

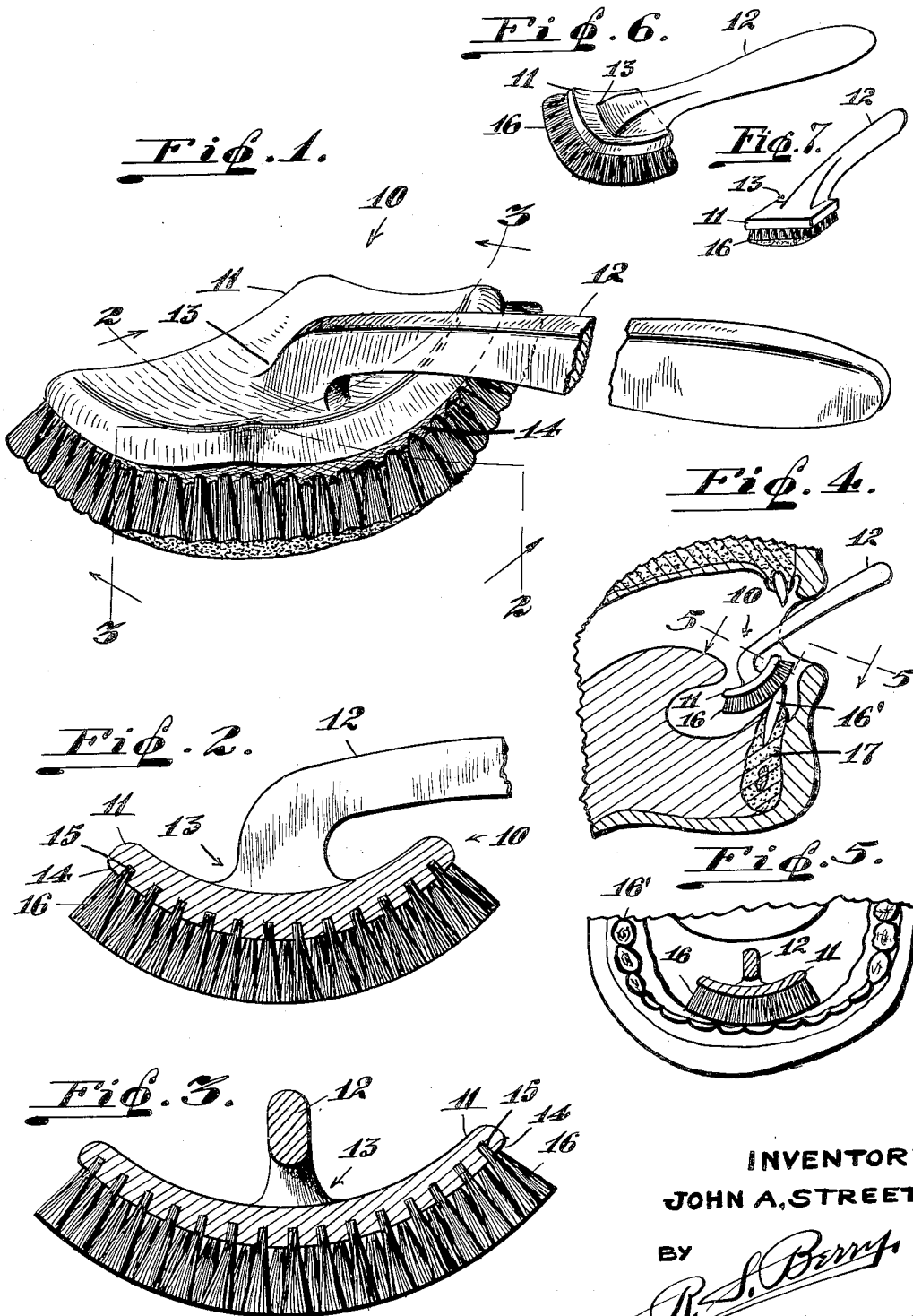
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J. A. STREET

TOOTHBRUSH

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TOOTHBRUSH.

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To all whom it may concern:

Be it known that I, JOHN A. STREET, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in a Toothbrush, of which the following is a specification.

This invention relates to brushes and more particularly to an improved brush for cleansing the teeth.

It is an object of my invention to provide a tooth brush the design of which will render it efficient for brushing the teeth on either side, but particularly on the interior arches with an up and down motion and without requiring the tooth brush to be held in an awkward position in order to clean the interior faces of the teeth and interstices therebetween, which is accomplished in part by reversing the ordinary relation of the brush to the handle so that the handle will project substantially at right angles from the center of the brush.

Another object is to provide a tooth brush having a compound convex brushing surface which will readily conform to the curvature of the interior of the mouth and thereby facilitate the brushing of the teeth on the inside of the mouth with the desirable up and down motion.

Another object accomplished by the compound convex design and the mounting of the brush and handle and adaptation of the tooth brush as above described, is to render more accessible cracks and cavities in the teeth, especially of the interior arch, and to aid especially in cleaning the teeth and gums where bridgework stands.

These objects together with other objects and advantages which will hereinafter appear, are accomplished by means of the device illustrated in the accompanying drawings, in which—

Figure 1 is a top perspective view of the tooth brush illustrating the compound convex design thereof.

Figure 2 is a cross sectional view of the toothbrush longitudinally of the handle, as seen on the line 2—2 of Fig. 1.

Figure 3 is a cross sectional view of the toothbrush transversely of the handle, as seen on the line 3—3 in Figure 1.

Figures 4 and 5 illustrate the use of the toothbrush in the interior of the mouth, Figure 4 being a side view of a mouth,

partly in section, with the toothbrush inserted for use, and Figure 5 being a relative view of the tooth brush as seen from above, upon line 5—5 of Figure 4.

Figure 6 is a perspective view showing the tooth brush as formed with the handle projecting upwardly at an incline from the back of the brush, which may be the preferred construction.

Figure 7 shows a modified form of the toothbrush in which the compound convex face of the brush is formed of different length bristles to give the desired convexity.

More specifically, 10 indicates a toothbrush comprising a bristle plate 11 with the bristle tufts mounted upon it, and which bristle plate is approximately rectangular in plan, but preferably having rounded corners for protecting delicate mouth tissues from abrasion. The bristle plate is preferably formed with a distinct compound concave-convex design, that is to say, it may be curved in the direction of each edge, as indicated especially in Figure 2, where the bristle plate is seen to curve in the direction of one edge, and in Figure 3 where the curve extends transversely to the latter edge, the outer surface then comparing approximately with a sectional area of a sphere. Obviously, the back face of the bristle plate may be of any desired form. The bristle plate 11 is fitted with a handle 12, preferably connecting with the back of the bristle plate, as indicated at 13 in Figures 1 and 6, which handle may extend in a general plane with the back plate, as shown in Figure 1, or it may be mounted at an angle, as illustrated in Figure 6, and it may be slightly curved, as shown in Figures 1, 2, 3, 4, and 5, or it may connect without a curve being built into the back of the brush, as shown in Figure 6. The protruding or convex face 14 of the bristle plate 11 has a multiplicity of holes 15 formed therein, which are adapted to retain bristles or brush tufts 16. The back plate and handle may be composed of celluloid, gum, rubber, bone or any suitable and substantial material.

In Figures 1, 2, 3, 4, 5, and 6, the bristles are of substantially equal length so that the brushing surface formed by them will also be compound convex in design. Referring to Figures 4 and 5 it is seen that this compound convex brushing surface renders the toothbrush especially efficient in that

whether the toothbrush be held with the handle horizontal or vertical, or in a position medially between, the two curvatures of the brushing surface will approximately conform to the interior curvature of the mouth both longitudinally of the jaws and transversely thereof, although the general brushing method is up and down.

Referring more in detail to Figures 4 and 5, teeth 16' borne by jaw 17 are in the process of being cleaned in the interior side by the toothbrush 10. The compound convex design of the brushing surface renders the brush capable of being generally operated with an up and down motion relative to the teeth, and as to the interior arch, gives complete contact with the interior faces of the teeth and interstices therebetween, insuring full brushing contact at varied positions of the handle, effecting a thorough cleaning of the faces of the teeth and the interstices therebetween, which cannot be readily accomplished by the toothbrushes now generally in use which are notoriously awkward and inefficient in cleansing the backs of the teeth.

Furthermore, when the cracks or cavities are unusually large, as when artificial teeth are supported by bridge work, there commonly exists a hollow space between the artificial teeth and the gums which frequently fills with foreign matter and cannot be readily cleaned by use of the ordinary toothbrushes. The particular design of my toothbrush enables the ready removal of such foreign matter or dirt from these spaces, since the brush can be manipulated

to penetrate spaces which are difficult of access to ordinary brushes.

It can be understood how it is possible for the toothbrush to be operated on the interior portion of the teeth with an up and down motion without resorting to twisting or twirling of the toothbrush.

The length and breadth of the back plate may be substantially equal, or the length may exceed the breadth, and either way.

The operation is apparent from the foregoing. Thus, the handle may be held vertically and pushed up and down, the brush being of such width as to effectively clean the interior portion of the teeth in this manner. Or, the handle may be operated horizontally, thus passing the brush over the consecutive teeth, as is common practice with the ordinary type of toothbrush. In brushing the interior portion of the teeth the toothbrush may be worked with a vertical up and down motion, which is very desirable in dental cleanliness, or it may be pushed horizontally, or twisted from side to side.

I claim—

A toothbrush comprising a plate of substantially rectangular outline, bristles mounted in said plate and having their free ends terminating in a working surface that is convex both transversely and longitudinally of the plate, and a handle projecting from the central portion of the back surface of the plate and rigidly connected with the latter.

JOHN A. STREET.