PORTABLE POWERED CLEANING DEVICE

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ABSTRACT

One purpose of the inventive subject matter is to provide a portable powered oral hygiene and cleaning device for animals which can be used to clean and brush a variety of tooth sizes and shapes. One advantage is the rotating surface can be used to clean conical shaped tooth, while encasing the tooth completely as the cleaning element rotates and cleans the entire surface of the tooth. Another advantage is that the tip of the device can be interchanged so that a variety of brush sizes and shapes can be used with the device.

The apparatus comprise a base containing a powered source and a head adapter to hold brushes varying in size and shape, to be used while rotating and cleaning the entire surface of the canine.
PORTABLE POWERED CLEANING DEVICE

BACKGROUND

[0001] The invention generally relates to oral hygiene devices such as toothbrushes for animals and more specifically powered dental cleaning devices.

[0002] The background art is characterized by a variety of dental cleaning instruments for humans and animals. Home powered oral hygiene and oral cleaning devices have recently become popular for human use.

SUMMARY

[0003] One purpose of the inventive subject matter is to provide a powered powered oral hygiene and/or cleaning device for animals which can be used to clean and brush a variety of tooth sizes and shapes. One advantage is that the rotating surface can be used to clean conical shaped teeth. Another advantage is that the tip of the device can be interchanged so that various shapes and sizes of brushes may be used with the device to clean a variety of sized and shaped teeth.

[0004] The apparatus comprises a base containing a power source and a head adapted to hold one or more brushes that can be used in various configurations, such as in a rotating fashion in order to accommodate the cleaning of teeth and passageways between teeth in animals. Other configurations include removable heads and storage areas for storing and dispensing cleaning solutions, antiseptics, breath fresheners and the like.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] The above along with objects, advantages and features of the present inventive subject matter will be more readily apparent from the following description, when read in conjunction with the accompanying drawings wherein:

[0006] FIG. 1 is a side sectional view of the top of the main body of the device showing the gear configuration and the removable tip;

[0007] FIG. 2 is a perspective sectional view of the top of the main body in a detached configuration;

[0008] FIG. 3 is an exploded perspective view of the device shown in FIG. 1;

[0009] FIG. 4 is a perspective view of the top section and main body section of the device shown in FIG. 1 in a detached configuration;

[0010] FIG. 5A is a side view of an embodiment of the tip of the device of FIG. 1;

[0011] FIG. 5B is a side view of another embodiment of the tip of the device of FIG. 1;

[0012] FIG. 5C is a side view of another embodiment of the tip of the device of FIG. 1;

[0013] FIG. 6A is a perspective view of an embodiment of the tip of the device of FIG. 5A;

[0014] FIG. 6B is a perspective view of an embodiment of the tip of the device of FIG. 5B;

[0015] FIG. 6C is a perspective view of an embodiment of the tip of the device of FIG. 5C;

[0016] FIG. 7 is a perspective view of an embodiment of the device of FIG. 1; and

FIG. 8 is a side view of an embodiment of the device of FIG. 1.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0018] With reference now to the various figures in which similar elements are shown throughout, a description of various exemplary aspects of the inventive subject matter will now be provided.

[0019] Referring to FIG. 1, an embodiment of the device is disclosed with a side breakaway view of the brush or cleaning tip having a first circular gear located in communication with a second circular gear, shown below the first gear. The second gear is rotatable in a gear configuration positioned in a perpendicular position to the second gear which is powered and which drives the first gear in a rotating fashion.

[0022] FIG. 4 shows an exploded view of the end of the head portion and the end of the base portion of an embodiment. The ends of each portion can easily be attached and detached using the illustrated guide.

[0023] Referring now to FIGS. 5A through 5C, a side breakaway view of the tip and first gear are shown. In each of the configurations shown, different shapes and configurations may be used to address the various sizes and shapes of oral cavities as well as the shapes of the individual teeth being cleaned. The first gear as well as the second gear may be made in various sizes to accommodate the size of the device housing. Additional gears and configurations may be used to accomplish the same result. For instance, the heads of the devices may be constructed so that they are compatible with existing cleaning device bases.

[0024] FIGS. 6A through 6C show perspective views of FIGS. 5A through 5C, respectively. In these embodiments, the tip is shown having a brush tip made up of a plurality of bristles.

[0025] FIG. 7 shows an embodiment of the device with the base handle connected to the head portion housing the gears and holding the brush head. A switch is also shown to activate the motor on and off. In this embodiment, the tip is shown in an alternate configuration with two halves and bristles. FIG. 8 shows a side view of an embodiment having another tip configuration.

[0026] Many other variations of the inventive subject matter will occur to those skilled in the art. Some variations include smaller and larger sizes and well as different shapes of the heads. Other variations call for a spray to spray solution or other compounds into the cavity as the cleaning occurs or before or after the cleaning. All such variations are intended to be within the scope and spirit of the invention. Other vari-
tions may include sensors such as temperature or other similar sensors and measurement devices, such as devices to measure the gap in the gums of the animal. Thus, the following drawings and description are to be regarded as illustrative in nature and not restrictive.

What is claimed is:

1. A cleaning device comprising:
   a removable head with a first gear and a second gear;
   a base having a power source for driving said second gear and said first gear; and
   a removable tip driven by said first gear and said second gear;
   wherein the removable tip is rotated in a circular fashion so that it can be applied to oral cavities and teeth for cleaning and oral hygiene.

2. The cleaning device of claim 1 further comprising:
   a cleaning solution reservoir containing cleaning solution allowing the user to apply solution to the oral cavity.