



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 106 104 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
13.06.2001 Bulletin 2001/24

(51) Int Cl.7: **A46B 9/02**

(21) Application number: **00123662.9**

(22) Date of filing: **30.10.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **30.11.1999 US 451747**

(71) Applicant: **Plásticos Vandux De Columbia S.A. a
Columbia Corporation
50493 Barranquilla (CO)**

(72) Inventor: **Bigio, Alberto Lee
Barranquilla (CO)**

(74) Representative:
**Lindner, Manfred Klaus, Dipl.-Phys.
Patentanwälte
Walter-Eggers-Lindner
Gottfried-Böhm-Ring 25
81369 München (DE)**

(54) **Hair brush**

(57) The hair brush (12) includes an elongated member having a handle segment (13) and a bristle substrate segment (14). The bristle substrate defines a cylindrical core having a smoothly curve, concave central region (16) and radially larger end regions (18, 20). A plurality of bristles (25) are attached over the bristle substrate. In a preferred embodiment, the bristles have substantially equal length such that the outer peripheral portions of the plurality of bristles define a smooth curve,

concave shape complementary (50) to the concave central region (16) of the bristle substrate. The bristles are further segmented into groups of small bundles and these bundles are disposed over the peripheral surface of the bristle substrate in a series (31). Each series of bristle bundles are axially spaced apart in a common radial plane passing through the axial center line of the brush. A rectangular bristle substrate (70) with a concave shape (74) is also disclosed herein.

EP 1 106 104 A2

Description

Technical Field

[0001] The present invention relates to a hair brush.

Background of the Invention

[0002] Conventional hair brushes include an elongated member typically including a handle segment and a bristle segment. Commonly, the bristle segment is a solid, cylindrical shape having a constant diameter throughout its axial length.

[0003] There is a need in the marketplace for an anatomically correct hair brush.

Summary of the Invention and Advantages Thereof

[0004] It is an object of the present invention to provide an anatomically correct hair brush.

[0005] It is another object of the present invention to provide a hair brush that has an hourglass shape about its bristle substrate.

[0006] It is a further object of the present invention to utilize bristles having a substantially equivalent length such that hourglass shape of the substrate is projected radially outward to the outer peripheral edges of the bristles.

[0007] It is a further object of the present invention to provide an anatomically correct hair brush which requires less force to pass through the user's hair.

[0008] It is another object of the present invention to provide an anatomically correct hair brush which presents less bristle material in the central mid-region of the brush thereby reducing the force needed to brush one's hair and enhancing the heating and blow drying of one's hair.

[0009] It is a further object of the present invention to provide a brush with a concave substrate, forming a concave shape bristle edges, on a generally rectangular bristle substrate.

[0010] It is an additional object of the present invention to provide an anatomically correct hair brush which enables the user to roll-up more hair on the brush due to the hourglass shape of the bristle substrate.

[0011] It is an additional object of the present invention to provide an anatomically hair brush wherein the hourglass shape enables a tighter hold on hair wrapped about the hourglass shape bristle system.

[0012] It is another object of the present invention to provide an anatomically correct hair brush which, when utilized, creates hair styles with more volume.

[0013] The hair brush includes an elongated member having a handle segment and a bristle substrate segment. The bristle substrate defines a cylindrical core having a smoothly curve, concave central region and radially larger end regions. A plurality of bristles are attached over the bristle substrate. In a preferred embod-

iment, the bristles have substantially equal length such that the outer peripheral portions of the plurality of bristles define a smooth curve, concave shape complementary to the concave central region of the bristle substrate. The bristles are further segmented into groups of small bundles and these bundles are disposed over the peripheral surface of the bristle substrate in a series. Each series of bristle bundles are axially spaced apart in a common radial plane passing through the axial center line of the brush. A rectangular bristle substrate with a concave shape is also disclosed herein.

Brief Description of the Drawings

[0014] The accompanying drawings illustrate the salient portions of the invention wherein:

FIG. 1 diagrammatically illustrates a perspective view of the hair brush;

FIG. 2 diagrammatically illustrates a side view of the hair brush;

FIG. 3 diagrammatically illustrates the hair brush particularly the hourglass shape or smoothly curved concave central portion of the bristle segment substrate;

FIG. 4 diagrammatically illustrates a side view of a rectangular bristle substrate with a concave central region; and

FIG. 5 illustrates an end view of the brush of FIG. 4.

Detailed Description

[0015] The present invention relates to a hair brush.

[0016] FIG. 1 diagrammatically shows a perspective view of hair brush 12. FIG. 2 diagrammatically illustrates a side view of the hair brush and FIG. 3 diagrammatically illustrates a schematic of the hair brush particularly showing the hourglass shape of bristle substrate segment 14. The figures are discussed concurrently herein. Similar reference numbers are utilized in all the figures. Brush 12 includes handle segment 13 and bristle substrate segment 14. As best shown in FIG. 3, bristle substrate 14 has a generally cylindrical core segment with a smoothly curved concave central region 16 and radially larger end regions 18, 20. Bristle substrate 14 carries a plurality of bristles 25 on its peripheral surface.

[0017] The plurality of bristles 25 are grouped together in small bundles, one of which is identified as bristle bundle 27 in FIG. 1. A sub-plurality of bundles are axially aligned in a row such as row 29 shown in FIG. 1. Bristle row 29 is linear such that all bundles in the row of bristles are disposed in a common radial plane extending through the axial centerline of the core. See bristle row 31 in FIG. 2. Further, the bristle rows are circumferentially distributed about the peripheral surface of bristle substrate 14. This circumferential or angular offset between adjacent radial rows of bristles reduces the force necessary to pass the brush through the hair of the user,

enables faster drying of the hair with a blow dryer and requires less heat to blow-dry the hair. Further, the hourglass shape of concave central region 16 (FIG. 3) enables faster blow drying time, less heat and less effort to brush the user's hair. The brush also gives the hair style more volume. The angular offset between radial rows also enhances massaging of the scalp during a brushing session.

[0018] Hair brush 12 is anatomically configured such that the hourglass shape of curved concave central region 16 (FIG. 3) generally matches curves on the user's head.

[0019] Handle segment 13 has a continuously curved convex region 40 and radially smaller end regions 42, 44.

[0020] The bristles have substantially equivalent lengths 46 such that the outer periphery of a row of bristles defines a smooth curved concave shape about central region 50 that is complementary the hourglass shape 16 of bristle substrate 14.

[0021] FIG. 4 diagrammatically illustrates hair brush 12 with an elongated, generally rectangular member 43. A cross-sectional aspect of member 43 and 77, from the perspective of section line 80'-80," is generally rectangular in shape. This generally rectangular cross-sectional shape is carried forward to core segment 70 which is part of the bristle substrate segment. FIG. 5 shows the end as a rectangular shape.

[0022] Brush 12 includes handle segment 78 and a bristle substrate segment extending over region 72. Bristles 25 protrude upward from the smoothly curved concave central region 74 of the elongated, rectangular shape of bristle substrate segment 72. Concave central region 74 and bristles 25 create a concave plurality of bristles at region 76. The angular offset of bristles 25 in linear rows is shown in FIG. 5.

[0023] The brush may be made of wood, plastic, aluminum or other material. Any combination of those elements can be utilized in the brush. The brush can be manufactured with different lengths and in different colors.

[0024] The claims appended hereto are meant to cover modifications and changes within the scope and spirit of the present invention.

Industrial Application

[0025] The present invention has industrial application in the hair brush technological arts.

Claims

1. A hair brush (12) defined by an elongated member element having a handle segment (13) and a bristle substrate segment (14) on a common axial centerline, said brush having a plurality of bristles (25) attached over said bristle substrate (14) character-

ized in that said bristle substrate (14) defines a cylindrical core segment with a smoothly curved concave central region (16) and radially larger end regions (18, 20).

2. A brush as claimed in claim 1 wherein said plurality of bristles (25) have a substantially equal lengths such that outer peripheral portions of said plurality of bristles define a smooth curved concave shape (50) complementary to said concave central region (16) of said central core region.

3. A brush as claimed in 2 wherein said plurality of bristles (25) are segregated into groups of small bundles (27) and are disposed over a peripheral surface of said bristle substrate in a series of axially aligned and radially distributed linear bristle rows (29, 31), each row consisting of a sub-plurality of bristle bundles, each bristle bundle in a respective linear row spaced axially apart along said bristle substrate.

4. A brush as claimed in claim 3 wherein said handle segment (13) is generally cylindrically shaped (FIG. 1).

5. A brush as claimed in claim 4 wherein said handle segment (13) defines a continuously curved convex region (40) having radially smaller handle end regions (42, 44).

6. A hair brush comprising an elongated member element having a handle segment (13) and a bristle substrate segment on a common axial centerline, said bristle substrate defining an elongated, rectangular core segment (70) with an upper surface (74) thereof having a smoothly curved concave central region (74) and dimensionally larger end regions, said brush having a plurality of bristles attached over said upper surface of said bristle substrate.

7. A brush as claimed in claim 6 wherein said plurality of bristles (25) have a substantially equal lengths such that outer peripheral portions of said plurality of bristles define a smooth curved concave shape (76) complementary to said concave central region (74) of said core region.

8. A brush as claimed in 7 wherein said plurality of bristles (25) are segregated into groups of small bundles (27) and are disposed over said upper surface (74) of said bristle substrate in a series of axially aligned and laterally spaced apart linear bristle rows (29), each row consisting of a sub-plurality of bristle bundles, each bristle bundle in a respective linear row spaced axially apart along said bristle substrate.

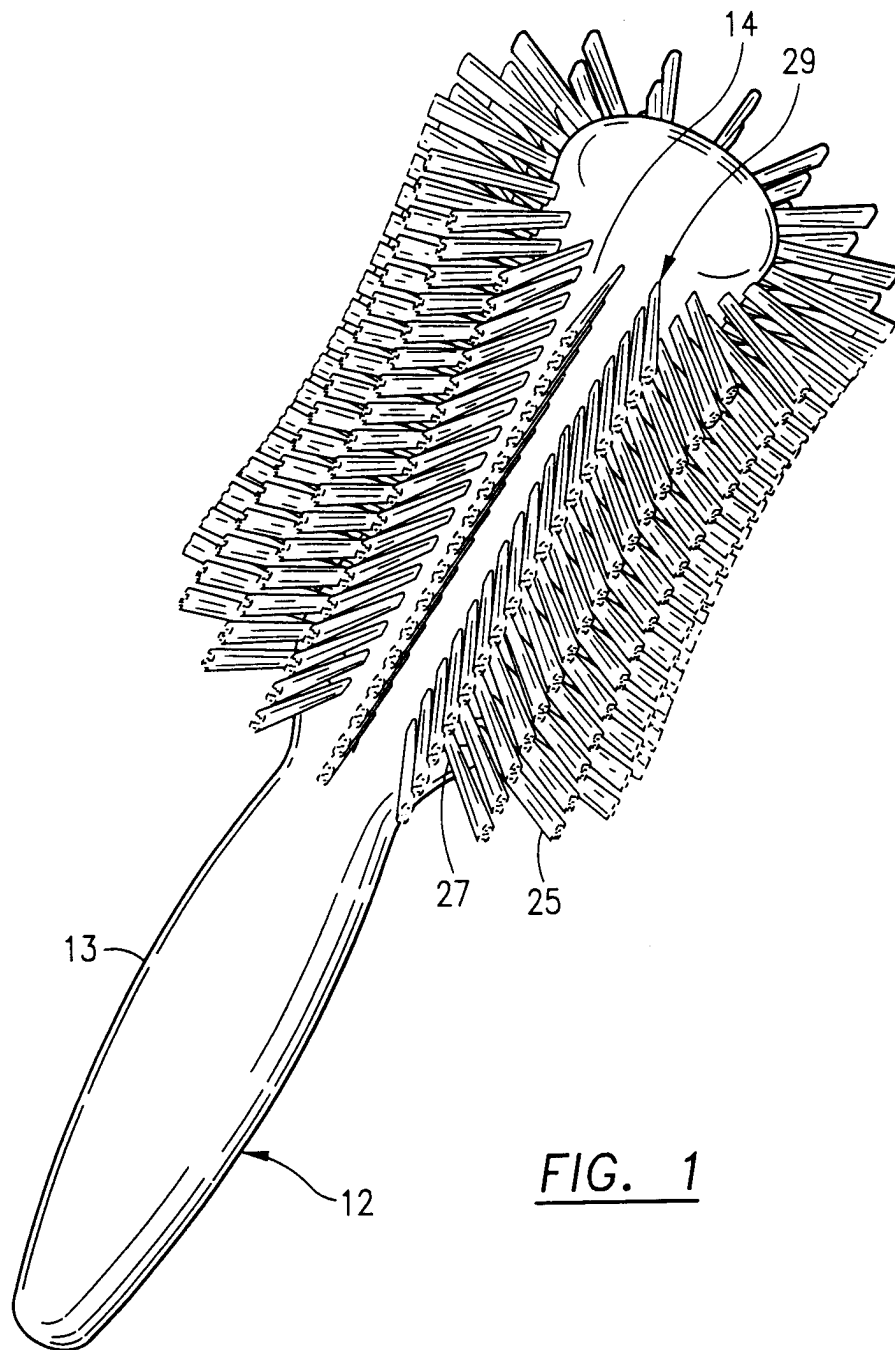
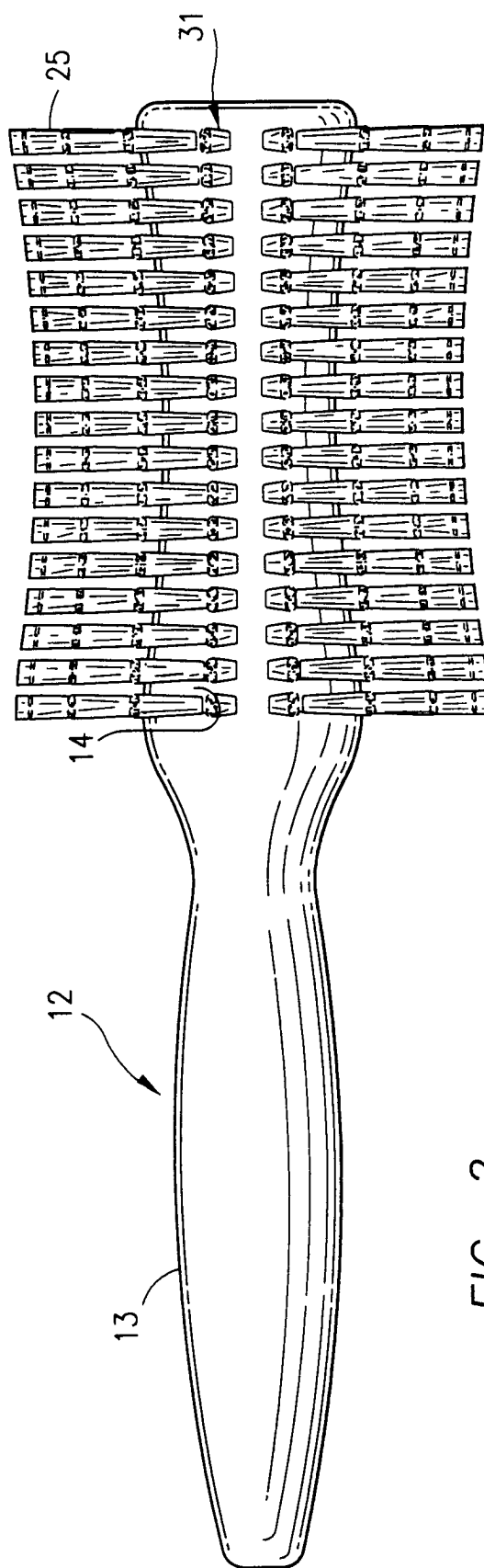
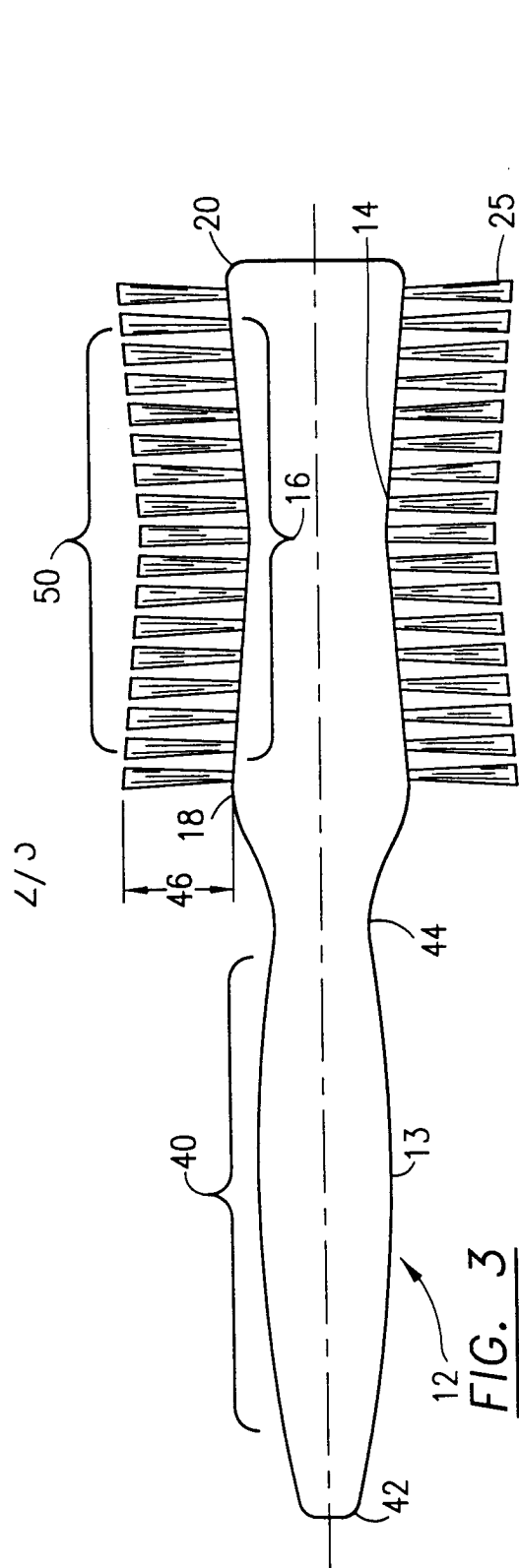


FIG. 1



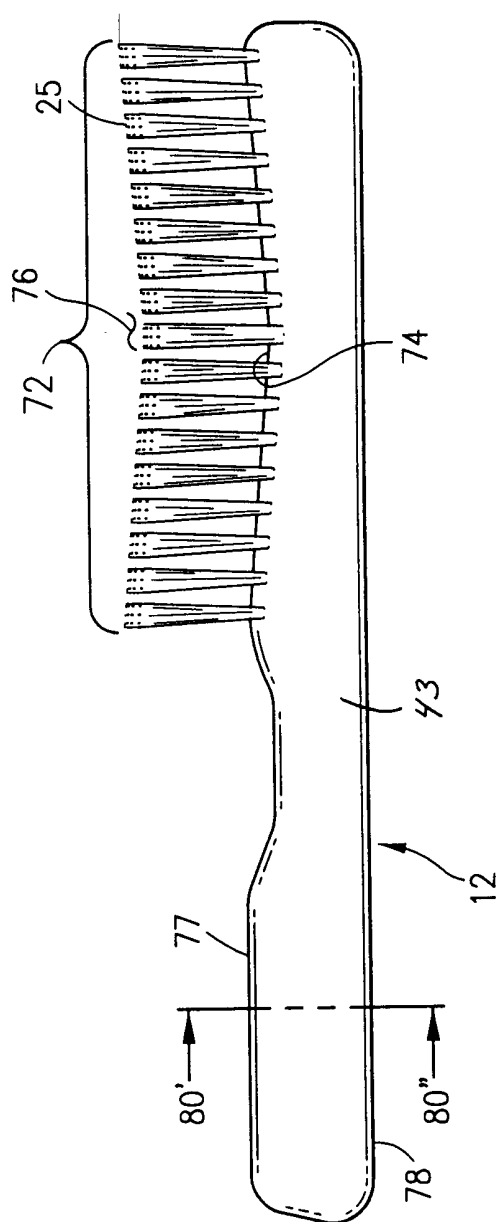


FIG. 4

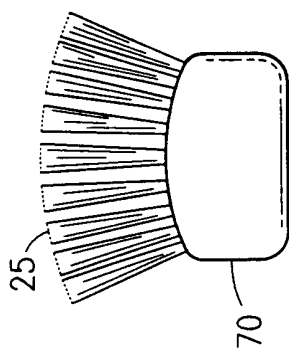


FIG. 5