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(56) Documents Cited:
WO 2005/094627 A1 **CN 105919266 A**
US 3669130 A **US 2799283 A**
US 2473227 A **US 2207427 A**

(58) Field of Search:
INT CL **A45D, A46B**
Other: **WPI, EPODOC**

(54) Title of the Invention: **Hairbrush**
Abstract Title: **Double-sided hairbrush which applies electrostatic charge**

(57) A hairbrush having teeth or bristles 16, 18 on a first side which in use are intended to apply an electrostatic charge to hair in order to repel the strands and provide volume, and a second side having teeth or bristles 20 suitable for smoothing the volumised hair, the teeth arranged in a series of parallel planes, each tooth having a broad base tapering to a tip. Preferably the first side has both bristles and teeth, further preferably made of a plastic such as Nylon 66. Preferably the second side comprises teeth which do not generate a static charge on frictional contact with hair, for example ABS. Preferably the teeth on the second side have lateral edges curved in an arcuate fashion, alternate teeth point in opposing directions. In use the first side of the double-sided hairbrush can be used to back-comb the hair and volumise, and the second side's shark tooth shaped teeth can be used to comb out and smooth the hair.

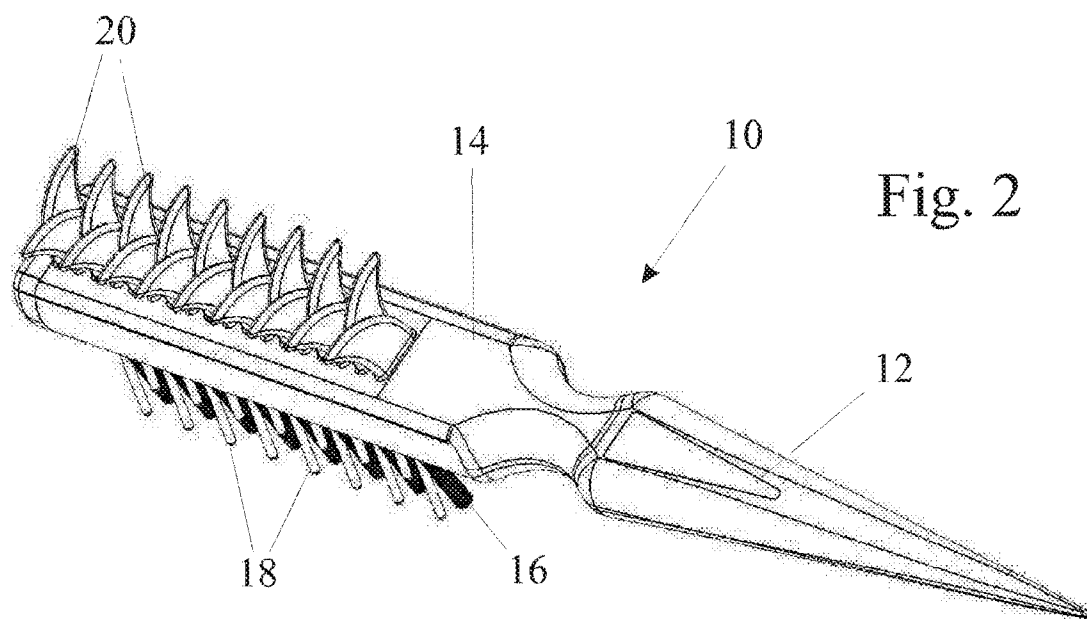


Fig. 2

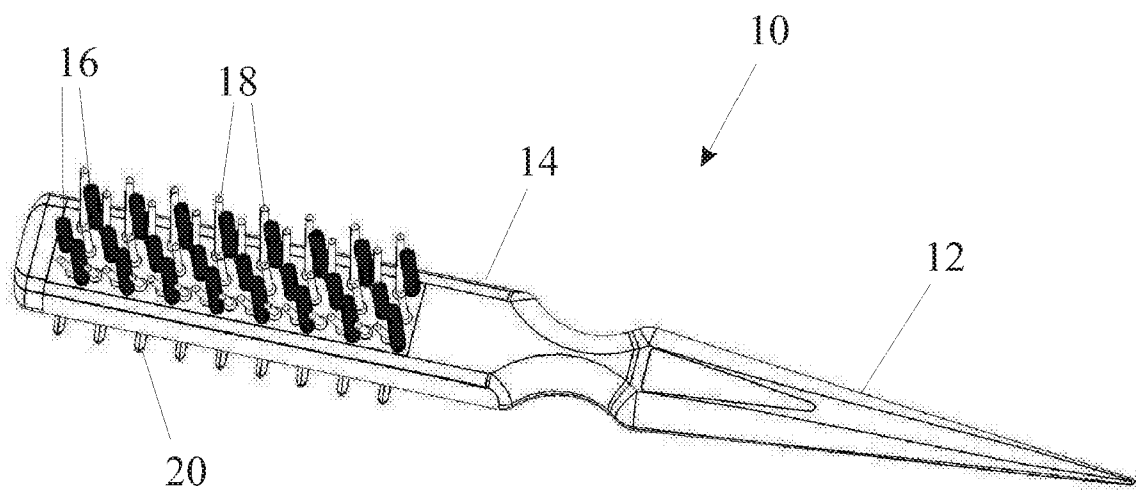


Fig. 1

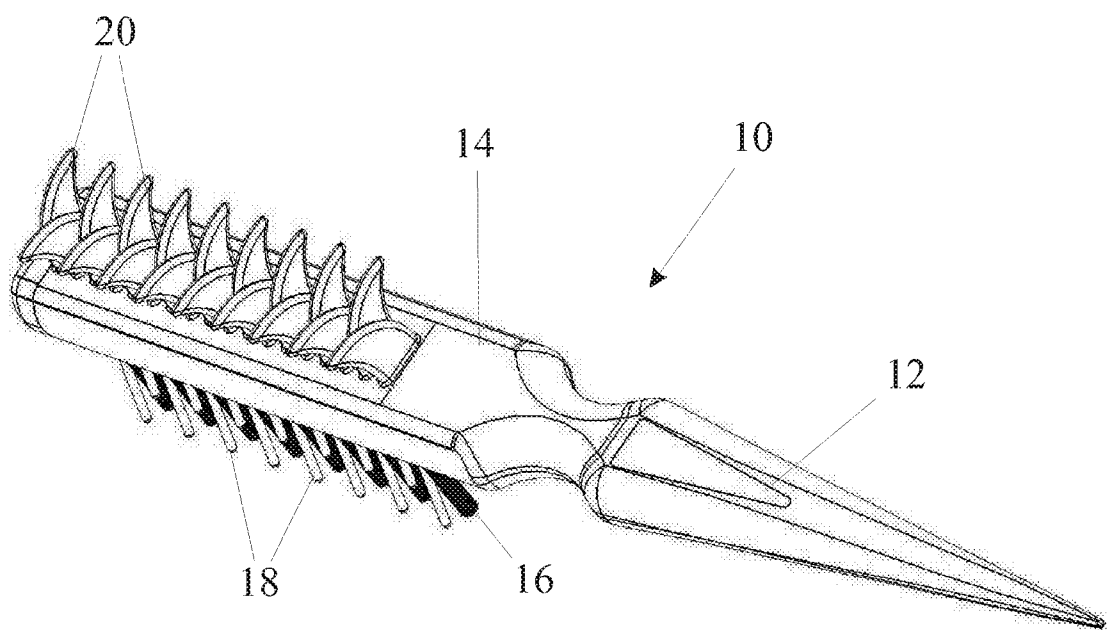


Fig. 2

Hairbrush

Field

The present invention relates to a hairbrush.

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Summary

According to the present invention, there is provided a hairbrush having teeth and/or bristles on a first side made of a material that acts to apply an electrostatic charge to hair to cause hair strands brushed using the first side of the brush to repel one another and assist in volumising the hair and teeth on a second side of the brush for smoothing the hair, wherein the second side of the brush comprises a row of flat teeth that are spaced from one another in a longitudinal direction, and lie parallel to one another in planes transverse to the longitudinal direction, each tooth being wider at the base than at the tip.

The term "bristles" is used herein to refer to bunched or tufted filament strands, whereas the term "teeth" refers to individual prongs. Generally, bristles may be made of animal hair, though some may be filaments of plastics material, whereas teeth are generally of larger diameter than bristles, have rounded tips to avoid hurting the scalp and are made of a plastics material.

In some embodiments, the teeth on the second side of the brush may be asymmetrical, the tip being nearer one side of the base than the other.

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The lateral edges of the teeth on the second side of the brush may be arcuate to give the appearance of shark teeth.

If all such teeth on the second side were to point towards the same side of the brush, the brush would be handed, i.e. only suitable for use with the left or the right hand. To enable use

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with either hand, alternate teeth may conveniently be oppositely oriented to point towards opposite sides of the brush.

The teeth on the second side may be electrostatically
5 neutral, i.e. producing no charge when passed through hair, or they may apply an opposite charge to that produced by the first side.

In use, the first side of the brush is used to back comb the
10 hair. During normal brushing of hair, a brush is moved from the root towards the tip the of hair strands, whereas in back combing it is moved in the opposite direction to give the hair more volume. The electrostatic charged developed by the first side of the brush assists in volumising the hair. The teeth of the second
15 side are then used to smooth the envelope of the volumised hair without compressing it.

In some embodiments, the first side of the brush may comprise bristles, preferably of animal hair, such as boar hair,
20 in addition to teeth made of plastics material, such as nylon, to create an electrostatic charge by friction with the hair as it is being brushed. While only plastics teeth are needed to produce an electrostatic charge, bristles are gentler on the hair and are more effective in adding volume to the hair. As a further
25 alternative, one may use nylon bristles without separate teeth.

In some embodiments, the second side of the brush may comprise teeth formed of a plastics material, such as acrylonitrile butadiene styrene (ABS), chosen not to apply a
30 charge. As an alternative, the material of the teeth on the second side may be chosen to apply an opposite electrostatic charge to the volumised hair.

It is desirable for the brush to have a handle and in some embodiments the handle is pointed to assist in selecting and separating hair strands to be volumised.

5 Brief description of the drawings

The invention will now be described further, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a brush embodying the
10 invention showing the first side of the brush, and

Figure 2 is a perspective view of the brush shown in Figure 1 as viewed from the second side.

Detailed description of the drawings

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The brush 10 shown in the drawings comprises a handle 12 and a two-sided head 14. The first side of the brush 10 is shown in Figure 1 and comprises bristles 16 consisting of tufts of boar hair and teeth 18 made of Nylon 66, which is a type of polyamide.
20 The first side of the brush is designed for back combing hair. Friction between the hair and the nylon teeth 18 during back combing generates static electricity that leaves the hair electrostatically charged. The electrostatic charge causes the strands of hair to separate and enhances the volumising effect of
25 the back combing.

The second side of the brush, shown in Figure 2, has a single row of longitudinally spaced teeth 20 made of a plastics material that does not generate an electrostatic charge or
30 generates an opposite charge. The teeth may, for example, be made of ABS within which an anti-static additive may be included.

The teeth 20 are designed to smooth the envelope of the volumised hair produced by back combing using the first side of
35 the brush, without reducing the volume. For this purpose, the teeth 20 have a shape resembling that of shark teeth. Instead of being rod like, the teeth 20 are flat having a base that is

significantly broader in the transverse direction of the head 14
than in the longitudinal direction.

5 The teeth taper in width to form tips that do not lie
symmetrically in line with the centre of the base. Instead, the
tip of each tooth is offset towards one side and the lateral edges
of the tooth are curved to result in the shark-tooth like
appearance.

10 If all the teeth 20 were to point to the same side of the
brush it would be handed and to permit use with either hand
alternate teeth 20 are shaped to point towards opposite sides of
the brush.

15 The handle 12 of the brush tapers down to a point to permit
it to be used to select and separate the hair strands to be
volumised.

CLAIMS

1. A hairbrush having teeth and/or bristles on a first side made of a material that acts to apply an electrostatic charge to hair to cause hair strands brushed using the first side of the brush to repel one another and assist in volumising the hair and teeth on a second side of the brush for smoothing the hair, wherein the second side of the brush comprises a row of flat teeth that are spaced from one another in a longitudinal direction, and lie parallel to one another in planes transverse to the longitudinal direction, each tooth being wider at the base than at the tip.

2. A hairbrush as claimed in claim 1, wherein the teeth on the second side of the brush is asymmetrical, the tip of each tooth being nearer one side of the base of the tooth than the other.

3. A hairbrush as claimed in claim 2, wherein the lateral edges of the teeth on the second side of the brush are arcuate.

4. A hairbrush as claimed in claim 2 or 3, wherein alternate teeth on the second side of the brush are oppositely oriented to point towards opposite sides of the brush.

5. A hairbrush as claimed in any preceding claim, wherein the teeth on the second side are made of a material that does not generate static electricity through frictional contact with human hair.

6. A hairbrush as claimed in any one of claims 1 to 4, wherein the teeth on the second side are operative to apply to the hair an opposite charge to that produced by the first side.

7. A hairbrush as claimed in any preceding claim, wherein the first side of the brush comprises bristles in addition to

teeth made of a plastics material serving to create an electrostatic charge by friction with the hair as it is being brushed.

5 8. A hairbrush as claimed in any one of claims 1 to 6, wherein the first side of the brush comprises bristles made of a plastics material serving to create an electrostatic charge by friction with the hair as it is being brushed.

10 9. A hairbrush as claimed in claim 7 or 8, wherein the plastics material serving to create an electrostatic charge is Nylon 66.

 10. A hairbrush as claimed in any preceding claim, further
15 comprising an elongate handle extending parallel to the longitudinal direction.

 11. A hairbrush as claimed in claim 10, wherein the handle
is pointed to assist in selecting and separating hair strands to
20 be volumised.



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Examiner: Mr Chris Morris

Claims searched: 1-11

Date of search: 30 April 2018

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X,Y	[X: 1-3, 8-11; Y: 1-4, 7]	US2207427 A (BEHR) Whole document
X,Y	[X: 1-3, 8-11; Y: 1-4, 7]	US2799283 A (KAPUSNYK) Whole document
Y	Y: 1-4	CN105919266 A (CHONGQING) Figures 1-5; WPI Abstract 2016-59019W
Y	Y: 7	US2473227 A (SOLOMON) Figures; Description C3L10-22
Y	Y: 7	WO2005/094627 A1 (MARGAYAN) Figures
A	-	US3669130 A (PETROCZKY) Figures

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

Worldwide search of patent documents classified in the following areas of the IPC

A45D; A46B

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC



International Classification:

Subclass	Subgroup	Valid From
A46B	0015/00	01/01/2006
A45D	0024/10	01/01/2006
A45D	0024/16	01/01/2006
A46B	0005/00	01/01/2006
A46B	0009/02	01/01/2006