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VIBRATORY HAIR BRUSH

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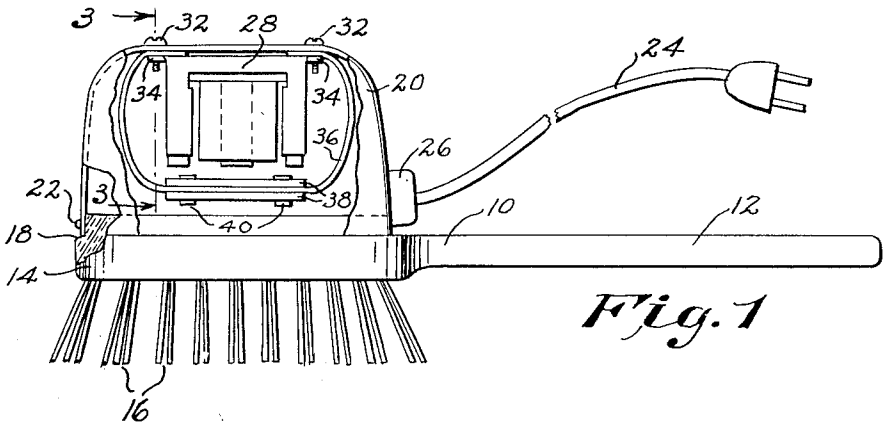


Fig. 1

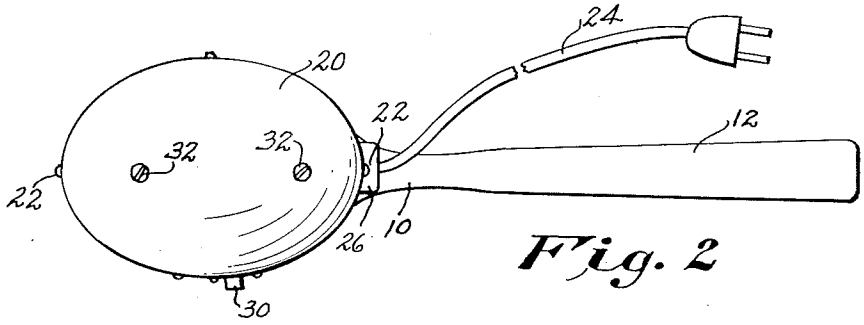


Fig. 2

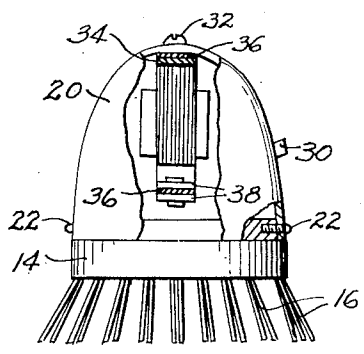


Fig. 3

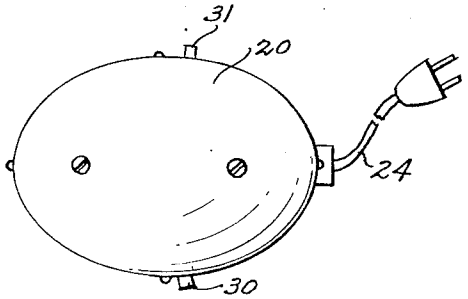


Fig. 4

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VIBRATORY HAIR BRUSH

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2 Claims. (Cl. 15—22)

It is an object of this invention to provide a vibratory hair brush having a shell and a bristle-bearing portion detachably secured thereto.

It is a further object of this invention to provide a brush as aforesaid in which the vibrating mechanism is secured to the shell.

The above and other objects will be made clear in the following detailed description taken in connection with the annexed drawings, in which:

Figure 1 is a side elevation partly in section and partly broken away of the improved device;

Figure 2 is a top plan view;

Figure 3 is an end elevation partially in section on the line 3—3 of Figure 1 and partly broken away; and

Figure 4 is a top plan view of a "military" type brush utilizing the invention.

Stimulation of the scalp by means of vibration has long been recognized as beneficial in promoting circulation of blood in the scalp. Actually, much the same effect can be attained by prolonged brushing with the added advantage of the removal of dandruff and other foreign matter.

The present invention combines both actions, in that a singularly effective vibrator is secured immediately to the back of the bristle-bearing portion of a hair brush. Thus in the normal course of brushing one's hair, dandruff is both loosed and removed and the scalp is stimulated without resort to protracted brushing.

Referring now to Figure 1 we show a hair brush **10** having a handle portion **12** and a bristle-bearing portion **14** to one side of which conventional tufts of bristles **16** are conventionally secured. The bristle bearing portion **14** is made of any suitable, preferably non-metallic substance such as glass or porcelain. The opposite side of the bristle-bearing portion **14** has an upstanding flange **18**. If desired, and for heavy duty this could be made solid across the entire area of the bristle-bearing portion **14**. A shell **20**, preferably metal, fits the flange **18** and is secured thereto by cap screws **22**. Obviously the shell **20** could be secured to the flange **18** by other means, as rivets, "dimples" or by the formation of a bayonet joint. The engagement of the shell **20** with the flange **18** secures the two units against lateral, mutual displacement and also predetermines the clearance between the vibrating armature members **38** and the upper surface of the backing member **14**. The cap screws **22** or their equivalent are required to act only in shear and only to resist vertical separation of the shell **20** and the backing member **14**.

A conventional appliance cord **24** enters the shell through a conventional bushing **26** and is connected to the poles of an electromagnet **28** through a conventional switch **30**. Screws **32** pass through the shell **20** and engage tapped holes in flanges **34** of the electromagnet **28**. A spring **36** has its free ends secured between the shell and the flanges **34** by the screws **32**. This spring passes between a pair of armature members **38** to which the spring is secured by rivets **40**, thus providing in effect

spring suspension at each end of the armature members **38**.

When the appliance cord **24** is plugged in and the switch **30** turned to operating position the armature **38** with each pulsation of the current will be drawn toward the electromagnet **28**. The spring **36** is designed to have resonance at the intended frequency of the magnet **28**, which normally will be sixty cycles per second. This resonance brings about a greater amplitude of movement of the armature **28** and therefore a more intense vibrational effect than ordinarily would be the case. However, the precise frequency in the case of alternating current is immaterial, and quite readily, by the addition of a "make and break" contact to provide a pulsating current, direct current can be used as the supply.

It is to be noted that the tufts **16** are divergent outwardly from the under surface of the bristle-bearing portion **14**. The action of the vibrating armature **38** is normal to the plane of the bristle-bearing portion **14**. The vibrator effect, therefore, is to spread and diverge the tufts of bristles **16**, whereby to intensify dandruff-loosening and scalp-stimulating properties of the device by a lateral action of the bristles.

It is to be noted that the vibrational energy is imparted primarily and directly to the bristle-bearing portion **14** and only incidentally to the handle portion **12**, thus making the device much more comfortable for the user.

Precisely what constitutes a benefit of brushing the hair as distinct from brushing the scalp is not exactly known, though the fact that such brushing action is beneficial is usually accepted. Demonstratively, the present invention (due to the vibrating action) will produce the same effect on the hair with fewer brushing strokes than is the case with a nonvibrating brush.

In Figure 4 there is illustrated a military type of brush in which the shell **20** constitutes the handle. The appliance cord **24** and a switch **30** are provided as in the figures discussed herein above. Brushes of the type shown in Figure 4 ordinarily will be used in pairs, in which case it may be convenient to supply in addition to switch **30**, another switch **31**—the two switches being interconnected in parallel with one another on well known principles so that the vibrator may be started by throwing either switch, to use opposite brushes. This arrangement makes it immaterial whether either brush be used in the right or left hand.

While various constructional details have been illustrated and described, the invention is not to be limited to such details but only as set forth in the subjoined claims.

What is claimed is:

1. A vibratory brush comprising: a hollow shell having an open side and a top wall opposite said open side; an electromagnet secured to said top wall, said magnet having a plurality of poles, said poles being directed downwardly from said top wall; resilient means secured to said top wall; an armature suspended from said resilient means in a position below and normally spaced from the poles of said electromagnet; a backing member having an upper portion sized and shaped to fit the interior of said open side of said shell and to form a complete closure therefor, said backing member having a lower portion providing a bristle bearing face; bristles mounted in said face; means detachably securing said upper portion within said open side of said shell and an electrical connection for energizing said electromagnet to cause vibration of said armature, said securing means acting in shear to prevent vertical separation of said shell and said backing member.

2. A vibratory brush as set forth in claim 1 in which the lower portion of the backing member projects laterally beyond the upper portion and coacts with the rim of the

shell to enforce a clearance between the upper portion and the armature in its lowermost position.

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