(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number : **0 680 707 A2**

(12) EUROPEAN PATENT APPLICATION

(21) Application number : **95500068.2**

(51) Int. Cl.[6] : **A46B 9/02**

(22) Date of filing : **03.05.95**

(30) Priority : **04.05.94 ES 9401043**

(43) Date of publication of application :
08.11.95 Bulletin 95/45

(84) Designated Contracting States :
DE FR IT PT SE

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(54) Interdental toothbrush.

(57) It comprises a head (1,10) made up by filaments (3,4) laid out in a substantially radial direction on a core or stem (5), and is characterized in that the head (1,10) includes zones made up by filaments (3,4) of different thicknesses.

In the case of a head (10) of frustoconical shape the filaments of smaller thicknesswhich form one of the zones (D) of the head are also shorter.

The different zones (D,E) of the head (1,10) are of different colour, in order to be distinguished from each other.

In the case of a frustoconical head, a hardness substantially uniform in all the zones (D,E) of the head (1,10) is achieved.

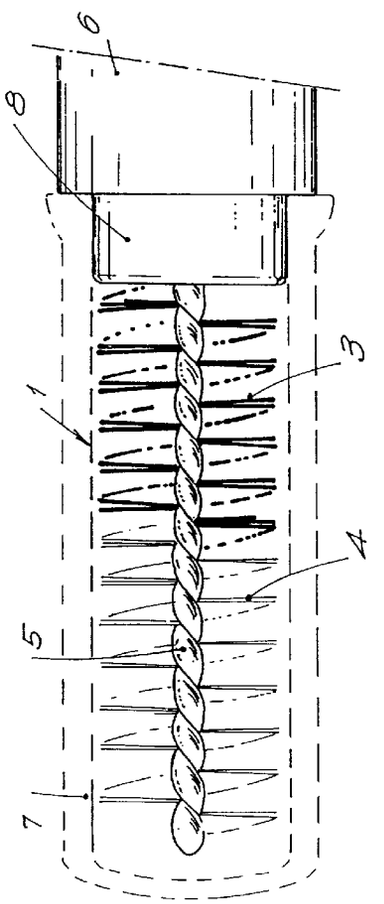

FIG.1

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The present invention refers to a an interdental toothbrush which comprises a head made up of filaments laid out in a substantially radial direction on a core or stem.

BACKGROUND OF THE INVENTION

Known in the art are brushes for cleaning the teeth, and in particular for cleaning the interdental spaces, of the type described.

Spanish utility model 262 453 refers to an interdental toothbrush in which the filaments are secured to a wire core and are laid out radially around said core. The filaments make up a cylindrical head around the core of small diameter.

Thanks to the small size of the core, the filaments can be inserted easily into the interdental spaces for cleaning of same, which is not possible with a conventional brush in which the filaments are attached to a handle of much larger dimensions than the aforesaid core of the interdental toothbrush.

All the filaments are of the same section, and as they are of the same length they present identical resistance to bending when the head is pressed against the teeth while they are brushed.

Also known are interdental toothbrushes whose head is of conical or frustoconical shape. In this case, as the filaments are of the same thickness, the shortest ones present greater resistance to bending, that is, they present a sensation of greater hardness on the teeth and gums. Excessively hard filaments give an unpleasant sensation and can even damage the gums.

DESCRIPTION OF THE INVENTION

The interdental toothbrush of the invention solves the disadvantages mentioned.

The interdental toothbrush of the invention is characterized in that the head includes zones made up of filaments of different thicknesses.

In a preferred embodiment of the invention, the head has a conical or frustoconical shape and the filaments of lower thickness which make up one of the zones of the head are also shorter.

The ratio between the length and the height of the filaments in the various zones is preferably such that the hardness is substantially uniform over the entire head. This allows the unpleasant sensation due to excessive hardness, which can damage the gums, to be avoided.

The fact that there exist two or more zones with filaments of different thickness means that zones of different hardness can be obtained, especially if the filaments of the head are of the same length.

This happens when the head has a substantially cylindrical shape. In this embodiment, the desired sensation of hardness can be achieved at different zones of the head.

Advantageously, the different zones of the head can be of different colours so that the different zones provided with filaments of different thicknesses can be distinguished. Preferably, these colours will be white and black, the former detecting the presence of blood and the latter detecting the presence of bacterial plaque.

The thickness of the filaments is preferably between 1 and 9 mils, that is, between 1 and 9 thousandths of an inch, which is equivalent to between 0.0254 and 0.2286 mm.

Advantageously, the core or stem is flexible; this facilitates the cleaning of the rear parts, because the core can be bent to form the most appropriate angle.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of all that has been set out, some drawings are attached in which, schematically and solely by way of non-restrictive example, a practical embodiment of the toothbrush is shown.

Figure 1 shows in detail a head of the interdental toothbrush of the invention, on which two zones with filaments of different thicknesses can be observed; figure 2 shows a head of cylindrical shape showing schematically three zones with filaments of different thicknesses; figure 3 shows a head of frustoconical shape showing schematically two zones with filaments of different thicknesses; and figure 4 shows the brush according to the invention during its use.

DESCRIPTION OF PREFERRED EMBODIMENTS

Figure 1 shows the head 1 of an interdental toothbrush 2 made of up filaments 3,4 laid out in a substantially radial direction on a flexible core or stem 5 attached to a handle 6.

The head 2 is protected by a cover or hood 7, shown by a broken line, which is fitted onto a lower section 8 of the handle 6.

In the embodiment of figure Ia, the right-hand zone of the head 1 is made up of filaments 3 of greater thickness than the filaments 4 of the left-hand zone of the head 1.

It is thus possible to achieve the desired sensation of hardness in various zones of the head 1.

The flexibility of the core or stem 5 facilitates the cleaning of the rear parts, since the core 5 can de bent to form the most appropriate angle.

Figure 2 shows another head 9, also of cylindrical shape, in which three zones, A, B and C, have been marked with different shading to represent schematically three zones with filaments of different thicknesses.

Figure 3 shows a head 10 of frustoconical shape in which two zones, D and E, have been marked with different shading to represent schematically two

zones with filaments of different thicknesses.

The filaments of lower thickness which form zone D of the head 10 are also shorter, thus achieving substantially uniform hardness at all zones D and E of the head 10.

Figure 4 shows the brush of the invention in use, the head 9 of the brush being inserted between the teeth at the base thereof, so that the head 9 is in contact with the gum; this allows the presence of blood and of bacterial plaque to be detected. This presence is easy to detect because the different zones are of different colours, preferably black and white.

Claims

1. Interdental toothbrush which includes a head (1,9,10) formed by filaments (3,4) arranged in a substantially radial direction on a core or stem (5), characterized in that the head (1,9,10) includes zones made up of filaments (3,4) of different thicknesses.

2. Interdental toothbrush as claimed in claim 1, characterized in that the head (10) has a conical or frusto-conical shape and the filaments (3,4) of lower thickness which make up one of the zones (D) of the head (10) are also shorter.

3. Interdental toothbrush as claimed in claim 2, characterized in that the ratio between the length and the height of the filaments in the various zones (D,E) is such that the hardness is substantially uniform over the entire head (10).

4. Interdental toothbrush as claimed in claims 1 or 2, characterized in that the different zones of the head (1,9,10) are of different colours.

5. Interdental toothbrush as claimed in any of claims 1 to 4, characterized in that the thickness of the filaments is preferably between 1 and 9 mils (between 0.0254 and 0.2286 mm).

6. Interdental toothbrush as claimed in any of the preceding claims, characterized in that the core or stem (5) is flexible.

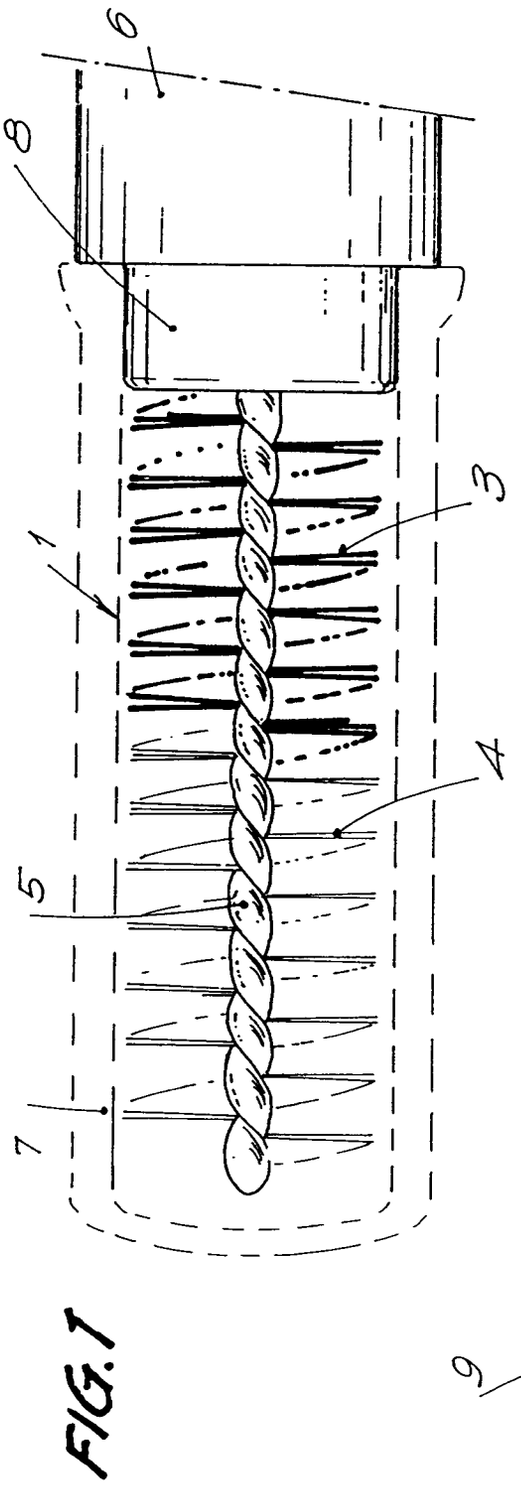

FIG.1

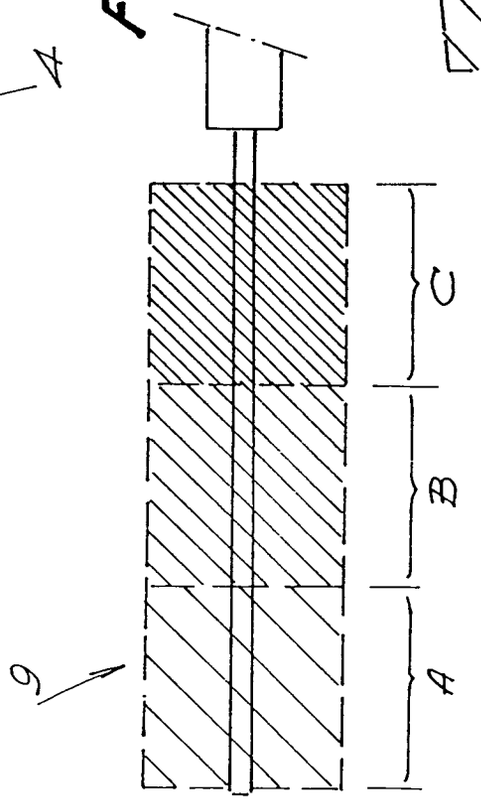

FIG.2

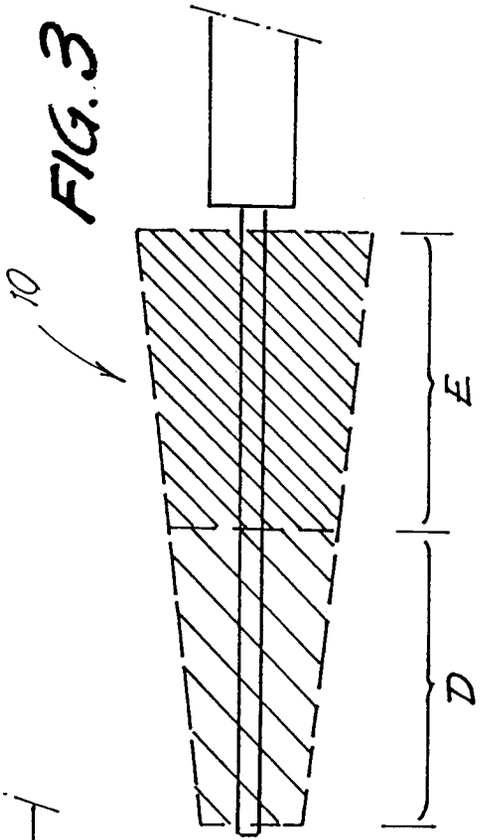

FIG.3

FIG. 4