HAIR STYLING DEVICE

Abstract: A hair styling device including a handle and a body connected thereto. A plurality of hair separating members comprising fine hair separators and coarse hair separators are secured to the body and extend outwardly therefrom. The body may be hot and include a plurality of openings through an external wall, and at least one hair separating member is disposed through each opening. The coarse hair separators are structured to create spaces between sections of hair upon use, through which hot air can be applied. Moreover, the coarse hair separators are evenly dispersed throughout the body for more efficient hair drying.
BACKGROUND OF THE INVENTION

CLAIM OF PRIORITY

This application claims the benefit of Provisional Application having Serial No. 61/749,999 filed January 8, 2013, the contents of which are incorporated by reference herein in its entirety.

Field of the Invention

The present invention relates to hair styling devices, and more particularly, to brush-type devices used in brushing, detangling, styling, and/or drying hair.

Description of the Related Art

Typically hair is dried by projecting hot air from a hair dryer towards a hair brush which is supporting a person's hair. Specifically, hair is caught near the scalp by the bristles of a hair brush, then hot air from a hair dryer is directed against the hair on the hair brush, often simultaneously while the hair brush is pulled through the hair to the ends. This process may be repeated for a given section of hair until the hair is fully dry, and then further sections of hair until the entire head of hair is dry. This process may be performed by a person drying their own hair or by a hair stylist or other person attending a person with wet or damp hair.

While a brush is not necessary to accomplish hair drying, it can be useful in creating certain styles. Many types of brushes may be used to accomplish hair drying. Typically, such brushes have a handle and a body with bristles attached to the body, and are of various diameters, often round with bristles that extend 360 degrees from the hair brush body and along the length of the hair brush body. Common hair brush bodies may be solid, but more recently they may be hollow with bristles that extend through openings in the outer surface of the hollow cylinder. Different types of bristles and combinations of types of bristles are also
used, to achieve varying results.

While the process of hair drying may sound fairly straightforward, it is actually a quite a time consuming process. For hair that falls past the shoulders, it can easily take 30 minutes or more to dry the entire head of hair. Of course it can take even longer depending on the length and thickness of the hair. Moreover, different hair types require longer to fully dry. For instance, coarse hair or highly treated or damaged hair can retain moisture, prolonging the hair drying process. Also, curly hair may be straightened during the drying process, but this often takes even more time as the hair sections have to be smaller and must be gone over repeatedly for full drying and straightening.

In today's modern world, time is ever more precious. Not everyone can afford the luxury of having their hair professionally dried by a stylist every day, and therefore will often dry and/or style their own hair. However, not everyone has time to fully dry and style their hair every day, although well-styled and groomed hair can help provide confidence and make a good impression. Given the time impediments involved in hair drying, it would be beneficial to have a device such as a hair brush that would make the hair drying process more efficient and less time-intensive.

**Summary of the Invention**

The present invention is directed to a hair styling device which creates a more efficient hair drying experience by using a plurality of differently sized hair separating members. By creating larger spaces between portions of hair being dried, as described below, the present hair styling device increases the surface area of the hair having access to the hot air of a hair dryer, and therefore, decreases the amount of time it takes to effectively dry the hair. In addition, the hair styling device of the present invention detangles, smooths, and even straightens the hair as it is moved through the hair during drying.

Specifically, the instant hair styling device includes a handle and a body, which may be planar, cylindrical, or other shapes. In certain embodiments, the hair styling device body is
hollow and includes a plurality of openings disposed through an outer wall of the body through which hot air may pass to further increase the efficiency of the styling device. Of course, the body may be solid, or may be hollow without any openings.

The hair styling device further includes a plurality of hair separating members, which comprise fine hair separators, as well as coarse hair separators. These hair separating members extend through the openings of the body in embodiments having openings, or otherwise are secured to the body and extend outwardly therefrom. The combination of fine hair separators and coarse hair separators as described herein on the same brushing device has not been seen heretofor.

The fine hair separators and coarse hair separators are arranged in combinations and/or patterns to provide maximum exposure of the hair being brushed and held by the hair separating members to air directed at the body, such as from a hair dryer. Accordingly, when a person's hair is brushed with the instant hair styling device, the coarse hair separators spread the hair to provide a space between sections thereof, increasing exposure of hair to the air from the hair dryer. The present invention thus allows hair to be dried significantly quicker than other hair brushes having only bristles. Further, the arrangement of fine hair separators and coarse hair separators of the present hair styling device does not pull the hair of the person, easily detangles the hair, and even smoothes and straightens hair with use.

These and other objects, features and advantages of the present invention will become clearer when the drawings as well as the detailed description are taken into consideration.

Brief Description of the Drawings

For a fuller understanding of the nature of the present invention, reference should be had to the following detailed description taken in connection with the accompanying drawings in which:

Figure 1 is a longitudinal view of the hair styling device of
the present invention.

Figure 2 is an end view of the hair styling device from Figure 1 along line A-A.

Figure 3 is an end view of another embodiment of the hair styling device of the present invention.

Figure 4 is an end view of still another embodiment of the hair styling device of the present invention.

Figure 5 is a schematic representation of hair being brushed by the hair styling device of the present invention while hot air is applied.

Figure 6 is similar to Figure 2, but showing hair being pulled by the hair styling device and the application of air thereto from a hair dryer (not shown).

Like reference numerals refer to like parts throughout the several views of the drawings.

**Detailed Description of the Preferred Embodiment**

The present invention is directed to a hair styling device, represented as 10 throughout the figures, which can be used to brush, detangle, and style hair. The instant device 10 promotes efficient drying of hair when used, due to certain inventive features described in greater detail hereinafter. Moreover, the instant hair styling device 10 also provides faster hair straightening when drying, and creates a smoother resulting hair profile.

Specifically, and referring to Figures 1 and 2, the hair styling device 10 includes a handle portion 12 and a body portion 14. The handle 12 is structured, sized and configured to be grasped by a hand, such as the hand of a user who is implementing the hair styling device 10. The user may be the same person whose hair is being styled or dried, or another person such as a hair stylist or beautician. Accordingly, the handle 12 is configured to be easily held and permit manipulation of the hair styling device 10. In some embodiments, the handle 12 is elongate and at least as long as the width of a person's hand, although in certain embodiments it is longer than the width of a hand. In some
embodiments, the handle 12 has a cylindrical, or substantially cylindrical, shape to facilitate rotating or rolling of the handle 12 within a hand during use of the hair styling device 10. For instance, in certain embodiments such as depicted in Figure 1, the handle 12 has a smooth cylindrical shape. In other embodiments, the handle 12 is made up of a plurality of segments joined together or formed such that the handle has a plurality of edges, and yet the overall shape is generally cylindrical. Moreover, in at least one embodiment the handle 12 is configured to conform to the hand of a user, and may be ergonomic in design. To assist in gripping, at least a portion of the handle 12 may include a frictional surface 13, such as but not limited to rubber, silicone, or other materials, which may or may not have a textured pattern thereon, in order to better enable manipulation of the handle and prevent unwanted slipping during styling.

The hair styling device 10 also includes a body portion 14 connected to one end of the handle 12, as depicted in Figure 1. In some embodiments, the body 14 and handle 12 are made of unitary construction, such as being made from the same mold. In other embodiments, the handle 12 and body 14 are separate components joined together, such as by adhesive, screws, joints, and other fastening devices. In at least one embodiment, the body 14 and handle 12 are secured together such that they move together as a unit. In other embodiments, however, the body 14 is movable, such as rotatable, separately from the handle 12.

The body 14 has any shape or configuration as will facilitate hair brushing and styling. For instance, in a preferred embodiment as shown in Figures 1-3, the body 14 has a cylindrical shape. The diameter D of body 14 is shown in Figure 3, which may measure anywhere from fractions of an inch to inches. It has been found that small diameter brushes give more lift and body to the brushed hair, although it should be appreciated that the body 14 of the instant hair styling device 10 can have any size diameter.

In other embodiments, as shown in Figure 4, the body 14 has a planar shape, similar to flat brush. Regardless of its configuration, the body 14 is at least large enough in size to
catch hair for brushing and styling, but is not so large as to be
unwieldy for hand-held use.

In some embodiments, the body 14 is of solid construction.
In other preferred embodiments, however, the body 14 is hollow
having an open interior (not shown) and an external body wall 15.

In certain embodiments, as shown in Figure 1, the external wall
15 of the body 14 includes at least one opening(s) 16 to permit
the transfer of heat through the body 14 when heat is directed
thereto, such as hot air from a hair dryer. These opening(s) 16
are shown as having a circular shape in Figure 1, though it should
be appreciated that they can be of any shape and size large enough
to permit heat to pass through. These opening(s) 16 are arranged
in a pattern, which may include rows and columns as described in
greater detail below, or any design or pattern.

The hair styling device 10 further includes a plurality of
hair separating members 30, as shown in Figures 1-4. Each hair
separating member 30 is anchored and/or secured at one end to the
body 14, and extends away therefrom such that they protrude from
the body 14. In at least one embodiment, in which the external
wall 15 of the body 14 includes opening(s) 16 such as shown in
Figure 1, at least some of the hair separating members 30 are
disposed through the opening(s) 16 and extend outwardly therefrom.

For instance, each opening 16 may have one or more hair
separating members 30 extending therethrough. Even in such
embodiments of the styling device 10 in which the body 14 has
openings 16, it should be understood that one end of the hair
separating members 30 is secured to the body 14 in such a way as
to extend through the opening(s) 16. The ends of the hair
separating members 30 that are opposite of the body 14 and/or
openings 16 are disposed for hair contacting relation, such that
they catch and move through hair when the hair styling device 10
is in use. In this manner, the hair may be brushed, detangled,
straightened and/or styled.

The plurality of hair separating members 30 are disposed
along at least a portion of the body 14 of the hair styling device
10. In at least one embodiment, such as when the body 14 is
cylindrical, the hair separating members 30 are disposed at least partially surrounding the body 14. For instance, as shown in Figure 3, the hair separating members 30 need not cover the entire surface of the body 14, but rather may be secured to only sections or portions of the body 14 such as a quarter or half, which may be contiguous sections or separated. In a preferred embodiment, the hair separating members 30 are disposed substantially around the body 14, such as covering the entire circumference thereof as shown in Figures 2 and 6. In other embodiments, such as shown in Figure 4 in which the body 14 is planar or non-cylindrical, the hair separating members 30 are disposed along at least one side or aspect of the body 14.

At least a portion of the hair separating members 30 are fine hair separators 32 that are structured to remove tangles from the hair. These fine hair separators 32 may be made of any appropriate material as will slightly resist and yet flexibly move in relation to hair, is resilient enough to return to its natural position when not under the force of hair being pulled through, and can withstand heat such as hot air from hair dryers. For instance, the fine hair separators 32 may be natural or synthetic, may be made from animal hair such as horse or boar, or may be made of nylon, plastic, or other polymer or synthetic material, as but a few illustrative examples. Moreover, the fine hair separators 32 may be of different sizes, thicknesses, lengths or types. The hair styling device 10 may include fine hair separators 32 all of the same kind and size, or may include a variety of different sizes and/or kinds of fine hair separators 32.

Moreover, the fine hair separators 32 may be configured in groupings 33, as best depicted in Figures 3 and 4. Each grouping 33 includes a plurality of fine hair separators 32. In at least one embodiment, individual groupings 33 contain different sizes and/or types of fine hair separators 32. For instance, each grouping 33 may include at least one thicker fine hair separator 32 and a plurality of thinner fine hair separators 32. As another example, each grouping 33 may include at least one longer fine hair separators 32 and a plurality of shorter fine hair separators
32. In other embodiments, a grouping 33 may include fine hair separators 32 of all the same size and/or type. Moreover, different groupings 33 may include different arrays of sizes and/or types of fine hair separators 32. As shown in the embodiment of Figure 1, each of the groupings 33 is associated with a different opening 16 in the external wall 15 of the body 14. Accordingly, all the fine hair separators 32 of a common grouping 33 extend through the same opening 16, and may include two, three, or more fine hair separators 32.

In addition, at least a portion of the hair separating members 30 of the present invention includes coarse hair separators 34, similar to the teeth of a comb. Each coarse hair separator 34 is secured to and/or anchored in the body 14 of the hair styling device 10 and extend or protrude therefrom, as seen in Figures 1-4 and 6. The coarse hair separators 34 are made of a somewhat stiff or rigid material, which provides sufficient resistance to the force of hair being pulled through such that they retain their shape despite this force. Examples include hard plastic and other rigid polymer-based materials, although other similar materials are within the scope of this invention, or vice versa.

In at least one embodiment, as shown in Figure 1, the coarse hair separators 34 extend through individual or different openings 16 in the body 14. Accordingly, each coarse hair separator 34 may be limited in diameter by the size of the openings 16.

Moreover, the coarse hair separators 34 are noticeably thicker/wider and longer than the fine hair separators 32, as is readily apparent from the figures. For example, in at least one embodiment each coarse hair separator 34 is longer or has a greater height or distance from the outer wall 15 than any fine hair separator 32, such that the coarse hair separators 34 extend past the fine hair separators 34. In addition, each coarse hair separator 34 has a greater diameter than any fine hair separator 32, and in some embodiments is at least twice as thick or wide as any fine hair separator 32.

The coarse hair separators 34 create spaces 37 between
sections of hair, which are defined by the diameter of the coarse hair separators 34. As depicted schematically in Figure 5, the coarse hair separators 34, shown as solid black circles, spread the hair 35 and create a space 37 in hair 35 while hair 35 is brushed. Each space 37 is sufficiently sized and open to allow air 38 from a hair dryer to flow between the strands of hair 35 to enhance and quicken drying of hair 35 in an efficient manner.

In use, as shown in Figure 6, the hair styling device 10 is passed through at least a portion of the hair 35 of a person whose hair is being dried. Hot air 38 from a blow dryer (not shown) is aimed against the hair 35 positioned along the body 14 of the hair styling device 10, engaging both fine hair separators 32 and coarse hair separators 34 arranged as shown herein. The hair styling device 10 is passed through the hair, and in embodiments in which the hair styling device 10 is cylindrical, it may be rolled as is known in the art.

It has been found that hair dries faster and straighter using the hair styling device 10 of the present invention. This is due at least in part to the coarse hair separators 34 creating open spaces 37 defined by the width of each coarse hair separator 34. These spaces 37 increase the surface area of the hair 35 in contact with hot air 38 flowing from a hair dryer or other heating element, enabling quicker and more efficient dry time. In fact, in one set of experiments, the hair of a model having long hair below her shoulder was dried with hot air. The hair drying process took 23 to 25 minutes with a regular prior art hair brush. With the hair styling device 10 of the present invention it took only 14 minutes to dry the model's hair. Further, the instant hair styling device 10 does not pull hair improperly, even when used on oneself. Due at least in part to the plurality of fine hair separators 32, the hair styling device 10 of the present invention also creates smoother and straighter hair, such as when used to straighten hair and/or remove curls in conjunction with blow drying.

In order to create efficient hair separation, detangling and faster drying, the plurality of hair separating members 30 are
disposed in various patterns relative to one another along the body 14 of the hair styling device 10. For example, as seen in Figures 1 and 5, the hair separating members 30 are arranged in columns 18 and rows 20 along the body 14. Likewise, in embodiments including openings 16 in the external wall 15, the openings 16 are similarly arranged in the columns 18 and rows 20. The pattern of columns 18 and rows 20 may be repeated over at least a portion of the body 14 of the hair styling device 10, such that in at least one embodiment the rows 20 and columns 18 of openings 16 and hair separating members 30 cover a substantial portion of a face or side of the hair styling device 10, as in Figure 4. In embodiments in which the hair styling device 10 is cylindrical in shape, the rows 20 and columns 18 cover at least a substantial portion of the circumference of the body 14, as shown in Figure 1. The columns 18 and rows 20 need not match up precisely, but in at least one embodiment are skewed or offset such that the hair separating members 30 and/or openings 16 between adjacent columns 18 or rows 20 are not aligned, as depicted in Figure 1. In other embodiments, as seen in Figure 5, however, the columns 18 and rows 20 are aligned.

Moreover, the type of hair separating members 30 are arranged in a generally alternating relation to one another within and between the columns 18 and rows 20. For example, in at least one embodiment, alternating columns 18 or rows 20 include both fine hair separators 32 and coarse hair separators 34, with every other column 18 and/or row 20 having only fine hair separators 32. As used herein, the terms "alternating", "substantially alternating" and "generally alternating" are not to be strictly construed as precisely every other column 18 or row 20, but rather allows for variability in the number of intervening columns or rows. For instance, there may be one, two, three, or more columns 18 or rows 20 having only fine hair separators 32 between each corresponding column 18 or row 20 having a combination of coarse hair separators 34 and fine hair separators 32. Moreover, within a common column 18 or row 20, each coarse hair separator 34 may alternate with fine hair separator (s) 32 or groupings 33 thereof. In other
embodiments, each coarse hair separator 34 along a common column 18 or row 20 may be spaced from the next coarse hair separator 34 by one, two, three, or more fine hair separators 32 or groupings 33 thereof. The substantially alternating pattern of coarse hair separators 34 and fine hair separators 32 along the body 14 is therefore such as to position and disperse the coarse hair separators 34 evenly throughout the body 14 of the hair styling device 10.

In the embodiment of Figure 1, every third column 18 includes coarse hair separators 34 alternating with fine hair separators 32. The other columns 18 have all fine hair separators 32. Likewise, row 20 has a pattern in which coarse hair separators 34 alternate with fine hair separators 32, and the other rows 20 have all fine hair separators 32. Of course, it should be understood that the coarse hair separators 34 and fine hair separators 32 can be arranged in different patterns without departing from the invention.

Since many modifications, variations and changes in detail can be made to the described preferred embodiment of the invention, it is intended that all matters in the foregoing description and shown in the accompanying drawings be interpreted as illustrative and not in a limiting sense. Thus, the scope of the invention should be determined by the appended claims and their legal equivalents.

Now that the invention has been described,
Claims

1. A hair styling device comprising:
   a handle,
   a body connected to one end of said handle,
   a plurality of hair separating members secured at a first end to said body and extending outwardly therefrom,
   at least a portion of said plurality of hair separating members comprising fine hair separators structured to remove tangles from hair, and
   at least a portion of said plurality of hair separating members comprising coarse hair separators structured to create spaces between sections of hair defined by the width of each of said coarse hair separator.

2. The hair styling device as recited in claim 1 wherein said coarse hair separators are wider and longer than said fine hair separators.

3. The hair styling device as recited in claim 2 wherein said coarse hair separators are at least twice as wide as said fine hair separators.

4. The hair styling device as recited in claim 1 wherein said coarse hair separators are disposed in a generally alternating pattern to said fine hair separators such that said coarse hair separators are evenly interspersed along said body.

5. The hair styling device as recited in claim 4 wherein said plurality of hair separating members are disposed in rows and columns along said body, wherein alternating columns or rows comprise a combination of said coarse hair separators and said fine hair separators.

6. The hair styling device as recited in claim 5 wherein said coarse hair separators and said fine hair separators are disposed in alternating fashion along a common column.

7. The hair styling device as recited in claim 1 wherein said body comprises a plurality of openings disposed therethrough.

8. The hair styling device as recited in claim 7 wherein at least some of said plurality of hair separating members are
9. The hair styling device as recited in claim 1 wherein said plurality of hair separating members are disposed at least partially around said body.

10. A hair styling device for use with heat, comprising:
    a handle configured to be grasped in the hand of a user, 
    a body connected to an end of said handle, 
    a plurality of fine hair separators configured in groupings and secured at one end to said body and extending outwardly therefrom, 
    a plurality of coarse hair separators each secured at one end to said body and extending outwardly therefrom, wherein said plurality of fine hair separators and said plurality of coarse hair separators collectively at least partially surround said body, and 
    said groupings of said fine hair separators and said plurality of coarse hair separators collectively configured in a substantially alternating pattern to evenly disperse said coarse hair separators.

11. The hair styling device as recited in claim 10 wherein each of said coarse hair separators are structured to create spaces between groupings of hair defined by the width of each of said coarse hair separator such that hot air can be directed to said space between groupings of hair for efficient hair drying.

12. The hair styling device as recited in claim 10 wherein said body comprises a plurality of openings disposed therethrough to facilitate the passage of heat through said body when hot air is directed to said body.

13. The hair styling device as recited in claim 12 wherein at least some of said plurality of fine hair separators are disposed through at least one of said openings in said body and extending outwardly therefrom.

14. The hair styling device as recited in claim 12 wherein at least one of said plurality of coarse hair separators is disposed through said openings in said body and extend outwardly therefrom.
disposed through at least one of said openings in said body and extending outwardly therefrom.

15. The hair styling device as recited in claim 14 wherein different ones of said plurality of coarse hair separators are disposed through different ones of said openings in said body and extend outwardly therefrom.

16. The hair styling device as recited in claim 10 wherein each of said groupings include a plurality of fine hair separators in closely spaced proximity.

17. The hair styling device as recited in claim 10 wherein individual ones of said coarse hair separators are disposed between at least one of said groupings of said fine hair separators.

18. The hair styling device as recited in claim 10 wherein said fine hair separators and said coarse hair separators are disposed in rows and columns along said body.

19. The hair styling device as recited in claim 18 wherein alternating columns or rows comprise said fine hair separators.

20. The hair styling device as recited in claim 18 wherein alternating columns comprise a combination of said fine hair separators and said coarse hair separators.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A46D 20/92, 24/00, 24/16; A46B 1/00, 5/00, 9/00 (2014.01)
USPC - 15/207.2; 132/120; 132/150

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - A46D 20/92, 24/00, 24/16; A46B 1/00, 5/00, 9/00 (2014.01)
USPC - 15/207.2; 132/120; 132/150

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
<tr>
<td>X</td>
<td>US 6,341,611 B1 (NAKAMURA, T) January 29, 2002; figures 1-19; column 4, lines 25-50; column 5, lines 60-65; column 8, lines 25-35; column 9, lines 12-15</td>
<td>1-11, 16-20</td>
</tr>
<tr>
<td>X</td>
<td>US 5,979,463 A (SANTY, JF et al) November 9, 1999, entire document</td>
<td>10, 12-13</td>
</tr>
<tr>
<td>Y</td>
<td>US 6,681,435 B2 (WANG TM) January 27, 2004; figures 1, 2; column 2, lines 10-20</td>
<td>14-15</td>
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* Special categories of cited documents:
  "A" document defining the general state of the art which is not considered to be of particular relevance
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Date of the actual completion of the international search
20 February 2014 (20.02.2014)

Name and mailing address of the ISA/US
Mail Stop PCT, Atttn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. 571-273-3201

Date of mailing of the international search report
07 March 2014

Authorized officer:
Shane Thomas
PCT Helpdesk: 571-272-4300
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