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Reinsch

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[54] **HAIR CLEANING IMPLEMENT**

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[51] **Int. Cl.** **A45d 24/04**

[58] **Field of Search** 132/132, 139, 141, 157, 132/160, 138, 137, 126, 11, 120; D86/8

[56] **References Cited**

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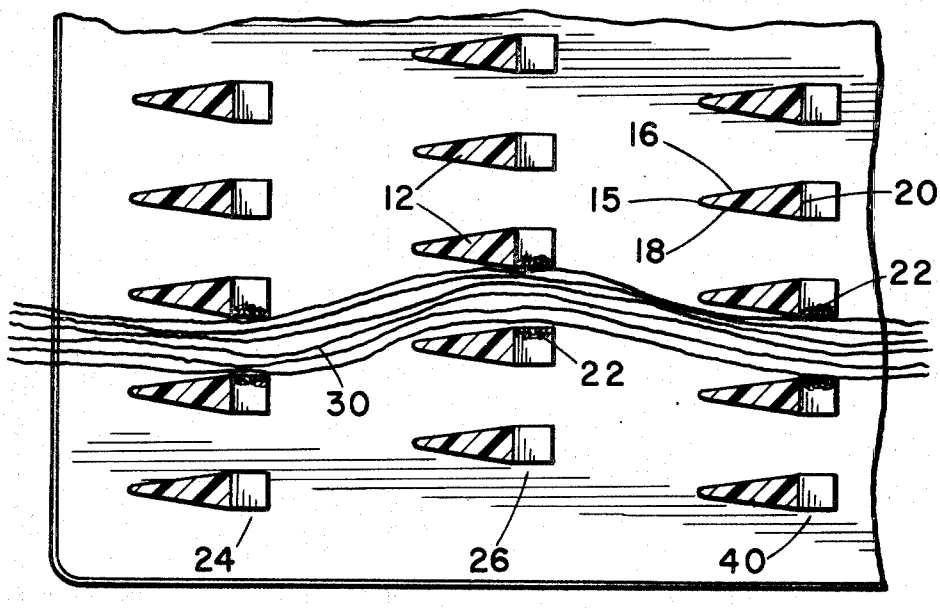
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Attorney, Agent, or Firm—Brown & Martin

[57] **ABSTRACT**

An implement for cleaning, massaging and grooming of the hair and scalp using a plurality of rows of tapered teeth. The teeth in cross-section have a sharply cutoff base portion which cooperates with the tapered sides of the teeth to produce a cleaning action on hair drawn over the teeth, and cause the foreign material on the hair and scalp to be deposited on the base portions of the teeth. The foreign material is removed from the instrument by drawing a flat tool across the base portions of the teeth in each row. The teeth are inclined from the perpendicular to the body of the implement to cause the hair to be drawn into the implement as it is utilized. Adjacent rows of teeth are staggered and spaced by at least one tooth width to increase the cleaning action.

7 Claims, 4 Drawing Figures



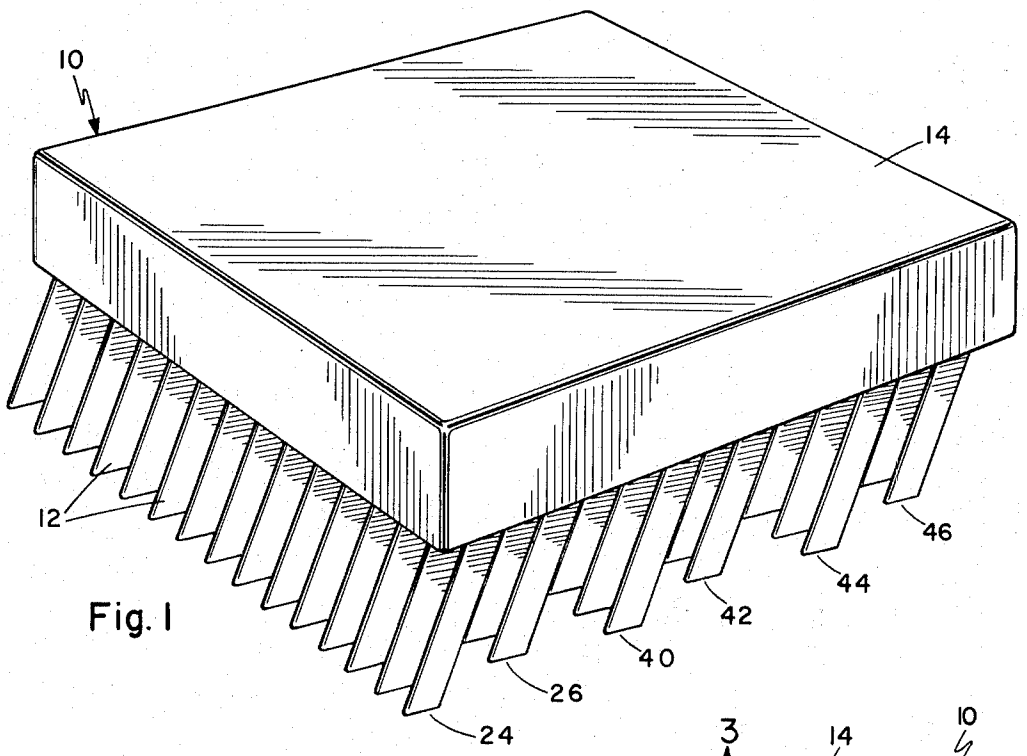


Fig. 1

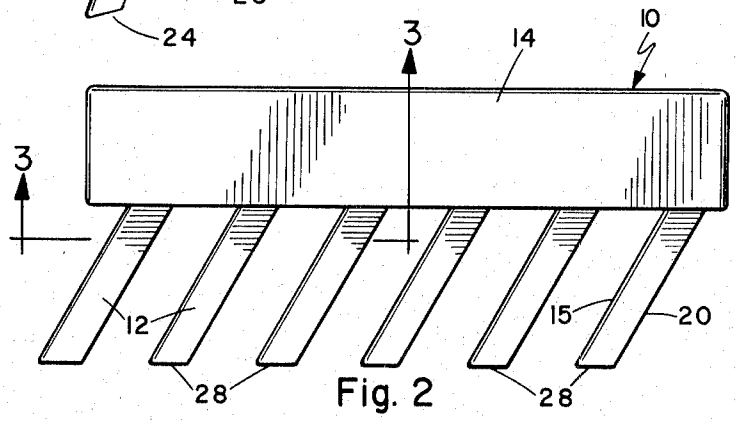


Fig. 2

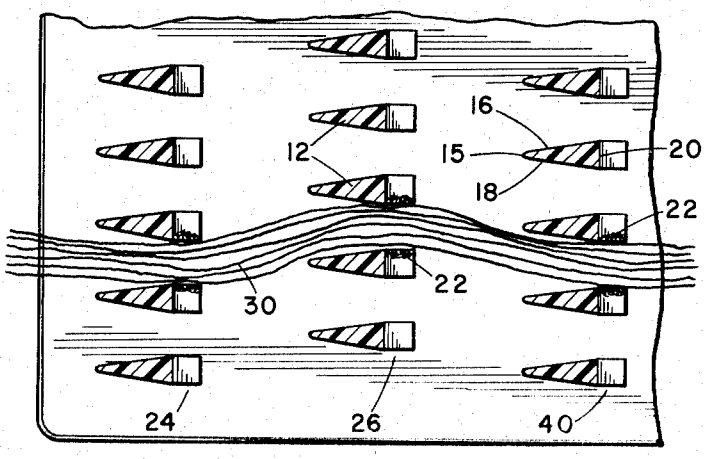


Fig. 3

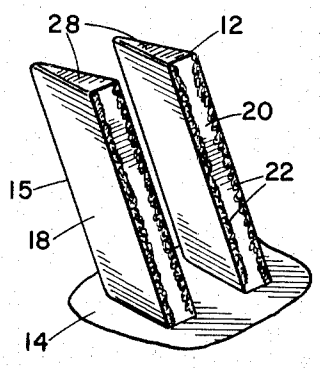


Fig. 4

HAIR CLEANING IMPLEMENT

BACKGROUND OF THE INVENTION

Considerable time and money are expended by the average consumer for the care, cleaning, and grooming of the hair and scalp. A substantial portion of this money is expended on chemical preparations which are intended to be applied to the hair to clean, condition, and improve the appearance or texture of the hair. However, such preparations may rob the hair of its natural body and luster, and damage the hair so that it splits or breaks off. Further, such chemicals may tend to build up on the hair and cause an undesirable and unattractive accumulation, necessitating frequent washing of the hair.

It has long been recognized that brushing of the hair has desirable effects, however, there has not been provided, in prior art devices, any implement which promotes the cleaning of the hair, while at the same time using the beneficial massage to the hair and scalp and enabling of cleaning and grooming in a single operation.

It therefore is desirable to have an implement that enables the user to clean foreign material from the hair, without the use of chemicals or frequent washing, which implement also provides for the massaging of the hair and scalp, while permitting the user to conveniently groom the hair.

SUMMARY OF THE INVENTION

An exemplary embodiment of the invention incorporates a plurality of rows of tapered teeth arranged in a body portion so as to be drawn through the hair and produce a cleaning action. With regular use the cleaning effect is sufficient to remove foreign material, dirt, and other accumulations on the hair to a sufficient extent that the necessity for frequent washing of the hair using chemicals is considerably reduced. The several rows of teeth in the instant embodiment are spaced by a distance in excess of one tooth width, to provide good cleaning action and good access between the rows for a tool utilized to remove the accumulated foreign material. The tapered tooth configuration includes a flat cutoff base portion which is responsible for the cleaning action promoted by the use of the device, and causes the removed foreign material to accumulate on the base of the teeth in such a way that substantially all of the foreign material removed from the hair is positioned for easy removal by a cleaning tool.

To further promote the desired cleaning action, adjacent rows of teeth are staggered so that a row of teeth would have the teeth substantially aligned with the spaces between the teeth in adjacent rows. Therefore, strands of hair being drawn through the various rows of teeth, would be forced to follow a curvilinear path. The curved path followed by the hair insures that it will be drawn over the tapered side of the teeth, and past the flat cutoff base portion of the tooth, to produce a cleaning action analogous to that of dust laden air passing over a building and depositing a portion of the dust as a result of passing over a sharply defined corner of the building. The natural oil of the hair causes the removed dirt to adhere to the rear faces of the teeth thus preventing the foreign material from becoming affixed to other strands of hair.

The implement is designed to be primarily utilized in a single grooming or brushing direction. To facilitate the bite of the teeth on the hair in that direction, the teeth are inclined at approximately a 30° angle from the vertical so that the teeth are drawing the hair into the implement while it is moved through the hair.

It is therefore an object of the invention to provide a new and improved hair cleaning implement.

It is another object of the invention to provide a new and improved hair cleaning implement which removes foreign material from hair without the use of chemicals or liquids.

It is another object of the invention to provide a new and improved hair cleaning implement which causes the removed foreign material to accumulate on a portion of the implements teeth.

It is another object of the invention to provide a new and improved hair cleaning implement which may be easily cleaned after use.

It is another object of the invention to provide a new and improved hair cleaning implement which is low in cost and easy to manufacture.

It is another object of the invention to provide a new and improved hair cleaning implement that is durable and light in weight.

Other objects and advantages of the invention will become more apparent upon the reading of the following detailed description, together with the drawing, in which like reference numerals refer to like parts throughout and in which:

FIG. 1 is a perspective view of the hair cleaning implement.

FIG. 2 is a side elevation view thereof.

FIG. 3 is an enlarged sectional view taken on line 3—3 of FIG. 2.

FIG. 4 is an enlarged perspective view showing the tooth configuration.

Referring now to the drawings there is illustrated a hair cleaning implement **10** including a body portion **14** and a plurality of teeth **12**. The teeth **12** are illustrated as being arranged in rows **24, 26, 40, 42, 44** and **46.** The use of polypropylene for the body and teeth is especially advantageous in that teeth of polypropylene are resilient and rugged.

As is best illustrated in FIG. **2,** the rows of teeth are inclined from a direction normal to the body portion **14,** by an angle of approximately 30°. The teeth are cut off so that the ends **28** of the teeth lie in the same plane, and that plane is parallel to the body portion **14.**

Referring to FIG. **3,** the triangular cross sectional configuration of a tooth **12** is illustrated. Each tooth includes a generally rounded nose portion **15,** diverging side faces **16** and **18** and square cut-off base portion **20.** For purposes of illustration a plurality of strands of hair **30** are shown passing over the tapered side faces **16** and **18** of teeth in the rows **24, 26** and **40.** While a hair cleaning implement according to the invention may advantageously have six or more rows, as in the preferred embodiment, it is possible to obtain significant cleaning action so long as at least three rows are utilized to constrain and tension the hair as it is drawn along the curvilinear path.

FIG. **4** illustrates the overall tooth configuration and the dirt accumulation **22** which appears principally on the rear face **20** of the teeth.

OPERATION

In use, the hair implement of the invention is grasped by the user and drawn through the hair with the rounded nose portion **15** of the teeth facing in the direction of the stroke. The tooth inclination causes the hair to be drawn into the implement so that a maximum effect of the implement is obtained without the user having to force the implement into the hair and towards the scalp. The inclination maintains the hair in contact with the teeth and the staggering of adjacent rows results in the hair traveling a curvilinear path. Thus, the hair is drawn firmly into contact with the tapered sides portions of the teeth and therefore, passes over the edge of the base portion or cleaning surface **20** of the tooth. This action results in foreign material adhering to the hair, being released from the hair, and adhering to the base portion **20** of the teeth as is illustrated in FIG. **4.** The path which is followed by the hair is also productive of a gentle massaging effect, and this massaging effect is transmitted by the hair to the scalp to produce an overall massage.

After successive strokes have thoroughly cleaned the user's hair by removal of the accumulated foreign material in the hair, the implement will have an accumulation of dirt on the base portion of the teeth. As a result of the planar base positions **20** and the arrangement of the teeth in straight rows, the base positions **20** are in alignment and lie in the same plane. This planar relationship enables the user to clean the accumulated dirt from the rear faces of the teeth by a sharp tool, such as a straight edged plastic or metal tool. Thus, the dirt is removed from the hair cleaning implement and the implement readied for the next use.

Having described my invention, I now claim:

1. An implement for removing dirt and other foreign materials from hair without the use of chemicals, wherein said implement may be drawn through the hair without excessive pulling of the hair, and said implement has provision for facilitating the removal of accumulated foreign material, and wherein the improvement comprises:

a plurality of elongated teeth extending out of the body of said implement,

the longitudinal axes of said teeth being in substantial parallelism,

said teeth being spaced along at least three spaced rows,

said teeth in cross section, each having tapered sides and a base portion,

said base portion of said teeth having material removal surface means at substantially a right angle to the long axis of said cross section for increasing the tendency of said teeth to strip material from said hair strands passing over said teeth,

said base portions of said teeth being oriented in the same direction,

whereby the implement may be drawn through the hair and the dirt and other foreign material on the hair removed by the action of the hair passing over said tapered sides of said teeth, and past said base portions.

2. The hair cleaning implement of claim **1,** wherein,

said rows of teeth are spaced by a distance in excess of the long axis dimension of said teeth.

3. The hair cleaning implement of claim **1,** wherein:

the individual teeth in a row of teeth are staggered in relationship to the individual teeth in adjacent rows of teeth.

4. The hair cleaning implement of claim **1,** wherein:

said teeth are inclined from a line normal to said body portion by approximately 30°.

5. The hair cleaning implement of claim **4,** wherein

the outmost surfaces of said inclined teeth are cutoff in a plane parallel to the plane of said body portion.

6. The hair cleaning implement of claim **1,** wherein

the base portions of said teeth are substantially planar

said planar base portions on the teeth in a row of teeth lie in the same plane.

7. The hair cleaning implement of claim **1,**

wherein said teeth are comprised of polypropylene.

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