

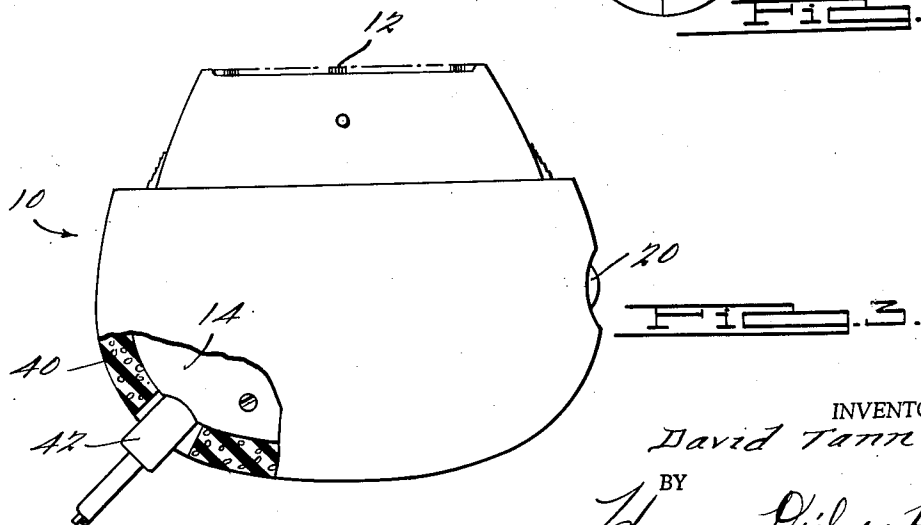
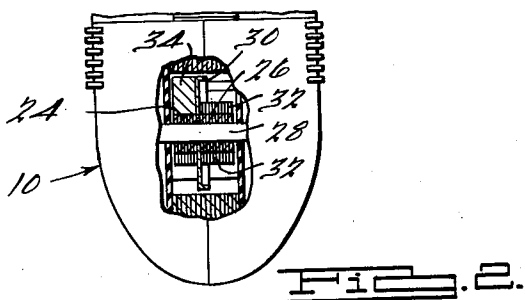
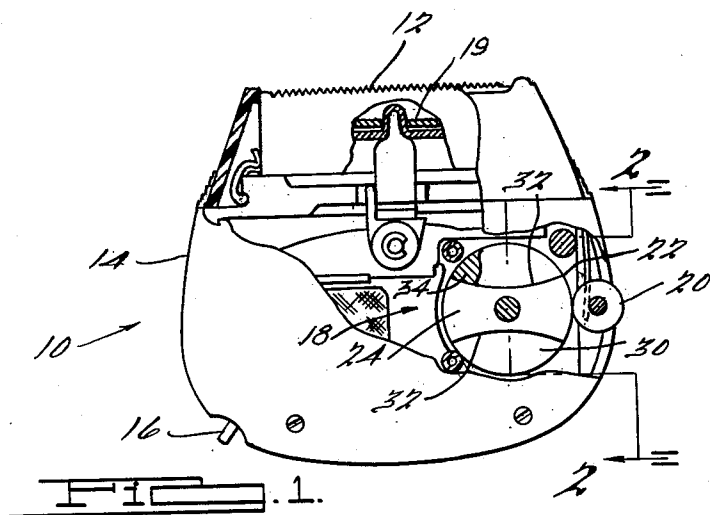
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VIBRATING ELECTRIC RAZOR

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VIBRATING ELECTRIC RAZOR

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1 Claim. (Cl. 30-34)

This invention relates to electric razors and particularly to a vibrating electric razor that massages the skin as it shaves.

Conventional electric razors have what may be called a stationary cutting blade or head that is adapted to contact the skin in a manner to permit the hair or whiskers to project therethrough, and a movable cutting blade that cooperates with the stationary head to shave off the hair or whiskers. A suitable electric driving means of one type or another is disposed within the razor body for driving the movable cutting blade in the desired manner.

It is one object of the invention to provide an electric razor having an out-of-balance driving means that vibrates the entire razor body, in addition to driving the movable cutting blade, so that the razor massages the skin in a soothing manner as it shaves.

It is another object of the invention to provide an electric razor having an out-of-balance rotating element therein that vibrates the entire razor body so as to massage the skin in a soothing manner as it shaves.

It is a further object of the invention to provide an electric razor that vibrates in a manner to enhance the shaving action of the razor, as well as massage and stimulate the skin.

It is a still further object of the invention to provide a vibrating electric razor having an outer cover of resilient material that enables the razor to vibrate more freely when held in the hand of the person shaving, or stated otherwise, to provide a resilient cover that counteracts the dampening of the vibration of the electric razor that may occur when the razor is held by the person shaving.

It is a still further object of the invention to provide a vibrating electric razor that massages the skin as it shaves and can be made by modifying a conventional electric razor in an extremely simple and inexpensive manner.

Other objects, features and advantages of the present invention will become apparent from the following detailed description taken in conjunction with the accompanying drawings, in which:

FIGURE 1 is a front view, partially broken away, of a vibrating electric razor embodying features of the present invention;

FIG. 2 is a sectional view of the structure illustrated in FIG. 1 taken along the line 2-2 thereof; and

FIG. 3 is a front view, partially broken away, of a modification of the vibrating electric razor illustrated in FIG. 1.

Referring to the drawing, a preferred embodiment of the invention is illustrated which comprises a conventional electric razor 10 having a cutting head 12, a main body portion 14, a male contact element 16 to which the electric cord is connected, and a miniature electrical motor 18 carried within the main body portion 14. The electric motor 18 is adapted to be started by wheel 20 partially projecting from the main body portion 14 and drives the movable cutting blade 19 within the cutting head 12 in a conventional manner.

The electric motor 18 has a rotating armature 22 of the conventional A.C. type which comprises two laminated members 24 and 26 which are rotatably mounted on a stub shaft 28 and separated by a metal conductive cup-shaped element 30. It will be observed that each of the laminated members 24 and 26 have concave upper and lower edges 32, as most clearly illustrated in FIG. 1.

To modify this conventional electric razor in accordance with the teaching of the present invention so that

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the razor can also function as a vibrator for massaging the skin in a soothing manner as it shaves, a suitable weight 34 is added to one side of the armature at an off-center position so that the armature is out of balance. In the preferred embodiment illustrated, a lead weight 34 is secured to the armature by soldering so as to fill in the arcuate space above the upper concave edge 32 of the laminated member 24. Of course, this is only one example of the manner in which the weight may be secured; and since, in its broader aspects, the invention relates to a vibrating electric razor having an unbalanced rotating element therein, it is apparent that a number of ways for throwing the armature 22 out of balance so that it will vibrate the entire electric razor in the desired manner would be suitable.

By adding the weight 34 as described, the conventional electric razor 10 is modified in an extremely simple and inexpensive manner so that it will perform the additional function of massaging the skin as it shaves. Further, by vibrating the entire razor body still another advantage is realized; namely the shaving action itself is improved since the cutting head 12 which engages the skin, and through which the hairs or whiskers project, is vibrated to increase the efficiency with which the hairs or whiskers are picked up by the head 12. Thus, in accordance with the teaching of the present invention, the same driving means moves the movable cutting blade and vibrates the entire razor, including the cutting head 12, to enhance the shaving action as well as massage the skin.

Referring to FIG. 3, a modification of the present invention is illustrated wherein a relatively thick cover or layer 40 of resilient material is secured over the main body portion 14 of the razor 10, suitable apertures being provided to receive the electrical cord 42 and to permit the wheel 20 to be actuated. The resilient material may be a relatively soft rubber, or even foam rubber or the like so that when the razor is held lightly by the person shaving, the resilient material will enable the entire razor to vibrate more freely than would be the case if the razor illustrated in FIG. 1 without the layer of resilient material thereon is held in the operator's hands. Since the razor can vibrate more freely when the resilient material is used, it is apparent that the shaving action is improved. Of course, the tighter the person shaving squeezes the layer 40 of resilient material, the less effect the resilient material has, and to this extent the person shaving can control the vibration of the electric razor.

While it will be apparent that the preferred embodiment of the invention herein disclosed is well calculated to fulfill the objects above stated, it will be appreciated that the invention is susceptible to modification, variation and change without departing from the proper scope or fair meaning of the subjoined claim.

What is claimed is:

In an electric razor of the type having a casing of the size adapted to be held in a person's hand, a cutting head forming the upper portion of said casing, cutting blades movably mounted within said casing in position to cooperate with said cutting head to provide a shaving action, and an electric motor within said casing having a rotating armature for driving said cutting head, the improvement comprising an off-center weight secured to said rotating armature to throw it out of balance so that rotation thereof vibrates the entire razor.

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