided with sockets 4 which are arranged in series extending longitudinally of the head, the sockets of each series being so relatively disposed as to permit a spirally formed groove 5 to intersect each. The groove 5 terminates at the upper or outer end and at the lower or inner end of the head 2 in grooves 6, which partially encompass the head and which terminate in sockets 7. The bristles of which the tufts 8 are formed, are bent upon themselves intermediate their lengths, and the thus bent portions are inserted into the sockets 4. After the tufts have been thus applied to the brush head, a wire 8<sup>a</sup> is placed within the spiral groove 5. The wire 8<sup>a</sup> engages the upper surfaces of the bent portions of the bristles and firmly secure the bristles in applied position.

In view of this manner of securing the bristles in

applied position, all possibility of any of the bristles becoming dislodged while cleaning the teeth is obviated.

The ends of the wire 8<sup>a</sup> are placed within the grooves 6 and their extremities are bent upon themselves and disposed in the sockets 7. The wire 8<sup>a</sup> is secured in applied position by cement placed within the sockets 7 upon the bent portions thereof. A sufficient quantity of cement or other suitable material is placed within the grooves 5 and 6 to prevent the accumulation of foreign matter upon the brush head. The tufts are of such relative lengths that the brush surface gradually tapers or decreases in extent of projection from a ball shaped upper or outer end towards the lower or inner end of the head 2. The ball shaped upper or outer end admirably adapts it for cleaning the inner surfaces of the front teeth. The ends of the tufts incline toward the brush head 2 in the direction of the upper or outer end thereof to permit the bristles forming the tufts to spread easily and enter between and engage all surfaces of the teeth.

In practice, the brush is used by imparting a rotary or reciprocating motion thereto.

From the foregoing description taken in connection with the accompanying drawings, the construction and mode of operation of the invention should be understood without a further extended description.

Changes in the form, proportions and minor details of construction may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

Having fully described and illustrated my invention, what I claim is:

The herein described tooth brush comprising a handle, and an integral head portion, said head portion provided with a spiral groove extending from one end to the other of said head, said groove being provided with a series of sockets at intervals therein, and a series of doubled tufts secured in said sockets by means of a wire strand wound in said groove and engaging the doubled portions of said tufts, the ends of said wire strand being secured in sockets in the opposite ends of said head, and the tufts extending radially out from the head and at a greater distance at the outer end than at the inner end of said head, essentially as described.

In testimony whereof, I affix my signature in presence of two witnesses.

TED H. BANGS.

Witnesses:

H. O. WARNER,  
O. A. MATSON.