March 8, 1932. H. R. PRIEST 1,848,543

TOOTH CLEANER AND POLISHER

Filed May 31, 1930

Fig. 1.

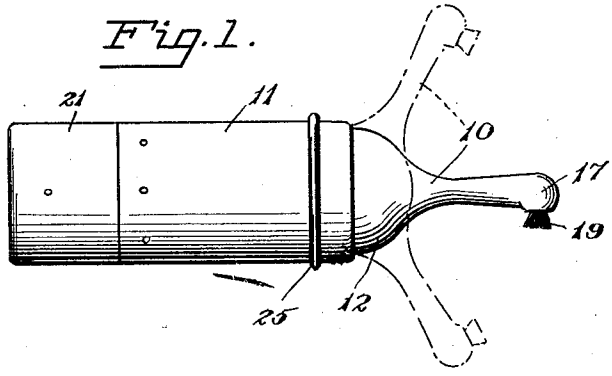


Fig. 2.

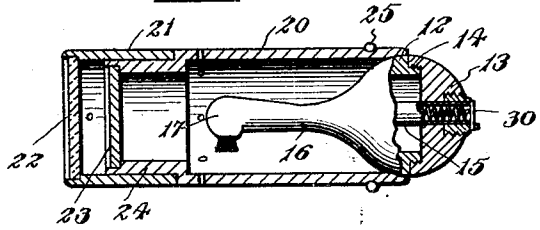


Fig. 3.

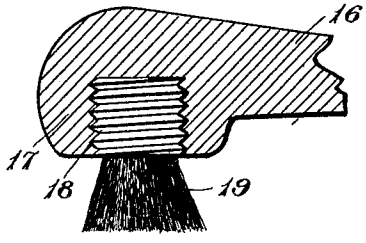
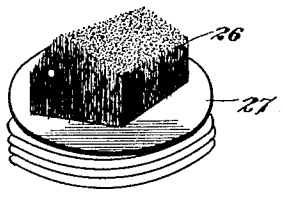


Fig. 4.



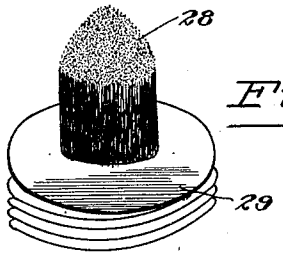


Fig 5

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UNITED STATES PATENT OFFICE

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TOOTH CLEANER AND POLISHER

Application filed May 31, 1930. Serial No. 458,655.

This invention relates to tooth cleaners and polishers and has for an object to provide a device of this type in which the cleaner and polisher will have a ball and socket connection with the handle so that the cleaner and polisher may be adjusted to assume various angular positions relatively to the handle whereby the device may be most effectively operated to clean and polish the teeth.

A further object of the invention is to provide a device of this type in which the cleaner and polisher will be formed with a ball base weighted at the bottom so that the device will remain upright when placed upon a shelf or other support.

A still further object is to provide a tooth cleaner and polisher having a mirror in the handle component and also having a separate mirror housed within said component and removable therefrom, the latter mirror being adapted to be placed on the tongue, while the former is held so that the image reflected from the mirror on the tongue may clearly visible, and thus proper cleaning as well as inspection of the condition of the teeth readily effected.

A still further object of the invention is to provide a tooth cleaner and polisher in which a plurality of different shaped fibrous bristle elements carried by screw plugs may be selectively assembled with the tooth cleaner and polisher so that a variety of uses may be made of the device while at the same time renewal of worn out brush components will be inexpensive.

A still further object of the invention is to provide a receptacle for dental floss in the weighted ball base of the cleaner and polisher so that all necessary equipment will be assembled in a unitary structure.

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 my improved tooth cleaner and polisher and showing by dotted lines two adjusted positions of the brush component in the handle or grip,

Fig. 2 is a longitudinal sectional view through the tooth cleaner and polisher and showing the brush component housed in the grip or handle,

Fig. 3 is a detail sectional view of a flat type of brush component,

Fig. 4 is a detail perspective view showing a wedge type of brush component, and

Fig. 5 is a detail perspective view showing a conical type of brush component.

Referring now to the drawings in which like characters of reference designates similar parts in the various views, 10 designates in general the brush component and 11 the handle or grip component. The brush component is provided with a hollow ball base 12, the bottom 13 of which is weighted. The ball base is preferably formed in two parts connected together by a screw thread connection 14 whereby a standard tube 15 of dental floss may be inserted in the hollow base. The brush component is provided with a slender neck 16 which terminates in a socket 17 to receive the screw plug base 18 which carries the brush 19.

The tubular grip or handle 11 is preferably formed of two parts, 20 and 21, as best shown in Fig. 3, the latter being equipped with a mirror 22. Housed within the tubular grip is a mirror 23 which is provided with a tubular base 24, the same snugly fitting within the tubular grip or handle. The parts 20 and 21 of the grip as well as the base 24 of the separate mirror frictionally fit together so that no screw threads are necessary.

A resilient ring 25 surrounds the end of the handle 11 and the purpose of this ring is to hold the handle, which is somewhat resilient, snugly against the ball base of the brush component 10 whereby the latter is held firmly against escape when housed in the handle, as shown in Fig. 2, and is frictionally held in the handle as a socket when the ball of the

brush component is disposed at any adjusted position therein, as shown in Fig. 1.

In order to provide various shapes of brushes which may be selectively used for accomplishing different cleaning and polishing operations, in addition to the flat type shown at 19, a wedge brush component 26 is provided, the same having a screw plug base 27, and there is also provided a conical shaped brush component 28, also having a screw plug base 29. The plug bases of the various shapes of brush components are interchangeable in the socket 17, whereby any particular desired shape may be easily and quickly applied in the socket. This plug and socket feature also permits of easy and inexpensive renewal of worn out brush components.

By referring now to Fig. 1, it will be seen that by virtue of the ball and socket connection between the brush component and the handle component, the brush component may be adjusted to assume any desired angular position relatively to the handle whereby the teeth may be most effectively brushed from the gums to the biting edges. The ball and socket connection is virtually a universal joint between the brush component and the handle component, the parts being frictionally held together by the ring 25 to resist dislodgement from any adjusted position during the cleaning and polishing operation.

By referring now to Fig. 2, it will be seen that the base part 21 of the tubular handle is removable to permit removal of the mirror 23. The latter may be placed upon the tongue to reflect the backs of the upper or lower teeth while the mirror 22 is held in front of the face at such an angle that the reflection of the backs of the teeth may be viewed and thus inspection of the teeth made possible.

Any desired type of material may be used in the construction of the cleaning and brushing device above described.

A cap having a cutter 30 closes the hollow base beyond the tube of dental floss.

Having thus described the invention, I claim:

1. A tooth polisher and cleaner comprising a handle forming a socket, a brush having a ball base frictionally engaged in the socket and adapted to be reversed in the socket, and an external ring on the handle component frictionally holding the brush in either of its reversed positions in the socket.

2. A tooth polisher and cleaner comprising a handle forming a socket, and a brush having a ball base received in said socket, said ball base being formed hollow to provide a magazine, said base being frictionally engaged in said socket and being also reversible in said socket to present the brush externally of the socket or the magazine externally of the socket.

3. A tooth polisher and cleaner comprising a hollow handle forming a socket, and a brush housed in the socket having a shank terminating at one end in a bristle tuft and terminating at the opposite end in a ball base frictionally engaged in said socket, said socket and said base forming a universal joint when the bristle tuft is exposed externally of the socket to present the brush at various angles with respect to the axis of the socket.

4. A tooth polisher and cleaner comprising a hollow handle forming a socket, a brush having a shank terminating at one end in a bristle tuft and terminating at the opposite end in an enlarged ball base in axial alinement with the shank, and an external ring carried by the socket for frictionally holding said base in various positions to present the shank at various angles with respect to the axis of the socket.

5. A tooth polisher and cleaner comprising a hollow handle, a brush having a shank terminating at one end in a bristle tuft and terminating at the opposite end in a ball base received in said handle, said ball base being weighted to maintain the brush upright when detached from said handle, said ball base being reversible in the handle to present either the bristle tuft or the base exteriorly of the handle, and means for frictionally holding the ball base in either of its reversed positions in the handle.

In testimony whereof I affix my signature.

HARRY R. PRIEST. [L. S.]