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Cleaning device for dental implants, bridges and teeth

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(71) Applicant(s)
Richard Barker

(72) Inventor(s)
Barker, Richard Christopher

(74) Agent / Attorney
Richard Christopher Barker, Unit 1 / 189 Stirling Highway, NEDLANDS, WA, 6009

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ABSTRACT

A dental implant, bridge and tooth cleaning device is disclosed. The device is a flexible blade, the outer surface of which would be impregnated with a tooth paste or tooth cleansing gel. The blade may be in the form of a rigid, flexible casing or a flat solid or hollow plastic or metal blade, with or without a sealed resilient sac encasing the blade, containing a fluid, viscous liquid or compressible material. The sac is covered by or is an intimate part of a cleansing surface. The user of the device is able to push the blade under or between dental prostheses or teeth to enable cleansing of the area. Where the device has a sac covering the blade, the cleaning of the prosthesis or teeth is assisted by the flow of the viscous material within the sac as the blade is pushed through the space between prosthesis or tooth and the dento-alveolar ridge, enabling the textured cleansing covering of the device to remain in intimate contact with all surfaces. The device is designed so that it can be used from many angles without the need for a second device to approach from the opposite side of the prosthesis. The device cleans both as it passes through the space and as it is withdrawn. It can be used single handedly.

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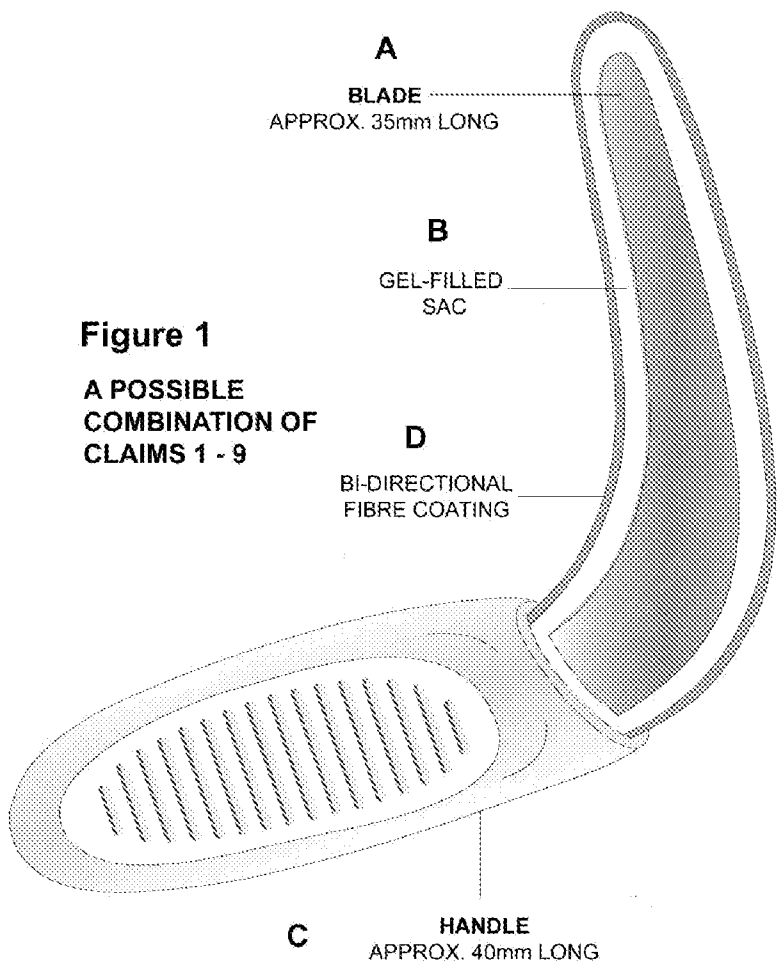

Figure 1

A POSSIBLE COMBINATION OF CLAIMS 1 - 9

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AUSTRALIA

PATENTS ACT 1990

COMPLETE SPECIFICATION
STANDARD PATENT

A CLEANING DEVICE FOR DENTAL IMPLANTS, BRIDGES AND TEETH

The following statement is a full description of this invention and as far as I am aware is a unique method of performing the function for which it is designed :

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A CLEANING DEVICE FOR DENTAL IMPLANTS, BRIDGES AND TEETH

This invention relates to an alternative method of cleaning under the pontic and around the supporting abutments of a fixed dental bridge whether it be supported by natural dentition or endosseous implants and around individual endosseous dental implant supported prostheses as well as natural dentition.

Many people with fixed dental prostheses find it difficult to manipulate dental floss in the confined spaces of the oral cavity. Use of dental floss under bridge pontics, has been the normal method of cleaning around these dental prostheses for many years. This method of cleaning these areas of the mouth requires some skill and dexterity and not all people are able to manipulate dental floss in the necessary manner. Other existing alternatives to dental floss are a soft plastic cone, or wooden wedge, or a devices are useful in some circumstances but in most situations are not able to be accommodated under or around the prostheses or teeth without inflicting damage to the supporting hard and soft tissues. In a lot of instances they simply do not fit. These cleaning problems in the oral cavity can be overcome by the use of the invention to be described.

The dental implant, bridge and tooth cleaner, in one form, is comprised of a thin flexible plastic or metal blade (Fig.1, **A**). The blade will have an intrinsic cleaning surface, and where there is more room to place the blade, the cleaning device will consist of a resilient sac (Fig. 1, **B**), covering the blade or will be supported by a flat metal or wire frame and filled with either fluid (for example a flowable viscous material) or a soft compressible elastic material. The function of the sac is to allow the flow or compression of the material surrounding the blade in order to maintain contact with the surfaces to be cleaned. The external surface of the device may be impregnated with a dehydrated toothpaste or gel to assist cleaning which may be activated by rinsing in water.

As described above, in one form of the cleaning device, the blade may be sealed within a sac containing a flowable viscous material or compressible material which will respectively be either displaced or compressed as the blade is pushed through the space between the bridge pontic, implants or teeth and the crest of the dento-alveolar ridge. As the blade penetrates under or between the surfaces to be cleaned, pressure will force the flowable material to advance both toward the handle and the tip of the blade or force the compressible material to expand on either side of the prosthesis or teeth. This action maintains contact of the outer cleaning surfaces with the prosthesis or teeth and the soft tissues, allowing cleansing of the non-exposed surfaces, including undercut or indented surfaces and contours. The action of the flowable or compressible material also provides a stimulatory and massaging effect to the soft tissues preventing overgrowth and removing dead mucosal cells, food residue and plaque. The blade effectively cleans as it penetrates the space and also as it withdraws.

In order to clean under or around various aspects of a bridge or implant, the position of approach in the mouth can be changed by simply turning the whole device over 180 degrees. In another form of the invention, the handle itself may be rotated independently to the blade section to assist cleaning.

The handle or flat plastic pad (Fig.1, **C**) attached to the blade allows a thumb and forefinger grip on the device. Another form of this invention would allow an extended handle to be attached to the blade. In another form of the dental implant, bridge and tooth cleaner an alternative attachment would allow it to be fixed to a handle which has a battery-powered oscillating mechanism.

In other forms of the invention the blade and the surrounding sac will be of various shapes in transverse section, allowing the device to access variously shaped spaces in the mouth. The cleaning device described has applications in not only the prosthetic field of dentistry but also in the field of periodontics.

The invention could withstand a number of uses by rinsing in water.

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The claims defining this invention are as follows:

1. A cleaning device for dental implants, bridges and teeth, comprising a thumb and fore-finger grip attached to a plastic or metal blade of various configurations, having an outer textured surface which may be impregnated with a toothpaste or gel.

2. The dental implant, bridge and tooth cleaning device of Claim 1., having a blade section of various configurations, covered by a resilient sac containing a fluid or viscous material.

3. The dental implant, bridge and tooth cleaning device of Claim 1., having a blade section of various configurations, covered by a resilient sac containing a compressible elastic material.

4. The dental implant, bridge and tooth cleaning device of Claims 1., 2. and 3., incorporating an outer surface covering of short bi-directional fibres (Fig. 1, **D**) to aid the cleaning process.

5. The dental implant, bridge and tooth cleaning device of Claim 1., 2., 3. and 4., wherein the outer textured surface or resilient sac is supported by a flat plastic or metal frame or wire.

6. The dental implant, bridge and tooth cleaning device of Claim 1., 2., 3., 4. and 5., wherein the resilient sac or outer textured surface is supported by a hollow, flexible plastic frame of various configurations.

7. The dental implant, bridge and tooth cleaning device of Claim 1., 2., 3., 4., 5. and 6., wherein the fore-finger and thumb grip is replaced by a coupling to attach the device to an extended handle.

8. The dental implant, bridge and tooth cleaning device of Claim 1., 2., 3., 4., 5. and 6., wherein the fore-finger and thumb grip is replaced by a coupling to attach the device to a hand grip having a motorized oscillating mechanism to assist cleaning.

9. The dental implant, bridge and tooth cleaning device of Claim 1., 2., 3., 4., 5., 6., 7. and 8., wherein the device has a handle, which may be rotated independently to the blade in place of a fixed thumb and fore-finger grip, to enable access to different areas of the oral cavity.

10. The dental implant, bridge and tooth cleaning device substantially as herein described with reference to the accompanying drawing.

Richard Christopher Barker **26 June 2005**

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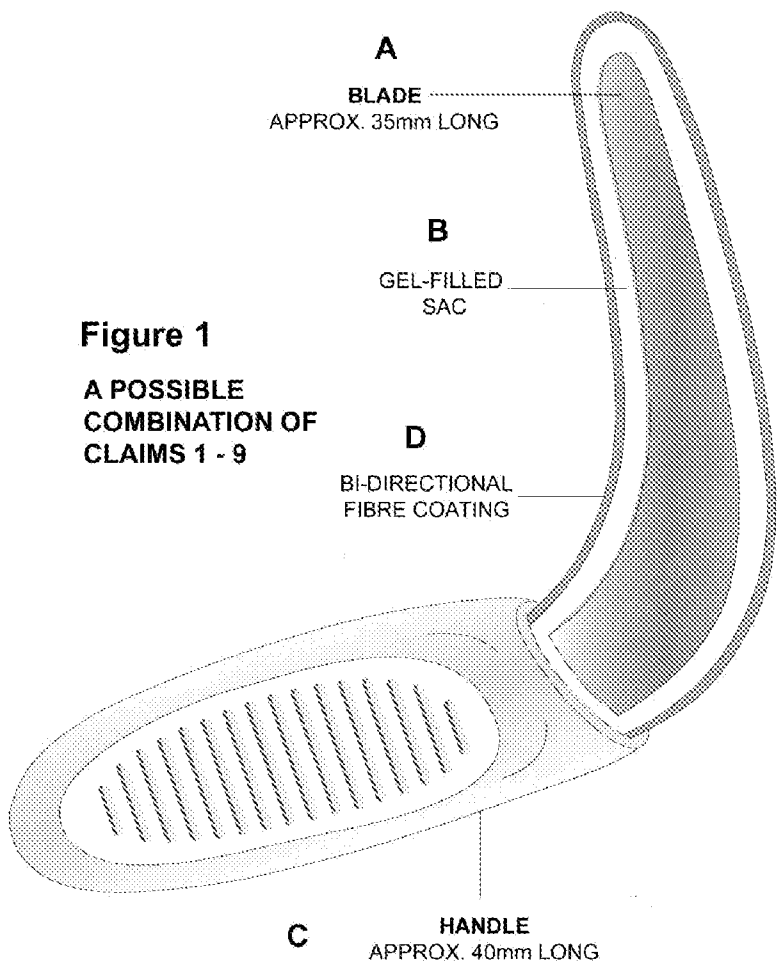

Figure 1

A POSSIBLE COMBINATION OF CLAIMS 1 - 9