L. C. STOCKTON.

TOOTH BRUSH.

APPLICATION FILED AUG. 12, 1912. RENEWED NOV. 12, 1915.

1,189,505. Patented July 4, 1916.

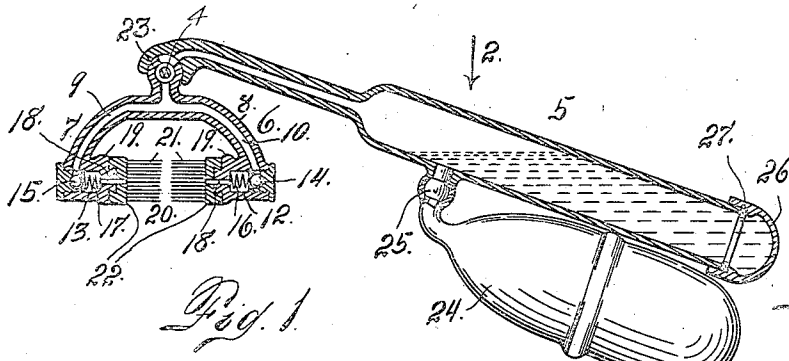


Fig. 1.

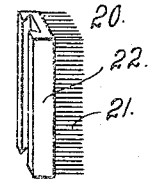


Fig. 3.

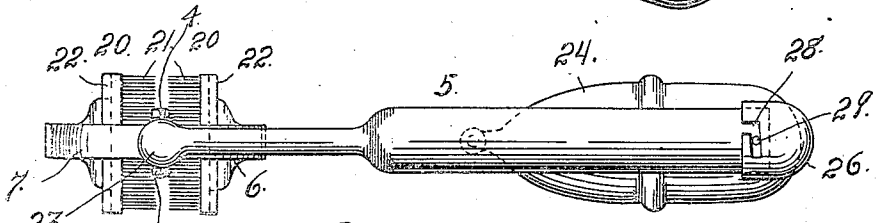


Fig. 2.

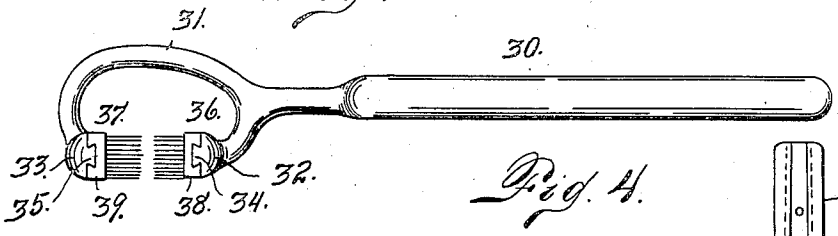


Fig. 4.

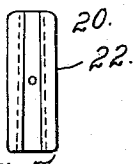


Fig. 7.

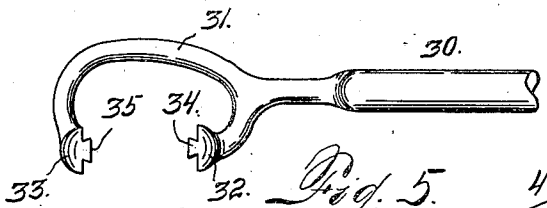


Fig. 5.

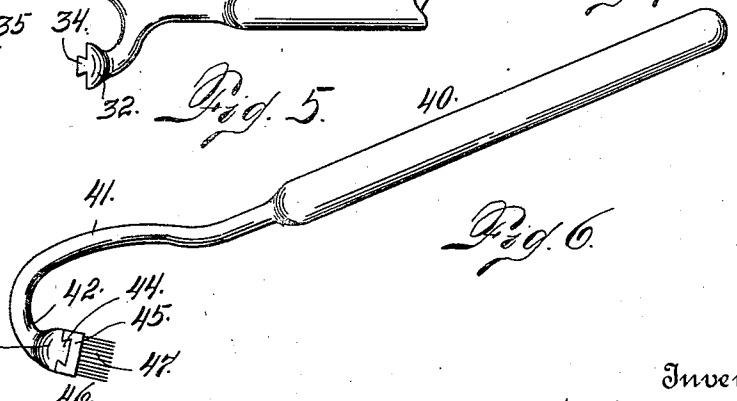


Fig. 6.

Witnesses

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TOOTH-BRUSH.

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To all whom it may concern:

Be it known that I, LINCOLN C. STOCKTON, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Tooth-Brushes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in devices adapted for use in cleansing the teeth and mouth.

The device may be employed either as a fountain brush or cleanser, or without the fountain attachment, as may be desired.

An important feature of the device consists in the fact that it is adapted for use in cleansing the teeth on the inside, or the side adjacent the oral cavity, which parts, are inaccessible so far as the use of the ordinary brush, is concerned.

My improved construction is adapted for use in a number of forms. In the more complicated form there is a fountain attachment, the handle of the device being hollow and in communication with a bulb adapted to be filled with liquid and from which the liquid may be discharged into the hollow handle and thence therethrough into the head of the brush, which is provided with ducts which carry it to the brush, or brushes, proper, of the device. In this form of the device, as illustrated in the drawing, my improved cleanser is equipped with two opposing brushes adapted to engage the teeth simultaneously on opposite sides, thus making it practically as easy to wash the teeth on both sides as on one side only.

Almost every one who has used the ordinary toothbrush has undoubtedly discovered its lack of utility for use in cleansing the teeth on the inside adjacent the oral cavity, particularly the front teeth. With my improved device this operation is easily accomplished whether two opposing brushes are employed or only a single brush, the latter being connected with the bent extremity of the device in such a manner that it is adapted to be employed to act on the inside of the teeth; in other words, the brush is so arranged as to act upon the side of the teeth adjacent the oral cavity.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawing, in which is illustrated an embodiment thereof.

In this drawing: Figure 1 is a sectional view taken through my improved device, which is illustrated as a fountain cleanser. Fig. 2 is a top plan view of the same, or a view looking in the direction of arrow 2, Fig. 1. Fig. 3 is a perspective view of one of the detachable cleansing members of my improved device, showing the brush form thereof. Fig. 4 is a side elevation of another form of my improved device, being that devoid of the fountain feature. Fig. 5 is a fragmentary view of the same, with the brush members removed. Fig. 6 is a side elevation of another form of the device, namely, the form where the single brush only is employed. Fig. 7 is a detail view looking at the side of one of the brushes or cleansing devices, showing the wedge-shaped, dove-tailed groove.

The same reference characters indicate the same parts in all the views.

Referring first to Figs. 1 and 2: Let the numeral 5 designate the hollow handle of the fountain form of the article, this handle being suitably connected with the head 6 of the device, which consists of two arms 7 and 8 having ducts 9 and 10 passing therethrough and leading to cavities 12 and 13, the communication between the ducts and said cavities being normally cut off by ball valves 14 and 15 acted on by spiral springs 16 and 17. From the cavities 12 and 13 a duct 18 leads through the brush-holders 19 to the brushes 20, each of which is composed of a set of bristles 21 and a bristle-holding member 22. These brushes are removable from the brush-holding parts, the brush members and the adjacent parts of the head being provided with coöperating counterpart tongues and grooves. By virtue of this construction the brushes may be readily removed from the head and new brushes substituted. Attention is also called to the fact that cleansing devices other than brushes may be employed, if desired, and under some circumstances may be preferable to the brush form of cleansing device. As illustrated in the drawing, the head 6 of the article has a limited

adjustment by virtue of a sort of ball-and-socket joint 23, the head having a ball extremity arranged at the junction of the two ducts 9 and 10, while the adjacent extremity of the hollow handle is provided with a socket adapted to receive the ball portion of the head. As will be seen, the connection illustrated in the drawing permits a limited degree of adjustment of the head upon the handle, and for this reason, under some circumstances, may be preferable, as it makes it practicable to hold the handle at a number of different angles without changing the position of the head of the device. In this form of construction the head 6 of the device is connected with the handle by a bolt 4 which passes through the ball and socket members. As this bolt is secured by a nut 3, the head may be locked upon the fountain handle in any desired position of adjustment. Connected with the hollow handle 5 is a bulb 24 which is in communication with the hollow handle through a port 25. The bulb is filled with the liquid which it is desired to employ in cleansing the mouth and teeth, through the outer extremity of the handle which is provided with a removable cap 26 which is connected with the handle by a bayonet joint lock, or in any other suitable manner, a gasket 27 being employed to make a liquid-tight joint.

It will be understood that when the device is in use, in order to introduce the necessary liquid into the mouth for cleansing purposes, assuming that the bulb 24 is filled and the hollow handle partly filled, as illustrated in the drawing,—see Fig. 1,—it is only necessary to grasp the hollow handle of the device and at the same time press upon the bulb which is in engagement therewith. This will force the necessary liquid into the handle for the purpose, and the liquid will be expelled from the hollow handle and delivered to the brush members 21.

The bayonet joint connection between the cap 26 and the outer extremity of the hollow handle is best illustrated in Fig. 2, in which the numeral 28 designates the angular slot and the numeral 29 a pin engaging said slot for forming the aforesaid joint.

In the form of construction shown in Figs. 4 and 5, let the numeral 30 designate the handle of the device, which is plain. Connected with this handle is an oval member 31 terminating at one extremity in a brush-holder 32 and at the opposite extremity in a brush-holder 33 having dove-tailed tongues 34 and 35 respectively, with which are connected brushes 36 and 37, whose bases 38 and 39 are provided with dove-tailed grooves whose shape is the counterpart of the tongues 34 and 35, the said grooves of the brushes receiving the said tongues. As illustrated in the drawing, the brushes 36 and 37 are provided with the usual bristles. It is evident, however, that cleaning or cleansing devices other than bristles may be attached to these holders, if desired. The two brushes in this form of construction are arranged in opposing relation whereby they are adapted to simultaneously act upon both sides of the teeth during the cleaning or cleansing operation.

In the form of construction illustrated in Fig. 6, let the numeral 40 designate the handle, which, at its outer extremity, merges into a curved member 41 which is bent rearwardly as shown at 42 terminating in a holder 43 having a dove-tailed tongue 44 adapted to enter a groove of counterpart shape formed in the base 45 of a brush 46 having the usual bristles 47. In this form of construction the brush is adapted to engage the inside of the teeth adjacent the oral cavity, or the side which is usually not acted upon when using brushes of ordinary construction.

It is preferred that the dove-tailed groove in the brush or cleansing members shall be slightly tapered from one end to the other, as illustrated in Fig. 7, in order that as the cleansing members are applied to the holders a wedging action shall take place, thus making it practicable to maintain the cleansing members upon the holders by friction alone.

From the foregoing description, the use and operation of my improved construction will be readily understood.

In the fountain form of the device the opposing brushes are applied to the opposite, vertical sides of the teeth, and the liquid in tity for cleansing purposes. This is easily brushes and to the teeth in sufficient quantity for cleansing purposes. This is easily accomplished by virtue of the arrangement of the bulb in suitable proximity to the handle whereby it is readily grasped by the hand.

In the form of construction shown in Figs. 4 and 5 the brush is applied to the teeth in the same manner, but it is first dipped in water or other liquid as in the case of the ordinary brush. This is also true of the form of construction shown in Fig. 6, except that in using the latter, only the side of the teeth adjacent the oral cavity is acted on by the brush, or cleanser. In case cleansing devices other than brushes are employed, the use of the cleanser is precisely the same.

It should be understood that my improvement is more especially advantageous in cleaning the front teeth on the inside, which side of the teeth in this particular part of the mouth is not easily accessible to the ordinary brush, though the latter may, to some extent, be employed in cleaning the inside of the teeth farther back in the mouth. But in front, where the ordinary brush is practically useless, my present improvement is highly advantageous, and in this relation its

superiority over all other brushes or cleansers is most conspicuous.

Attention is called to the fact that the handle 5 of the device may be connected with a faucet, or other pressure source of liquid supply, in which event it will not be necessary to employ the bulb 24 in connection with the fountain type of the device.

Having thus described my invention, what I claim is:

A tooth brush having a hollow handle, a head with tubular arms in communication with said handle, cleansing devices arranged in opposing relation at the ends of the tubular arms, the cleansing devices having outlet ducts in communication with the passages in the said arms, normally closed spring-actuated valves controlling the passage of liquid from the arms to the outlet ducts, and a bulb mounted on the handle and in communication with the latter, said bulb having sufficient fluid-ejecting force, when under pressure, to unseat the said valves.

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

LINCOLN C. STOCKTON.

Witnesses:
A. J. O'BRIEN,
MAY CLEMENTS.