TOOTH BRUSH AND POLISHER

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This invention relates to tooth brushes and polishers and has for an object to provide a fountain tooth brush and polisher that may be carried on the person and contain a large supply of cleansing material.

A further object of the invention is to provide a tooth brush and polisher of this type which will be small and compact so that it will take up a comparatively small amount of space when not in use and in which both the tooth brush and the polisher will be adequately housed and protected from dust and contamination.

A still further object is to provide a tooth brush and polisher in which the tooth brush component is provided with a substantially conical tufted bristle portion which will readily enter between the teeth during the brushing operation and will more thoroughly brush the teeth than hitherto possible.

A still further object is to provide a tooth brush component with a flexible rubber skirt which encircles the tufted conical brush and is sufficiently flexible to massage the gums and promote a healthy condition thereof without injury to the gums during the brushing operation.

A still further object of the invention is to provide a combined tooth brush and polisher having a handle portion terminally equipped with caps for protecting the polisher and the brush and which have flat ends to permit of the handle being stood on end.

A still further object is to provide a combined tooth brush and polisher having the handle portion so constructed as to keep the polisher or the brush away from a supporting surface when the handle is laid on its side.

A still further object is to provide a fountain tooth brush and polisher which also is equipped with a mirror in one end thereof to permit of inspection of the teeth.

With the above and other objects in view the invention consists in certain novel details of construction and combinations of parts hereinafter fully described and claimed, it being understood that various modifications may be resorted to within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of this specification,

Figure 1 is a side elevation of the combined tooth brush and polisher,

Figure 2 is a longitudinal sectional view through the combined tooth brush and polisher, and

Figure 3 is an enlarged detail sectional view showing the construction of the tooth brush component.

Referring now to the drawings in which like characters of reference designate similar parts, 10 designates in general the handle of the combined tooth brush and polisher, the same comprising a hollow section 11 and a hollow section 12, the section 11 being provided with an elongated reduced neck 13 which is exteriorly provided with screw threads 14 to receive the interior screw threads 15 of the section 12. The section 12 is closed at one end as shown at 16 and is threaded to receive a cap 17, the outer face of which is flush with the outer face of the section 12. The section 11, however, is open at both ends and at the end opposite the neck is provided with a flange 18 which is preferably formed smooth to receive a cap 19 the inner face of which frictionally engages with the outer face of the section 11. Said flange is also interiorly threaded to receive the tooth brush component which will now be described.

The tooth brush component comprises an enlarged cylindrical base portion 20 which is threaded exteriorly at one end as shown at 21 to receive the interior screw threads 22 on the flange 18. The base portion is axially extended to form a substantially concave disc 23 to provide a finger hold for exerting pressure on the brush. The underneath face of the disc is provided with a counter-sink 24 and furthermore both the disc 23 and base portion 20 are axially bored out to provide a channel 25. The channel opens through the end of the base portion in an enlarged flared intake mouth 26, and opens through the center of the counter-sink 24 to provide an outlet nozzle 27.
For promoting the effective brushing of the teeth downward and especially to provide adequate means for brushing the spaces between the teeth, there is provided a substantially conical tuft of bristles designated in general by the numeral 28, the bristles preferably being of the type known as badder bristles which are known to possess long life under severe conditions of service. The tuft is arranged as an integral unitary structure in a rubber base 29 which snugly fits in the counter-sink 24 and is provided with a central opening 30 that registers with the nozzle 27 above described.

The conical shape of the tufted brush component permits entry of the same into the spaces between contiguous teeth so that a thorough downward (from gum margin to biting edge) brushing can be accomplished than hitherto possible.

In order that the gums may be massaged and their healthy condition promoted during the brushing operation, a resilient flexible rubber skirt 31, substantially of annular form, is secured at one edge in a recess 32 formed in the rubber base 29. The skirt surrounds the edges of the bristles and is of sufficient length to extend to substantially one half the length of the longest bristles as clearly shown. In addition to rubbing against the gums during the brushing operation and thus gently massaging the gums, the skirt permits the function of holding the bristles in a compact unit.

By again referring to Figure 2 it will be seen that the polishing component of the combined tooth brush and polisher comprises a yoke 32 the base of which is provided with a lug 33 which is threaded into an axial opening in the closed end 16 of the handle section 12. A shaft 34 connects the branches of the yoke and on the shaft is fixed a circular polisher 35. The polisher is composed of comparatively stiff fibrous material arranged in the form of an annular and confined in a suitable cylindrical base 36.

In order that the teeth may be inspected the end wall of the cap 17 is provided with a counter-sink in which there is disposed a mirror 37 and if desired this mirror may be slightly convex to enlarge the image.

In operation, the hollow handle 10 is preferably filled with the cleansing material such as dental cream. The section 12 of the handle may be advanced on the threaded neck 14 to feed the dental cream through the channel 25 and opening 30 to the bristles 28.

It will be observed that by virtue of the handle sections 11 and 12 being considerably greater in diameter than the largest diameter of the brush component or the polisher component, these components will be protected from contact and therefore contamination when the device is laid on its side on a support.

It will be further observed that by virtue of the ends of the caps 17 and 19 being flat the device may be stood on either end when desired. It will be still further observed that the brush component, polisher component, and mirror are all compactly assembled in a single unitary structure which will occupy only a small space when not in use.

Both caps 17 and 19 are provided with vents 39 to permit drying out of the brush and polisher when wet.

Having thus described the invention, I claim:

1. A tooth cleaning device having the appearance of a fountain pen and comprising relatively movable tubular sections forming a magazine for tooth paste, a disk depressed on the upper face to provide a finger hold for applying pressure thereto, a single unitary short tuft of comparatively stiff bristles centralized in the bottom face of the disk underneath the depression, a shank integral with the disk and of less length than the diameter of the disk, a threaded plug base integral with the shank and disposed at a right angle to the disk, said plug being threaded into the end of one of said tubular sections, said shank and said plug having an axial duct for delivering tooth paste from the magazine to the bristle tuft, and a removable cap on the last named section, the other of said sections being of the same outer diameter as said removable cap to impart the appearance of a fountain pen to the article.

2. A tooth cleaning device comprising a magazine for tooth paste, a short axial hollow shank projecting from the magazine and terminating in a disk having a depression in the upper face to provide a finger hold for applying pressure to the disk, a circular soft rubber skirt projecting from the bottom face of the disk underneath said depression, and a single unitary short tuft of comparatively stiff bristles embedded in the bottom face of the disk concentric with the skirt and of slightly greater length than the length of the skirt, there being a sectional duct in said shank to conduct tooth paste from the magazine to said tuft.

3. A device of the class described comprising a hollow handle including relatively movable sections, a tooth brush component carried by one of said sections, a polisher carried by the other section, and caps on said sections housing said tooth brush component and said polisher.

In testimony whereof I affix my signature.

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