

[54] **HAIR COMBS**

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[57] **ABSTRACT**

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[58] Field of Search132/138, 139, 11

The hair combs have two sets of curved teeth, the two sets being aligned in alternating sequence. The curvature of the teeth of the respective sets of teeth is in opposite directions and the teeth of one set cross the teeth of the other set. At the outer or free end of the teeth, prongs are provided.

[56] **References Cited**

8 Claims, 4 Drawing Figures

FOREIGN PATENTS OR APPLICATIONS

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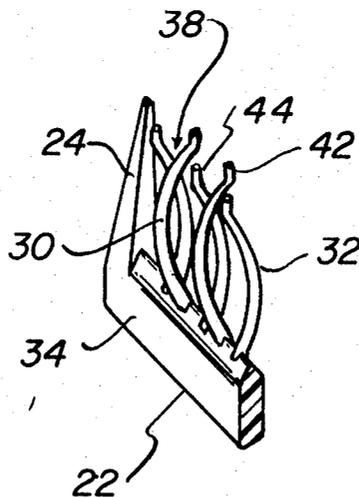


FIG. 1

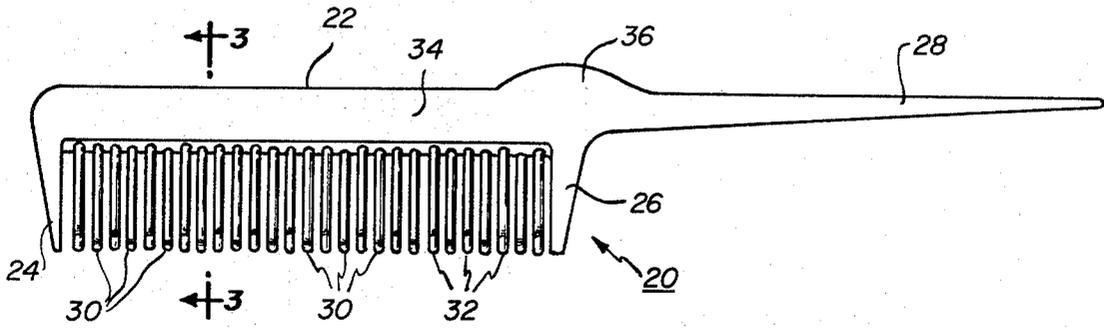


FIG. 2

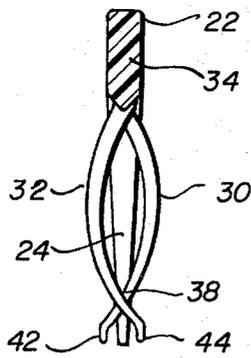
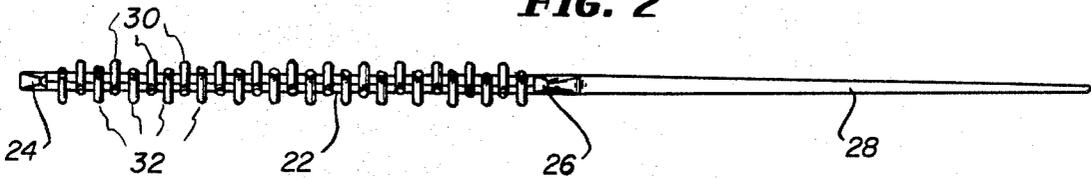


FIG. 3

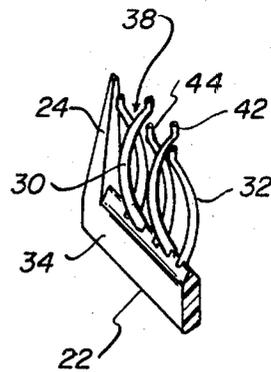


FIG. 4

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1
HAIR COMBS

This invention relates to combs of the type employed for combing and arranging hair. More particularly, the combs of this invention are designed to achieve effective back-combing, teasing, or roughing of hair and, also to smooth or straighten tangled hair.

An important feature of the present invention is the new and improved interlocking type tooth structure of the combs. This tooth structure is very effective for achieving what is variously termed "back-combing," "teasing," or "roughing" of hair. As employed hereinafter the term back-combing will be employed generically to include all of the processes of back-combing, teasing, and roughing of hair and will denote a combing process for providing a snarled disarranged massing of hair.

The tooth structure of the combs of the present invention also provides a means for separating hair strands in a manner which effectively promotes disentanglement or unsnarling and straightening of tangled or back-combed hair when the comb is drawn through the hair. Furthermore, the combs are constructed in a manner such that after the hair has been unsnarled, the combs can easily and effectively be employed to smooth the hair into place, thus resulting in smooth, unsnarled hair styling effects, if desired.

Accordingly, an object of the present invention is to provide new and improved hair combs.

Another object is to provide combs which are effective for back-combing hair and, also, for disentangling and straightening snarled or tangled hair, and for smoothing hair. In particular, an object is to provide combs having an interlocking type tooth structure which enables superior hair styling effectiveness of the combs.

In keeping with an aspect of this invention, these and other objects of the invention are accomplished by a comb comprising a planar body member having two sets of substantially identical, curved teeth extending therefrom in planes disposed at right angles to the longitudinal axis of the body. The teeth of one set are aligned along the longitudinal axis of the body in spaced, alternating sequence with the teeth of the other set. These two sets of teeth are curved in opposite directions relative to one another and in planes transverse to the longitudinal axis of said body, with the teeth of one set crossing the teeth of said other set in their respective planes at points along a line equidistant from the body. The teeth continue to curve in an outwardly extending direction from the crossing points terminating in free ends. At these outer or free ends, the teeth bend downwardly forming prongs or fingers which are disposed substantially parallel to and spaced outwardly from a plane passing through the longitudinal axis of the body and the line equidistant from the body defining the crossing points.

The above mentioned and other features and objects of this invention and the manner of obtaining them will become apparent, and the invention itself will be best understood by reference to the following description of an embodiment of the invention taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a side view of a comb of the present invention;

FIG. 2 is a bottom view of the comb shown in FIG. 1;

FIG. 3 is a cross-sectional view of the inventive comb as seen in FIGS. 1 and 2 taken along the line 3—3 of FIG. 1; and

FIG. 4 is an enlarged fragmentary view of the end portion of the comb shown in FIG. 1.

The hair comb 20 shown in the drawings may be provided in a number of sizes and having any suitable number of teeth, however, the comparative shapes and relationship of the component parts thereof are maintained. Additionally, the comb 20 may be constructed of any desired suitable material such as a plastic or a metallic material and may be formed in any suitable manner such as by molding or casting in one piece.

Comb 20 includes a main body 22, two end tines 24 and 26, a handle 28, and two sets of identical curved teeth 30 and 32. The main body 22 is of generally pentagonal cross-section with the relatively rigid, generally triangular tines 24 and 26

2

disposed downwardly from the ends thereof, and handle 28 extending outwardly therefrom. It is to be recognized that this handle 28 is optional and need not be included in the assembly.

The body 22 as shown in FIG. 1 may be comparatively rectangular for a portion 34 of its length. From this rectangular portion 34, the body 12 is sloped within a bulging portion 36 which terminates in the handle 28.

The two sets of identical, curved teeth 30 and 32 are disposed along the longitudinal axis of the main body 22 and extend downwardly from the body 22 at right angles to the longitudinal axis of the body 22. As best seen in FIG. 2, the teeth 30 are positioned in spaced, alternating relationship with the teeth 32 along the longitudinal axis of the body 22.

Referring now to FIGS. 3 and 4, it is seen that the teeth 30 and 32 are disposed in a manner such that the convex curvature of the other set of teeth downward of body 22 is opposed to the identical convex curvature of the other set of teeth downward of body 22. At points 38 defined by the intersection of the teeth 30 and 32 with a plane common to the center line of the end tines 24 and 26, the teeth 30 and 32 cross in their separate planes. These points of crossing of the teeth 30 and 32 are each equidistant from the longitudinal axis of the body 22. In a preferred embodiment of my invention, these crossing points 38 are in a range of from about 70 to about 90 percent of the length of the teeth 30 and 32 (measured by their projection on the plane common to the end tines 24 and 26) from the body 22.

At the crossing points 38, the curvature of the teeth 30 and 32 is directed outwardly of the plane common to the center line of the tines 24 and 26. This outward directed curvature of the sets of teeth 30 and 32 continues beyond the crossing points 38 for a portion 40 of their length. From this portion 40, the teeth 30 and 32 bend downwardly in a direction generally parallel to the plane common to the tines 24 and 26, forming prongs or fingers 42 and 44 at the free ends thereof. These prongs 42 and 44 at the free ends of teeth 30 and 32 are spaced outwardly from the common plane between the tines 24 and 26 and are positioned on opposite sides of this common plane.

As seen best in FIG. 3, the teeth 30 and 32 are slightly tapered in width along their length from the point adjacent the body 22 to the end prongs 42 and 44.

Functionally, I have found that the radius of curvature of the teeth 30 and 32 is optimally within a range of from about one fourth inch to about 2 inches. Additionally, it has been discovered that for optimum effectiveness of the combs of my invention, the distance designated d from the end tips of the prongs 42 of teeth 30 to the end tips of prongs 44 of teeth 32 should be in a range of from about one sixteenth inch to about one fourth inch.

The comb 20, when employed to back-comb hair, is inserted into a plurality of strands of hair which are held outwardly from the scalp of the person whose hair is being back-combed. Normally, the comb 20 is inserted into the hair in a manner such that the teeth 30 and 32 are approximately at right angles to the hair, although the teeth 30 and 32 may be at inclined angles thereto, at the option of the user. Then, the teeth 30 and 32 of the comb 20 are drawn in numerous successive strokes through the hair in a direction toward the scalp.

As a result of the curvature of the lead teeth (e.g., teeth 30), the comb 20 is readily drawn through the hair toward the scalp. As the comb 20 is drawn in this direction, the hair strands separate as they pass through the open paths between the adjacent sets of teeth 30 and 32. This separation of strands is particularly enhanced by the raking action of the lead prongs (e.g., prongs 44 when the lead teeth are teeth 30). These separated locks of hair fill all of the relatively narrow straight passageways between adjacent teeth 30 and 32. Thereafter, the strands of hair encountered cannot pass through the narrow straight passageways between teeth 30 and 32. These strands of hair, therefore, are caused to snarl and tangle as the motion of the comb continues towards the

scalp and the hair strands are forced through the remaining tortuous paths available which curve in and around the adjacent sets of teeth 30 and 32. This results in a profusion of snarled, tangled strands of hair which are locked in place. After numerous, successive passes of the comb through the hair in this manner, the entire body of hair is a mass of disarranged, snarled and tangled strands. This is the desired effect when back-combing, roughing, or teasing hair and is achieved with ease and great effectiveness with the combs of the present invention.

Normally, it is desirable to disentangle the hair which has been back-combed as described above, and this can be achieved readily with the combs of the present invention. As a consequence of the interlocking, curved tooth structure of these combs, the snarled hair can be segregated and separated into straightened, discrete hair strands by drawing the comb through the hair in a direction away from the scalp. Again, the curvature of the lead teeth (e.g., in this case teeth 32) and the raking action of the adjacent end prongs (e.g., prongs 42 when the lead teeth are teeth 32) assist greatly in expediting and easing the motion of the comb 20 through the hair and in unsnarling and disentangling the masses of hair. Additionally, the relatively narrow passageways provided between the adjacent, alternately spaced teeth 30 and 32 which are instrumental in promoting the excellent back-combing characteristics of the combs 20, also are important for separating and straightening the hair strands during the disentanglement combing. Furthermore, the various alternative paths provided between and around the teeth 30 and 32 perform a valuable function in segregating the hair strands and straightening them.

A further feature of the combs of the present invention is the provision of means for smoothing the hair, preferably after the hair has been unsnarled and straightened. That is, by drawing the comb lightly over the hair surface relatively perpendicular to the scalp, the prongs 42 and 44 on the free ends of teeth 30 and 32 act to smooth and position the hair in the desired shape and style. In this operation, only the prongs 42 and 44 are employed and the teeth 30 and 32 usually are not allowed to dig into the hair deeper than the crossing point 38 of teeth 30 and 32. The hair can thus be smoothed into place in a simple and expeditious manner.

While there has been described what is at present thought to be the preferred embodiment of the invention, it is understood that changes may be made therein and it is intended to cover in the appended claims, all such modifications which fall within the true spirit and scope of the invention.

I claim:

1. A comb comprising a planar body member having two sets of substantially identical, curved teeth extending from said body member in planes disposed at right angles to the longitudinal axis of said body, the teeth of one set being aligned

along the longitudinal axis of said body in spaced, alternating sequence with the teeth of the other set, said two sets of teeth being curved in opposite directions relative to one another and in planes transverse to the longitudinal axis of said body, said teeth of one set crossing the teeth of said other set in their respective planes at points along a line equidistant from said body, said teeth continuing to curve in an outwardly extending direction from said crossing points terminating in free ends.

2. The comb of claim 1 wherein said free ends comprise prongs disposed substantially parallel to and spaced outwardly from a plane through said longitudinal axis of said body and said line equidistant from said body defined by said crossing points.

3. The comb of claim 2 wherein the distance from tip ends of said prongs of said one set of teeth to tip ends of the corresponding, crossing prongs of said other set of teeth is in a range of from about one sixteenth to about one fourth inch.

4. The comb of claim 1 wherein said curved teeth have a radius of curvature of from about one fourth inch to about 2 inches.

5. A comb comprising a planar body member, two end tines disposed perpendicular to the longitudinal axis of said body, and two sets of substantially identical curved teeth extending from said body at right angles to said longitudinal axis of said body, said teeth of one set being aligned in spaced, alternating relationship with the teeth of said other set along the longitudinal axis of said body, said teeth of one set disposed relative to said other set of teeth so that the convex curvature of one set of teeth is opposed to the convex curvature of the other set of teeth, said teeth of both sets being aligned so that they cross at points equidistant from said body, said crossing points being defined by the intersection of said teeth with a plane common to a center line of each of said tines, prongs formed at the free ends of said teeth which are disposed downwardly from the outwardly directed curvature of said teeth and are generally parallel to and spaced outwardly from said common plane between the center lines of said tines, and said prongs being disposed on opposite sides of said common planes.

6. The comb of claim 5 wherein said crossing points are in a range of from about 70 to 90 percent of the length of said teeth from said body, the length of said teeth being measured by a projection of said teeth on said common plane between said center lines of said tines.

7. The comb of claim 5 wherein the distance from tip ends of said prongs of said one set of teeth to tip ends of the corresponding, crossing prongs of said other set of teeth is in a range of from about one sixteenth inch to about one fourth inch.

8. The comb of claim 5 wherein said curved teeth of both sets of teeth have a radius of curvature of from about one fourth inch to about 2 inches.

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