

[54] **CYLINDRICAL HAIR BRUSH**

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[30] **Foreign Application Priority Data**

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132/85, 132/120

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[58] **Field of Search** ..... 15/159, 160, 171, 176,  
15/186, 187, 188, 179; 132/120, 85, 122, 126

[57] **ABSTRACT**

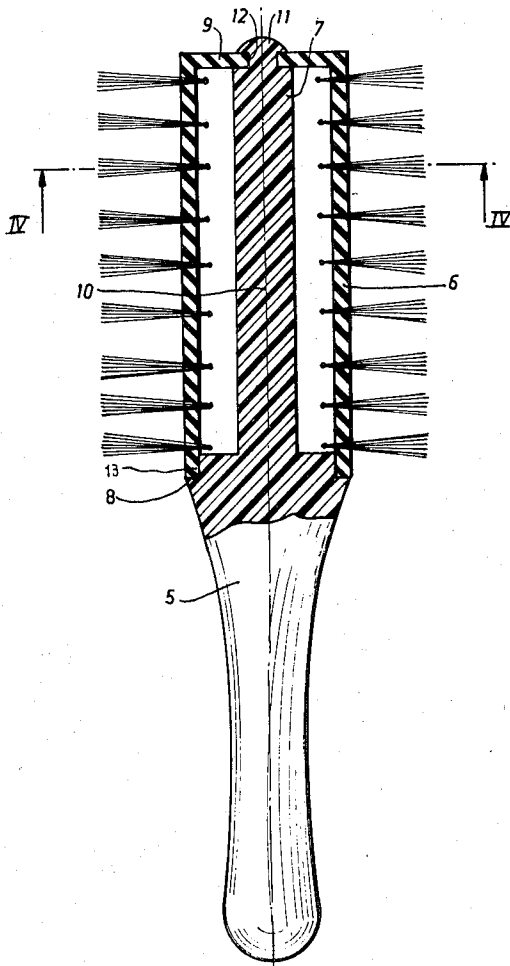
This invention relates to a new, cylindrical hair brush, constituted of a rigid body comprising a prehension handle associated with a support for the bristles, characterized in that the support is constituted by a cylindrical sleeve made of elastically deformable supple material and comprising radially implanted bristles or tufts of bristles, the bases of which traverse the walls of said sleeve. The brush according to the invention may be used for treating and setting the hair.

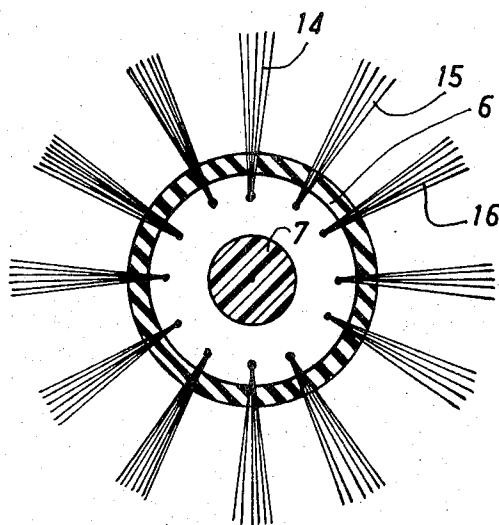
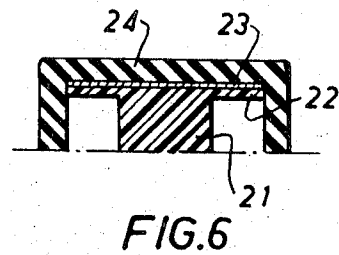
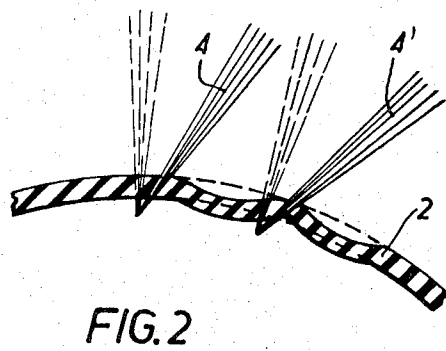
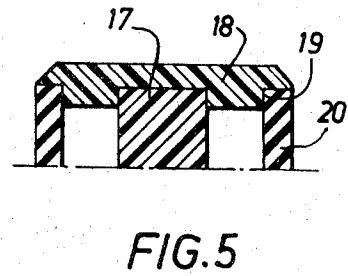
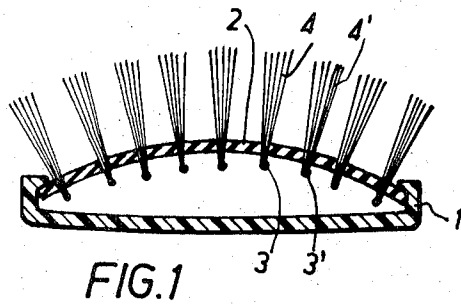
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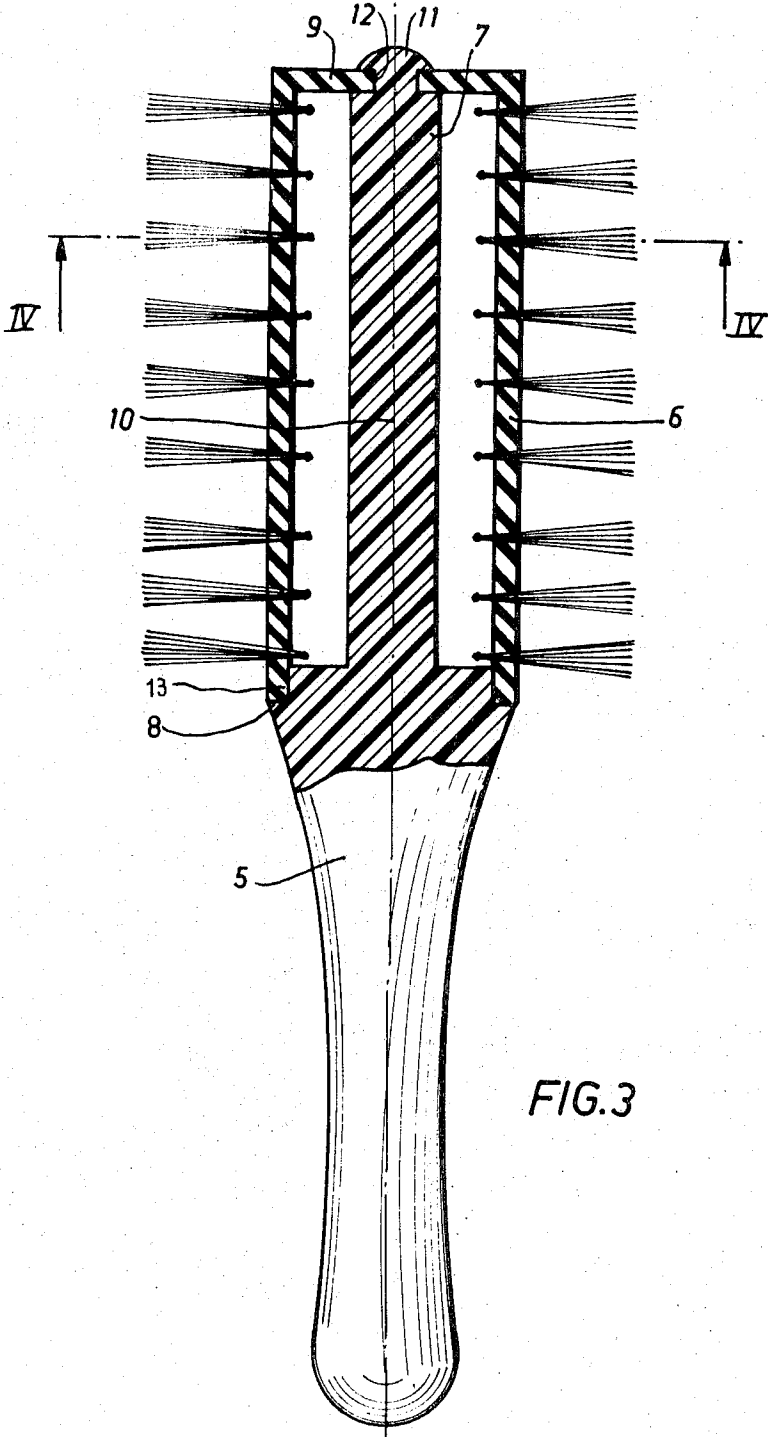
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**8 Claims, 6 Drawing Figures**







## CYLINDRICAL HAIR BRUSH

The present invention relates to a new brush for caring for the hair.

So-called "air-cushion" hair brushes are made by implanting the tufts of bristle in a spherical piece of thin rubber, obtained either by cutting out from a sheet of rubber or by moulding. The tufts of bristles themselves are made of polyamide bristle (nylon) or natural bristle (boar) or a mixture of them both.

Once the spherical piece of rubber is provided with the tufts of bristle, it is fixed in a wooden or plastics brush body so as to take a certain convex shape and thus make an air-cushion between the spherical piece and the back of the brush.

These so-called air-cushion brushes present the following advantages.

The existence of the air cushion between the spherical piece and the back of the brush, together with the elasticity of the rubber, renders brushing particularly supple.

The tufts of bristle which are fixed in the rubber, themselves benefit from a supple anchoring instead of being rigidly fixed in the wood or plastics material. These tufts of bristle are thus themselves naturally more supple.

Finally, as it is possible to implant the tufts of bristles mechanically in the spherical rubber piece without previously piercing the rubber, thus without the mechanical obligation of falling in the holes, there is no difficulty in making very fine tufts of bristles, penetrating deeply in the hair, consequently the actual spacing of the tufts may be reduced, hence a greater number of tufts over the same bristle surface.

The combination of these advantages has rendered the "air-cushion" brushes very popular, both with professional hair-dressers and the general public.

Certain hair-dressers have recently developed a new method of setting the hair, the main tool for which is a cylindrical hair brush with bristles.

The body of these brushes, made of wood or plastics material, comprises a handle associated with a cylindrical support, this latter being provided on the whole of its surface with tufts of bristles fixed on the body in conventional manner, i.e. in holes made in the support, the tufts of bristles themselves being fixed in these holes by means of clips. Due to the general shape of these brushes, they are called "cylindrical brushes."

It is obvious that although the general shape of these brushes make them suitable for this new hair setting technique, they do not have the qualities of the air-cushion brushes, mentioned hereinabove, since the tufts of bristles are not implanted in a supple spherical piece of rubber, there is no cushion of air a fortiori, and the tufts of bristles are of the usual size and spacing and do not have the fineness nor the dense structure of the air-cushion brushes.

The present invention aims at producing a type of cylindrical air-cushion brush, consequently a brush of the type used in the new method of hair setting, but comprising in addition all the advantages of the conventional air-cushion brushes.

To this end, the invention relates to a brush for caring, treating and setting the hair, constituted of a rigid body comprising a prehension handle associated with a support for the bristles, characterised in that this support is constituted by a cylindrical sleeve made of sup-

ple, elastically deformable material, this sleeve comprising radially implanted bristles or tufts of bristles whose bases traverse the walls of said sleeve.

According to a first embodiment of the invention, the brush is formed of a body comprising a prehension handle extended by a shaft, the bristle-bearing sleeve being adapted to fit on the handle along the axis of the shaft, one end of the sleeve being locked against the handle, the opposite end being held fixed by a fixing member removably connected to the end of the shaft.

For example, the fixing member imprisoning the marginal end of the sleeve is constituted by a disc having a groove enabling it to be fitted in the open end of the sleeve, the centre of said disc being connected to the end of the shaft.

This disc may be fixed to the end of the shaft by screwing, crimping or gluing.

In these embodiments, the sleeve is constituted by a cylindrical body open at its two ends.

In another embodiment shown as a variation, the sleeve is constituted by a cylindrical body open at one end and closed at the other end by a transverse wall, the sleeve thus having the form of a socket.

According to this variant, the transverse wall closing the sleeve is provided with a central opening, this opening cooperating with the end of the shaft integral with the sleeve in order to allow, by elastic deformation of the edges of said opening, the passage of the end beyond the transverse wall closing the sleeve, in order to ensure the immobilisation and locking of this latter in position.

According to a further variant embodiment, the bristle-bearing sleeve made of supple material comprises an open end adapted to fit on the body of the brush and to be integral on this seat by gluing, the opposite end of the sleeve being closed by a transverse wall.

In this latter embodiment, the handle may comprise a shaft penetrating inside the sleeve, this shaft being terminated by a disc coming into position against the internal face of the transverse wall of the sleeve on which it may be rendered integral by gluing.

It may be seen that in these various embodiments, the cylindrical sleeve made of supple and elastically deformable material comprising radially disposed tufts of bristles, offers the advantages of "cylindrical" brushes, the part bearing the bristles allowing the action of the bristles in all directions, whatever the position of the handle in the hand; however, the sleeve bearing the bristles makes it possible to benefit from this "cylindrical" brush the advantages and characteristics of the so-called air-cushion brushes, particularly the suppleness of the brushing action due to the deformation of the support under the traction exerted by the hair, this suppleness also coming from the clearance that each tuft of bristles may take in the perforation which constitutes its rooting.

This new brush therefore comprises a supple spherical part made of rubber or any plastics material having a suppleness similar to that of a supple rubber. It also comprises a body provided with a handle, said body being made equally of wood or rigid or relatively rigid plastics material. This new brush may of course be made in several sizes, inter alia in a general size for use by professional hair-dressers or women at home, and in a smaller size more suitable for the bag and for travelling.

The proportions between the spherical piece and the body can vary, as well as the shape of the handle of the body. The bristles fixed in the spherical piece may also be of different nature, such as for example polyamide bristle (nylon) or natural hog or boar bristles, or a mixture of polyamide and natural bristles or tufts of mixed bristles comprising a large, longer monofilament surrounded by monofilaments or natural bristles which are finer and shorter.

It is therefore possible to make a large number of models of brushes in the system proposed, these models differing from each other by the actual appearance of the different materials, or by different aesthetic appearances, the principle of construction always remaining, however, the same.

The invention will be more readily understood upon reading the following description of various embodiments thereof, given by way of non-limiting example, reference being made to the accompanying drawings, in which:

FIG. 1 shows a sectional view of a so-called "air-cushion" brush according to the prior art.

FIG. 2 shows a view in detail of the spherical piece of this brush provided with tufts of bristles.

FIG. 3 shows a view in longitudinal section of a brush according to the invention.

FIG. 4 shows a view in transverse section of the brush of FIG. 3 along IV—IV;

FIG. 5 shows a detailed view of the end of the brush of FIG. 3 in a variant embodiment.

FIG. 6 shows a detailed view of this same end according to another embodiment.

Referring now to the drawings, FIGS. 1 and 2 show that the so-called "air-cushion" brushes are constituted of a rigid body 1 with which is associated and connected a spherical piece 2 made of elastically deformable material, this spherical piece being pierced with holes 3, 3' enabling tufts of bristles 4, 4' to be inserted through and fixed.

As may be seen in FIG. 2, the spherical piece is made of supple material which adapts itself to the movements of the bristle and allows, by deformation, broader and more supple movements of each tuft under the effect of brushing.

According to the invention, a brush is made (FIG. 3) which is constituted of two parts, viz. a handle made of rigid material associated with a sleeve 6 supporting tufts of bristles.

The handle 5 comprises a tapering part permitting the prehension and good holding in the hand, and is extended by a shaft 7; where the shaft is connected to the handle 5, there is provided an annular shoulder 8 on which the open end of the sleeve 6 may fit; on the opposite side, the sleeve is closed by a transverse wall 9, said sleeve forming a socket and extending the handle 5, the shaft 7 being disposed in the axis 10 of the sleeve. The shaft has an end 11 coming into place in an opening 12 made in the central part of the transverse wall 9 of the sleeve; the end 11 enters this opening 12 by elastic deformation of its edges and imprisons it, thus ensuring that the transverse wall 9 of the sleeve 6 is maintained in position.

Thus, the sleeve 6 is immobilised and firmly held by its base 13 and its upper end constituted by the transverse wall 9; however, the cylindrical walls supporting the tufts of bristles 14, 15, 16 made of supple material

may undergo a twisting movement to follow the movement of brushing of the hair.

According to FIG. 5, a variant consists in that the terminal end of the shaft 17 is covered by a tip 18 on which it is rendered integral, particularly by gluing or other means, the tip 18 comprising on its periphery a groove 19 permitting the housing of the terminal edge 20 of the sleeve.

According to the variant embodiment shown in FIG. 6, the sleeve comprises at its terminal end a completely closed transverse wall 24 and on the inner face of this wall abuts the disc 22 integral with the shaft 21, the disc 22 being connected to the inner face of the transverse wall 24 by a layer of adhesive 23.

It is understood that the bristle-bearing sleeves are made of a rubber of suitable elasticity or a plastics material having elasto-plastic characteristics similar to those of rubber. These sleeves have the form of a section of tube, the wall of which is of suitable thickness, of the order of 2.5 mm and they may easily be obtained by simply cutting an approximately 18 mm-diameter tube into sections, at right angles, the length of the sections varying from 75 mm for small brushes for the bag, up to 110 mm for large model brushes, it being understood that all these dimensions are given here only by way of pure indication in order to give an example.

Another method of making the spherical parts consists in moulding these sleeves instead of cutting them from a continuous tube. It is then possible to make pieces that are closed on one side by a wall of suitable thickness, as shown in FIGS. 3 and 6.

I claim:

1. Brush for caring for, treating and setting the hair, comprising: a prehension handle, a rigid central shaft extending from said prehension handle and having a free end portion, a cylindrical sleeve made of supple and elastically deformable material, said sleeve having spaced marginal end portions and being adapted to fit on said handle along the axis of said shaft, said cylindrical sleeve having a diameter greater than the diameter of said central shaft and forming a free annular space between said sleeve and said central shaft to permit movement of said sleeve, means for connecting one of said marginal ends of said sleeve to said free end portion of said shaft, means provided on said prehension handle for holding the other of said marginal ends of said sleeve, and a plurality of bristles or tufts of bristles radially implanted in said sleeve, said bristles or tufts of bristles including bases which pass through the walls of said sleeve.

2. Brush as claimed in claim 1, wherein said cylindrical sleeve is a cylindrical body open on at least one end thereof, and wherein said means for connecting one of said marginal ends of the sleeve is constituted by a disc, said disc being provided with a peripheral groove portion enabling it to fit onto said open end of the cylindrical sleeve, the center of said disc being integral with said free end portion of the shaft.

3. Brush as claimed in claim 1, wherein said cylindrical sleeve is a cylindrical body open on at least one end thereof, and wherein said means for connecting one of said marginal ends of the sleeve is constituted by a disc, said disc being provided with a peripheral groove portion enabling it to fit onto said open end of the cylindrical sleeve, the disc being fixed to said free end portion of the shaft by gluing.

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4. Brush as claimed in claim 1, wherein the sleeve is constituted by a cylindrical body open at its two ends.

5. Brush as claimed in claim 1, wherein the sleeve is constituted by a cylindrical body, said cylindrical body being open at one end thereof and including a transverse wall closing the other end thereof, the sleeve thus having the shape of a socket.

6. Brush as claimed in claim 1, wherein the sleeve is constituted by a cylindrical body, said cylindrical body being open at one end thereof and including a transverse wall closing the other end thereof, the sleeve thus having the shape of a socket, and wherein said transverse wall is provided with a central opening, said free end portion of the shaft including a catch adapted to hold said transverse wall passing through said opening

by elastic deformation of its edges.

7. Brush as claimed in claim 1, wherein said sleeve includes an open end adapted to fit on the prehension handle and to be connected thereto by gluing, and wherein the opposite end of the sleeve is closed by a transverse wall.

8. Brush as claimed in claim 1, wherein said sleeve includes an open end adapted to fit on the prehension handle and to be connected thereto by gluing, and wherein the opposite end of the sleeve is closed by a transverse wall, said free end portion of said shaft being terminated by a disc coming into position against the inner face of the transverse wall of the sleeve on which it is rendered integral by gluing.

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