March 6, 1928. 1,661,472

G. N. GILBERT

TOOTH CLEANING IMPLEMENT

Filed April 6, 1927

Fig. 1.

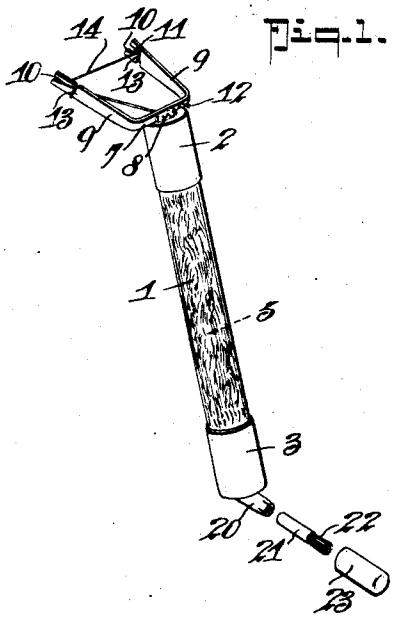


Fig. 2.

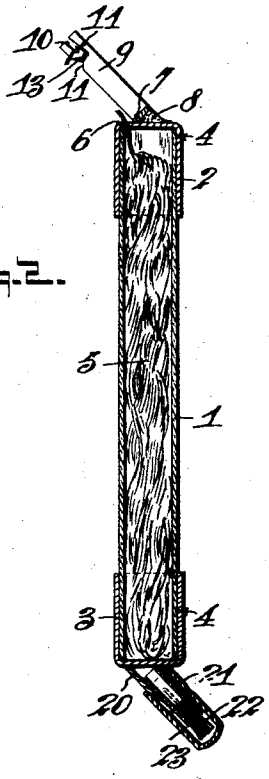


Fig. 3.

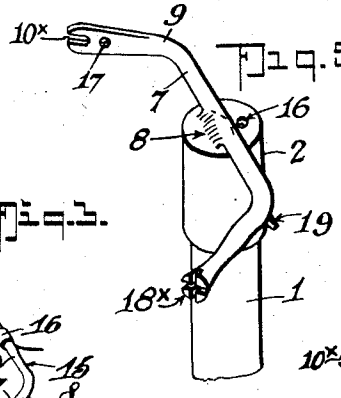
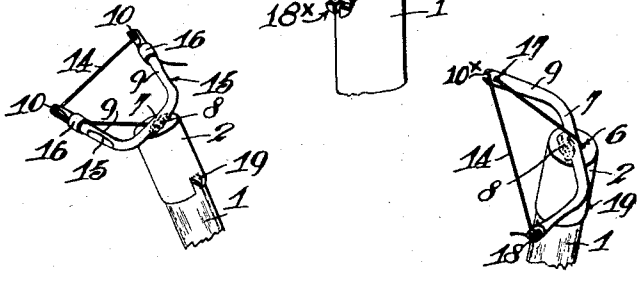


Fig. 4.



INVENTOR
G. N. Gilbert.

BY
Albert E. Dieterich
ATTORNEY

Patented Mar. 6, 1928. 1,661,472

UNITED STATES PATENT OFFICE.

GEORGE N. GILBERT, OF PANA, ILLINOIS.

TOOTH-CLEANING IMPLEMENT.

Application filed April 6, 1927. Serial No. 181,547.

The invention has for its object to provide a new and improved tooth cleaning implement, simple, compact and adaptable to economical manufacture and by the employment of which it is possible to clean all surfaces of the teeth, regardless of how inaccessible they are, and also crevices between the teeth.

In its more detailed nature the invention resides in the provision of an implement of the character described comprising a glass tube body and end caps for snugly filling and closing the ends thereof to constitute a dental floss container, one said cap being provided with a dental floss passing aperture and an improved holding and tensioning bow, and said other cap being provided with an improved type of tooth brush.

The invention still further resides in the novel details of construction, combination and arrangement of parts, all of which will be first fully described, then be particularly pointed out in the appended claims, reference being had to the accompanying drawing, in which:

Figure 1 is a perspective view illustrating the invention, the removable brush head and sanitary closure cap being shown separated.

Figure 2 is an enlarged central longitudinal section of the implement.

Figures 3 and 4 are detail perspective views illustrating modified floss holding and tensioning bows.

Figure 5 is a detail perspective view similar to Figure 4, but on an enlarged scale, with the floss omitted.

In the practical development of the invention I provide a tubular glass body 1, the open ends of which are adapted to be closed by snugly fitting end caps 2 and 3 which, when mounted, are wax sealed upon the ends of the body as at 4. By thus mounting and securing the ends they are securely held to position during ordinary use or when relatively cold. To remove the ends it is only necessary to subject them to heat necessary to sufficiently mold the wax and permit removal.

The body 1 provides a storage compartment for accommodating a dental floss supply 5 and by reason of constructing the body of glass the user of the device may readily view the said floss supply and have the amount of his supply always before his attention.

The cap 2 is adapted to serve as a mounting means for a tooth crevice cleaning device and the cap 3 similarly serves to mount a tooth surface cleaning device, both of which will be hereinafter described in detail.

The cap 2 is provided with an aperture 6 through which an end of the floss may be threaded and a U-shaped bow 7 is secured as at 8 to the said cap to project therefrom at an angle of approximately 45°. The arms 9 of the bow are resilient so that they may be pressed inwardly to store up tension so that when released they will spring outwardly and assume their normal position for a purpose later to be described.

At their ends the arms 9 are provided with floss suspending and aligning notches 10 and securing notches 11. In utilizing the bow 7 to suspend a length of dental floss across the ends of the said bow it is only necessary to draw out a portion of the floss through the aperture 6, wrap it around the end of one arm and into the securing notch thereof, then into its aligning notch 10 and over and into the aligning notch of the opposite arm. Now, by wrapping the floss around the end of the last mentioned arm and into its securing notch the floss may be secured to the desired position across the arms. It should be understood that when this operation is performed the arms will be pressed inwardly by the thumb and fore finger of the user, and thus held until after the mounting operation is completed. By then releasing the arms they will spring outwardly and hold the floss taut. If desired the base portions of the bow may be provided with a sharpened edge, as at 12, to facilitate cutting of the floss, when desired. The securing wrappings of the floss are indicated at 13 and the tautly suspended portion to be used in cleaning the crevices between the teeth is indicated at 14.

In Figure 3 of the drawing, I have illustrated a slight modification of the floss mounting bow in which the side arms thereof adjacent their ends are slightly tapered and at their lower portions, adjacent the juncture with the cross piece or base of the U, are provided with flattened or cut out portions 15. Clamp rings 16 are slidably mounted one upon each arm and when retracted over the cut out portions 15 the floss may be readily threaded through the space between the ring and the arm provided by the said cut out. By sliding the rings outwardly on the arms onto the tapered por-

tions thereof the floss may be securely clamped in a taut condition across the ends of the arms, it being understood that the same resilient arm feature of tensioning the floss may be employed in this modified form.

In Figures 4 and 5 of the drawing I have illustrated a still further modification of the floss bow construction in which one arm of the bow is provided near its end with an eye 17 through which the floss may be passed. It is also provided with a slot or notch 10ˣ through which the floss may be passed and from which the floss is extended to the other arm of the bow. The other arm terminates in an enlarged flattened head to facilitate the secure wrapping of the floss, and is cross notched as at 18 to facilitate both the securing and aligning of the suspended length of floss.

In both modifications illustrated in Figures 3 and 4 the bow mounting cap may be provided with a thread cutting tang 19, as illustrated.

The end cap 3 or tooth surface cleaning device mounting cap carries a friction socket member 20 projecting from the end thereof at an angle of approximately 45° and in a direction opposite that in which the bow 7 is projected from the other cap 2. The socket 20 is in the nature of a hollow shell of thin resilient metal notched at its end to provide gripping fingers to securely but permanently grip the socket head 21 in which a tuft brush 22 is mounted. By thus mounting the brush 22 it is possible to replace the brushes whenever they become worn and unfit for efficient service.

The friction socket 20 is also adapted to receive and frictionally hold a sanitary closure cap 23 which fits over the brush 22 and its mounting and effectually closes the same from dust and other means of contamination and to further assure a continually sanitary condition of the brush and to always retain the same sterile the said cap may be provided with an antiseptic filler of any type found suitable.

In the foregoing description and in the drawing I have disclosed a simple and efficient implement for cleaning not only the surfaces of the teeth but also the crevices between the teeth. With common types of tooth brushes now on the market it is impossible to reach even all of the surfaces of the teeth, much less the crevices between the teeth and this insufficient cleaning results in the great spread of the at present common disease of pyorrhea. I have disclosed a simple device by which all surfaces of the teeth may be easily cleaned. By providing the small tuft brush and mounting the same at the end of the composite handle and supply containing body and projecting the same at the angle stated it will be found very easy to clean the heretofore inaccessible surfaces of the teeth. Also, by providing the dental floss suspending bow and projecting the same in the manner indicated, it is possible very readily to clean the crevices between the teeth.

It is also found to be an advantage to project the tooth crevices cleaning device and the tooth surfaces cleaning device from opposite ends of the small handle and reservoir body and at angles of 45° in opposite directions. By this means of projection neither of the devices interferes with the other but rather facilitates the use of the other device in making it easier to handle the implement and hold the same steady while in operation.

From the foregoing description, taken in connection with the accompanying drawing it is thought that the novel details of construction, the manner of use and the advantages of my invention will be readily clear to those skilled in the art to which it relates.

What I claim is:

1. An implement of the character described comprising an open ended tubular glass storage compartment and handle providing body, and a closure cap for closing each open end of said body, a tooth crevice cleaning member carried by one cap, and a tooth surface cleaning member carried by the remaining cap. said crevice and surface cleaning members being projected from said caps at acute angles.

2. An implement of the character described comprising an open ended tubular glass storage comparment and handle providing body, and a closure cap for closing each open end of said body, a tooth crevice cleaning member carried by one cap, and a tooth surface cleaning member carried by the remaining cap, said caps being wax sealed upon said body ends and releasable upon application of heat.

3. An implement of the character described comprising an open ended tubular glass storage compartment and handle providing body, and a closure cap for closing each open end of said body, a tooth crevice cleaning member carried by one cap, and a tooth surface cleaning member carried by the remaining cap, said crevice and surface cleaning members being projected from said caps at angles of 45° in opposite directions.

4. An implement of the character described comprising a hollow storage compartment and handle providing body, a dental floss supply in said hollow body, a cap for closing the body and having an aperture to pass an end of said floss, a U-shaped floss holding and tensioning bow carried by said cap and having resilient arms, one said arm having a notch and an eye in its end, and the other of said arms being enlarged and flattened at its end and provided with cross notches to receive and secure taut

across said arms the end of the floss drawn through said aperture.

5. An implement of the character described comprising a handle, a friction socket projecting from the handle, a tuft brush frictionally held in said socket, and a sanitary cover insertable over the brush to be frictionally held upon said friction socket.

6. An implement of the character described comprising a handle, a friction socket projecting from the handle, a tuft brush frictionally held in said socket, and a sanitary cover insertable over the brush to be frictionally held upon said friction socket, said cover having an antiseptic therein to retain said brush in sterile condition.

7. An implement of the character described comprising a handle, a friction socket projecting from the handle end at an angle of 45° and comprising a hollow open ended shell split at its end to provide friction gripping fingers, a tuft brush frictionally held in said socket, and a sanitary cover insertable over the brush to be frictionally held upon said friction socket, said cover having an antiseptic therein to retain said brush in sterile condition.

8. An implement of the character described comprising an elongated dental floss holder, a cap for closing each end of said holder, a dental floss holding bow carried by and projected from one cap at an acute angle to the axis of the holder, a brush holding socket carried by and projected from the other cap at an acute angle to the axis of the holder, a tuft brush comprising bristles and a socket head in which the bristles are mounted, said socket head being adapted to be received by said socket and secured therein by retaining friction substantially as specified.

GEORGE N. GILBERT.