

[54] DENTAL FLOSS 3,789,858 2/1974 Pesce..... 132/89

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[51] Int. Cl. A61c 15/00

[58] Field of Search 132/89, 90, 91, 93

[57] ABSTRACT

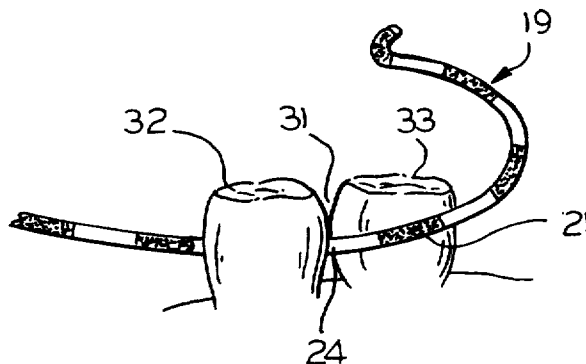
A unique dental floss that is color coded to assist in its use. Alternate lineal sections of the floss are colored. The colored sections are waxed and the uncolored sections are unwaxed. The stronger colored sections are used to position the floss in the interproximal space while the more absorbent uncolored sections are used for the actual cleaning process.

[56] References Cited

UNITED STATES PATENTS

2,612,177	9/1952	Footer	132/93
3,699,979	10/1972	Muhler	132/89

9 Claims, 5 Drawing Figures



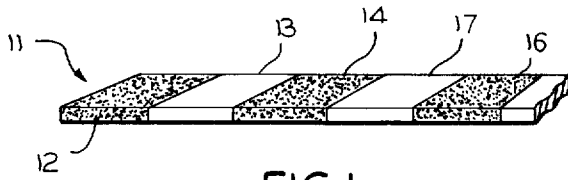


FIG. 1



FIG. 2

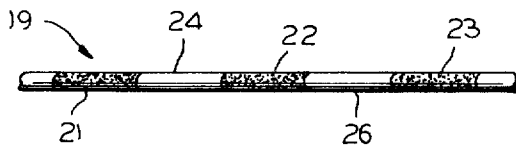


FIG. 3

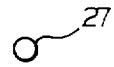


FIG. 4

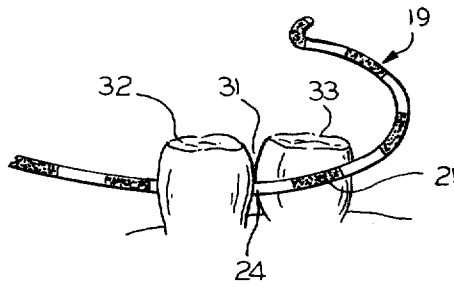


FIG. 5

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DENTAL FLOSS

This invention is concerned in general with products used for the care of teeth, and more particularly in improved dental flosses.

Mucous plaque is a primary cause of dental ulcerations and disintegrations of the supporting bone structure of the teeth and of periodontal diseases. To effectively prevent periodontal diseases, dentists in the recent past have been promulgating information so that the average person will be educated as to how best to remove the mucous plaque.

There are many prophylactic dental products on the market today which are used for removing the mucous plaque found in the interproximal spaces and on the proximal surfaces of the teeth. The most commonly used preventative dentistry product is the toothbrush. However, the toothbrush does not reach into the interproximal spaces and the proximal surfaces of the teeth and therefore does not remove mucous plaque.

Toothpicks are also used for cleaning the teeth and especially for removing food matter from the interproximal spaces between the teeth. However, when toothpicks are used in an attempt to clear the mucous plaque, many times the user will bruise his gums and may even cause infections of the gums. Thus, toothpicks are frowned upon as a device for safe use in removing the mucous plaque.

Water picks also have been found effective for removing the food particles from the interproximal space and thus preventing a build up of mucous plaque. However, the water-picks are not an effective means of removing mucous plaque that has already formed. Dental flosses are preferred as the most effective and efficient mucous plaque removers. However, various problems arise in the use of dental flosses presently on the market.

There are two major forms of dental flosses presently on the market. One, is the waxed floss wherein the surface of the dental floss is covered with a waxy substance to facilitate passing the floss through the interproximal spaces without tearing. The second major form of dental floss presently available is the type of floss that is not covered with the waxy substance.

A problem with the waxed dental floss is that since it is waxed, it is not as effective in removing the mucous plaque. The problem with the unwaxed floss is that it tends to tear when trying to pass it through tight interproximal spaces.

Thus, ideally a dental floss should have portions waxed and unwaxed -- the waxed portions for use in passing the dental floss through tight interproximal spaces, while the unwaxed portions being for use in the actual process of removing the mucous plaque from the teeth.

Prior art patents have taught such dental flosses. However, it has been hard in the past to distinguish the waxed from the unwaxed portions, while the floss is in the interproximal space between the teeth of the user or is in the user's mouth.

In some of the prior art flosses the shape of the dental floss varies between the wax and the unwaxed portions. The waxed portions were made narrower and the unwaxed sections were longer, wider flat sections. However, the dental floss tends to lose these varied shapes during use. For example, when the waxed portion is put between the teeth and then the dental floss is moved so

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that the unwaxed portion is between the teeth, there is no telling which is the waxed portion and which is the unwaxed portion; since in placing the narrower section between the teeth, the floss tends to flatten out. Thus there's no practical distinction between the waxed and unwaxed sections in the prior art flosses.

The result is that the user may be using the waxed portion, which doesn't absorb well in attempting to clean mucous plaque from the teeth. Similarly, the user may use a previously used portion of the floss in the next interproximal space and thereby transfer deliterious bacteria from one interproximal space to another interproximal space, thereby aiding and abetting the adverse effects of the mucous plaque, rather than removing this cause of dental caries.

Accordingly, an object of the present invention is to provide new and unique dental flosses.

A further object of this invention is to provide dental flosses having waxed and unwaxed portions that are clearly marked, and which markings are not obliterated by the use of the dental floss.

A further object of the present invention is to provide dental flosses that are color coded to readily distinguish between the waxed and unwaxed portions of the dental flosses and also to readily distinguish between those portions of the floss which are used for cleaning the teeth and those portions which are used for passing the floss through tight interproximal spaces.

A further object of this invention is to provide dental flosses that have the same cross sectional area throughout and are preferably of medium thickness to maximize the absorbing power of the flosses.

Yet another object of the invention is to provide color coded dental flosses to aid the user in performing the proper operations for removing the mucous plaque from the spaces between the teeth, while at the same time enabling the user to adroitly place and remove the dental flosses between the teeth so that a clean, unwaxed portion of the dental flosses can be used for the cleaning operation.

In a preferred embodiment of the invention the dental floss is marked in sections that are approximately a half inch long making up half inch alternate intervals of waxed and unwaxed sections. The floss is color coded so the waxed portion is blue in coloring and the unwaxed portion is the normal white floss color. The white color assists in revealing particles that are partially absorbed and picked up by the floss.

The above mentioned and other features and objects of this invention together with the manner of obtaining them will become more apparent and the invention itself will be best understood by making reference to the following description of a preferred embodiment of the invention taken in conjunction with the drawings in which:

FIG. 1 shows a section of color coded flat ribbon dental floss;

FIG. 2 shows a cross section of the dental floss of FIG. 1;

FIG. 3 shows a color coded section of circular dental floss; and

FIG. 4 is a cross sectional view of the dental floss of FIG. 3.

Turning now to FIG. 1 therein 11 generally shows a section of dental floss. The dental floss has color coded markings thereon. More particularly, there is seen section 12 which is shown cross hatched indicating that it

is colored differently than section 13, shown without any cross hatching. Similarly, sections 14 and 16 are also shown cross hatched, while section 17 is clear. The cross hatched sections indicate a color coding which in a preferred embodiment is blue. The colored and the uncolored sections are of substantially equal length.

As can be seen in FIG. 2 the cross section 18 of the dental floss 11 is flat so that the general shape of the dental floss of FIG. 1 is ribbon-like.

In a similar manner FIG. 3 shows another section of dental floss, generally shown as 19, having cross hatched sections 21, 22 and 23 separated by non-cross hatched sections 24 and 26.

As seen in FIG. 4 a cross sectional area of the dental floss of FIG. 3 is circular and shown at 27. However, the important thing is that the color coded sections -- the cross hatched sections -- are covered with wax-like paraffin substance to facilitate using those sections in placing the dental floss through the tight interproximal spaces to enable using the uncolor coded, i.e., the unwaxed portions of the dental floss to clean the proximal surfaces of the teeth.

The color coding makes it obvious to the user which sections are to be used for passing the floss through the tight interproximal spaces between the teeth, and which sections are to be used in cleaning the proximal surfaces of the teeth.

The blue coloring used is preferably a vegetable dye which does not come off in the salival environment of the mouth, and is non-toxic and harmless to the teeth and to the user. Thus, the color coded dental floss provided passes through the interproximal spaces with ease and without tearing, since a waxed portion is used for that purpose. Once through the interproximal space it has the highly efficient absorbing power of the unwaxed floss for use in removing the mucous plaque from surfaces.

Further, because of the waxy covering the floss or tape does not tear or leave strands caught between the teeth. The color coding makes it apparent to the user which portions of the floss have already been used, so that he will not reuse those portions, and thereby minimize passage of harmful bacteria from one interproximal space to another interproximal space.

As shown in FIG. 5 the floss is passed through the interproximal space 31 between teeth 32 and 33 at a waxed section, such as section 21; while the actual cleaning process is performed by the unwaxed sections, such as section 24. While the floss is in the space the waxed portion is placed through the interproximal space; and since it is waxed, it goes through with relative ease, and does not tear. While the floss is in the space, the waxed portion that is color coded is pulled laterally until the white portion 24 is in the space. This is readily accomplished by winding a similar longitudinal section on the user's finger so that the user knows how much floss has been pulled through the interproximal space. An up and down motion is used on the surface of one tooth and then on the surface of the other tooth to remove mucous plaque.

The floss is use should form a C around each tooth before the up and down motion is started. The floss then runs towards the neck of the tooth to the crest or

margin of the gum tissue. After being so used it is pulled laterally again until the next waxed portion, that is colored, is in the interproximal space; then the floss can be removed without the danger of tearing, so that there is no redeposit of the plaque when the floss is removed. The process is repeated for the next interproximal space using a fresh clean portion of dental floss.

Thus, the color coding helps the user in placing the new portion of floss in each interproximal space. Also, since the cleaning is done with unwaxed portions of the floss, there is minimal wax deposit on the interproximal space. Thereafter, the contact point is the only place on which the wax floss comes in contact with the teeth, not in the inaccessible interproximal space. Further, plaque from one interproximal space is not carried to another interproximal space when using the color coded dental floss in the method hereinabove described.

The color coding further serves as an incentive to people to use this ideal method of protecting teeth from mucous plaque and thereby improving the dental health of the public in general.

while the principles of the invention have been described above in connection with specific apparatus and applications, it is to be understood as a description made only by way of example, and not as a limitation on the scope of the invention.

I claim:

1. A dental floss for use in removing mucous plaque from the interproximal space of teeth, sections of said floss being colored, and alternate sections being uncolored whereby the user of the dental floss can more readily distinguish those sections which have already been used.
2. The dental floss of claim 1 wherein said sections and alternate sections are of equal length.
3. The dental floss of claim 1 wherein said sections are waxed and said alternate sections are unwaxed.
4. The dental floss of claim 1 wherein said floss is ribbon-like with a substantially rectangular cross section.
5. The dental floss of claim 1 wherein said floss has a round cross section.
6. The dental floss of claim 1 wherein said floss has a constant cross sectional area.
7. The dental floss of claim 1 wherein the floss is comprised of a plurality of twisted fibers.
8. The method of using the dental floss of claim 1, said method comprising the steps of: placing a colored section of said floss at the space between the top of two contiguous teeth; moving the floss down between the teeth; winding a section of the floss to bring the uncolored section into position in the interproximal space; moving the floss back and forth longitudinally against the teeth as it is moved upward; winding the floss again until a colored section is in the interproximal space; and pulling the floss from between the teeth.
9. The method of claim 8 including the step placing the floss in a C-shape around the teeth so that the floss abuts the proximal surfaces while it is longitudinally moved.

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