Feb. 26, 1963 H. BENDER ETAL 3,078,856

DISPOSABLE DENTAL IMPLEMENT

Filed Jan. 5, 1961

Fig.1

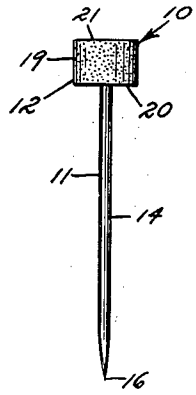


Fig.2

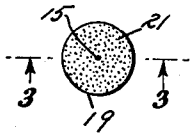


Fig.3

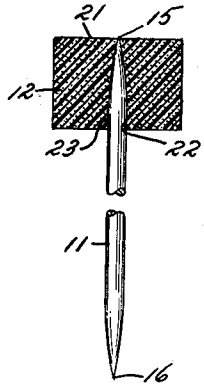
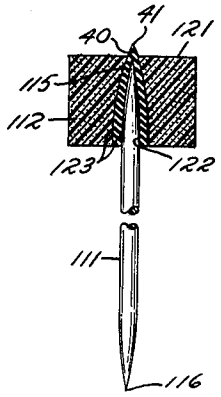


Fig.4



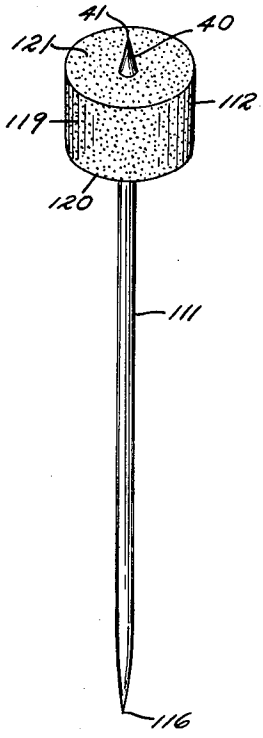


Fig.5

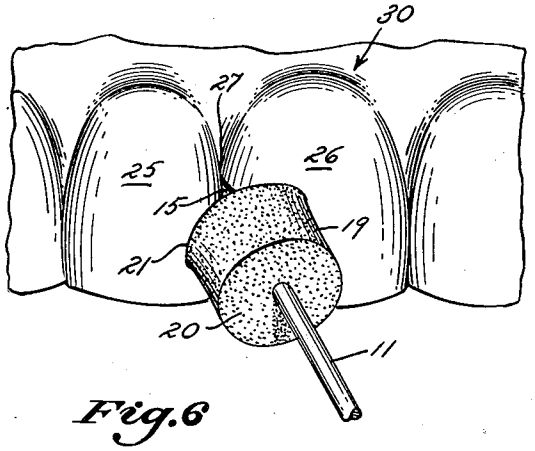


Fig.6

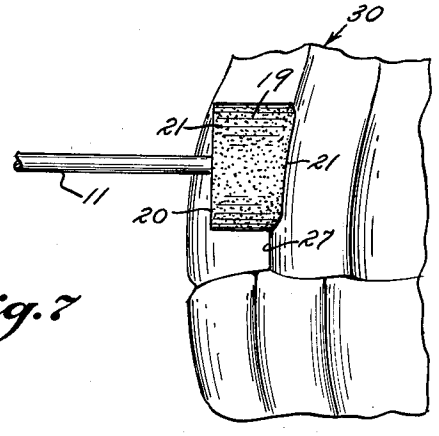


Fig.7

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3,078,856

DISPOSABLE DENTAL IMPLEMENT

Harry Bender, 2 Overhill Road, Elmsford, N.Y., and Norman Bender, 1530 Jessup Ave., Bronx, N.Y.

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This invention relates generally to the field of non-professional dental cleaning implements, and more particularly to an improved form of device which may be carried on the person of user for one-time usage and subsequent disposal.

It is known in the art to employ sharpened pieces of wood or plastic of generally elongated configuration which are insertable in the interstices between the teeth of the user for the purpose of removing food particles and the like, and to impregnate such devices with chemical solutions upon contact with the moisture normally present in the mouth of the user. Such devices, while useful to a degree, possess no utility as far as cleaning the surfaces of the teeth as distinguished from the interstices between the teeth in which the particles of food and other matter may become lodged.

For many persons, it is difficult to clean the teeth during the course of the day, or after meals, owing to the lack of facilities, and the inconvenience of carrying a toothbrush on the person in sanitary condition. For many of these persons, the desirability of cleaning the teeth more than once or twice a day is substantial.

It is therefore among the principal objects of the present invention to provide an improved dental cleaning implement of a disposable type which may effectively clean the exposed surfaces of the teeth without use of water, tooth paste, powder or other abrasive material.

Another object of the invention lies in the provision of an improved dental cleaning implement of the class described which may provide an antiseptic action capable of combatting odors originating in the mouth, and incorporating structure therein for cleaning crevices between the teeth as well as both the inner and outer surfaces thereof.

Still another object of the invention lies in the provision of an improved dental cleaning implement of disposable character, in which the cost of fabrication may be of a reasonably low order, with consequent wide sale, distribution and use.

A feature of the invention lies in the provision of a porous spongy cleaning member adapted to frictionally remove and partially absorb accumulated dental debris.

These objects and features, as well as other incidental ends and advantages, will more fully appear in the progress of the following disclosure, and be pointed out in the appended claims.

In the drawing, to which reference will be made in the specification, similar reference characters have been employed to designate corresponding parts throughout the several views.

FIGURE 1 is a side elevational view of an embodiment of the invention.

FIGURE 2 is a top plan view thereof.

FIGURE 3 is a vertical longitudinal sectional view as seen from the plane 3—3 in FIGURE 2.

FIGURE 4 is a similar sectional view, showing a second embodiment of the invention.

FIGURE 5 is a top perspective view of the second embodiment.

FIGURE 6 is a fragmentary enlarged view in perspective showing a method of using the device.

FIGURE 7 is an elevational view corresponding to the view seen in FIGURE 6.

In accordance with the invention, the first embodiment thereof, generally indicated by reference character **10**, comprises broadly a shaft member **11** and a cylindrical resilient member **12**.

The shaft member **11** is approximately from 2 to 3 inches in length, and may be formed of wood, synthetic resinous materials or metal. At least one of the end portions **15** and **16** is sharpened to a reduced diameter as contrasted with the generally centrally disposed portion **14**. The resilient member **15** is preferably formed from synthetic resinous foam, although natural foam rubber may also be used. Preferred materials include polyurethane and vinyl type materials which are extremely light in weight and of generally uniform porosity. Of generally cylindrical configuration, the member **12** includes an outer cylindrical surface **19**, a lower planar surface **20** and an upper planar surface **21**. A central bore **22** may be formed by pushing the member **12** upon the member **11**, the member **12** being secured thereupon by a suitable cementitious material **23**.

Referring to FIGURES 6 and 7, it will be observed that the device may be used in a manner analogous to that employed in utilizing a toothpick, wherein the device **10** is positioned at the interstice **27** of a pair of adjoining teeth **25** and **26**. An upward and downward movement will serve not only to engage the pointed end **15** within the interstice **27**, but the upper planar surface **21** would also be caused thereby to move over the adjacent surfaces of the teeth **25** and **26** wherein the same may frictionally engage and remove foreign material in a manner similar to that of a toothbrush. Slightly varied motion can then be applied to exercise the gum areas around the teeth. When holding the shaft member **11** between the thumb and forefinger, and applying the same to an outer or inner tooth surface, generally indicated by reference character **30**, a twisting or rolling motion may be produced which will rotate the cylindrical or planar surfaces of the device to produce a scrubbing effect. By virtue of the high porosity of the resilient member **12**, much of the foreign matter will flow inwardly from the surface of the resilient member, permitting a large amount of such debris to be collected upon a single device.

If desired, a plurality of devices **10** may be packaged in a single container, or individual sanitary containers may be provided for each device, whereby a relatively small number of the same may be carried by the user.

Turning now to the second embodiment of the invention as shown in FIGURES 4 and 5, parts corresponding to those of the principal embodiment have been designated by similar reference characters with the additional prefix "1."

The second embodiment of the invention differs from the first embodiment thereof in the provision of a hard non-porous rubber tip **40** which is fitted over the end portion **115** to be cementitiously fixed thereupon. The cylindrical resilient member **112** is in turn fixed upon the member **40**, whereby the sharpened point **41** of the member **40** may be utilized as a gum exerciser as well as a toothpick.

It may thus be seen that we have invented novel and highly useful improvements in disposable dental instruments, whereby a user may be in a position to clean his teeth without the assistance of water or a dentrifice. Where desired, the foam member supported by the shaft member may be impregnated with a suitable well known antiseptic (not shown) liberated upon contact with the moisture normally present in the mouth of the user. If desired, the antiseptic may include an odor inhibiting agent as well.

We wish it to be understood that we do not consider the invention limited to the precise details of structure shown and set forth in this specification, for obvious

modifications will occur to those skilled in the art to which the invention pertains.

We claim:

1. In a disposable dental implement, an elongated shaft member having at least one pointed end thereon, a synthetic resinous highly porous resilient member of arcuate cylindrical configuration having a principal axis and a first arcuate cylindrical surface co-axially disposed with respect to said axis, and an outer substantially planar surface disposed perpendicularly with respect to said axis, said synthetic resinous member being pierced by said shaft member to be disposed coaxially upon said shaft member, said pointed end projecting outwardly from said planar surface and maintained upon said shaft member by resilient contractile action.

2. Structure as set forth in claim 1, further characterized in the provision of a non-porous resilient tip member disposed upon the projecting end of said shaft member.

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