

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 016 358 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:

24.09.2003 Bulletin 2003/39

(51) Int Cl.7: **A46B 7/00**, B25G 3/36

(21) Application number: **99126117.3**

(22) Date of filing: **29.12.1999**

(54) **Novel device for fastening perforated cylindrical sleeves to handles of radial hairbrushes**

Neue Vorrichtung zur Befestigung von perforierten zylindrischen Hülsen auf einer Radialhaarbürste

Dispositif nouveau pour fixer des manchons cylindriques perforés sur des brosses à cheveux radiales

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**

(30) Priority: **30.12.1998 ES 9900071 U**

(43) Date of publication of application:
05.07.2000 Bulletin 2000/27

(73) Proprietor: **Industrias Oriol S.A.**
08030 Barcelona (ES)

(72) Inventor: **Pérez Codina, Carmen**
08030 Barcelona (ES)

(74) Representative: **Canela Giménez, Teresa**
C/Girona no 148, 1o 2a
08037 Barcelona (ES)

(56) References cited:
DE-A- 2 254 753 **US-A- 3 909 868**
US-A- 3 968 536 **US-A- 4 619 012**
US-A- 5 427 120

EP 1 016 358 B1

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description

[0001] The present invention relates to a novel device for fastening perforated cylindrical sleeves to handles of radial hairbrushes.

[0002] At the moment, in brushes of this type, the perforated sleeve is attached permanently to the head of the end of the radial brush handle by nailing, as known from DE 22544753.

[0003] This practical arrangement is suitable when the brush is new or has not been in use for very long.

[0004] Later, due to the acids and other chemical products which are used on the hair, to heat, and to the adverse effects of pulling during use on the hair, this nailing deteriorates and becomes detached from the head, and the desired connection of the perforated sleeve to the head of the handle of the radial brush is lost.

[0005] The subject of the invention has been designed to solve this problem.

[0006] For a correct understanding of the invention, two sheets of drawings are appended, in which:

[0007] Figure 1 shows a portion of the head of the handle and a portion of the perforated sleeve, both in section, with the fastening element already connected to these elements, and a fastening element, separated and in line, before its insertion.

[0008] Figure 2 is a detail of a variant of the fastening element, which does not modify the essence of the invention, viewed in elevation, at 90°, and in plan.

[0009] In Figure 3, the fastening element itself is seen in perspective and in line with the holes in the head of the brush handle and in the perforated sleeve of the brush itself, both of which are shortened.

[0010] In Figure 4, as in Figure 1, the fastening element is disposed in the holes in the sleeve and in the head, both of which are sectioned for better interpretation.

[0011] The invention consists of the fact that a hole (3) is formed in the circular head (1) of the handle (2) carrying the radial brush, the hole (3) coinciding, in position and shape, with a second hole (4) formed in the vicinity of the lower opening of the circular sleeve (5), which has a perforated wall and which is fitted with pressure on the head (1) of the handle (2) for holding the brush and, when both holes are in coinciding positions, the blunt tip of the resilient fastening device (6) is inserted with pressure and extends across the edges of the holes (3 and 4), the said device having a 90° peripheral projection (7) which forms a step and the wall of the rim of which is extended in an inclined manner towards the tip of the fastening element so that the rim of the step (7) is engaged, under pressure and by expansion, with the edges of the holes (3 and 4), and the edges of the holes are gripped between the step (7) and a second step (8).

[0012] When it is necessary to achieve a greater contraction and expansion of the body of the fixing element (6), the body has a deep, perpendicular, blind slot (9).

[0013] The desired attachment of the perforated sleeve to the head of the handle is thus achieved, and the sleeve is prevented from rotating about its own axis and from moving axially, thus eliminating the need for the application of glues or other additives which deteriorate in the known attachment with the heat, the humidity, and the pulling to which radial brushes with perforated sleeves are subjected during their use.

[0014] It should be understood that, within the present invention, all details of construction and finishing may be varied, provided that the essence of the invention is not altered, changed or modified.

Claims

1. Device to fasten perforated cylindrical sleeves (5) to handles (2) of radial hairbrushes, **characterized in that** a resilient fastening element (6) extends through both of the corresponding holes (3 and 4) provided one on the head (1) of the handle (2) for gripping the radial hairbrush and one on the perforated cylindrical sleeve (5) that is fitted into said head (1); said resilient fastening element (6) having projections in the form of steps (7) and (8) spaced therefrom, said head (1) and said perforated cylindrical sleeve (5) being retained between said steps (7 and 8).
2. Device for fastening cylindrical perforated sleeves (5) to handles (2) of radial hairbrushes according to the preceding claim, **characterized in that** when, owing to assembly requirements, the body of the resilient fastening element (6) has to be extended, a deep, perpendicular, central notch (9) is formed therein.

Patentansprüche

1. Vorrichtung zur Befestigung von perforierten zylindrischen Hülsen (5) an den Griffen (2) von Radialhaarbürsten, **dadurch gekennzeichnet, dass** sich ein elastisches Befestigungselement (6) durch die beiden übereinstimmenden Löcher (3 und 4) erstreckt, von denen eines im Kopf (1) des Griffs (2) zum Ergreifen der Radialhaarbürste und das andere in der an diesem Kopf (1) befestigten, perforierten zylindrischen Hülse (5) vorgesehen ist; wobei dieses elastische Befestigungselement (6) Fortsätze in Form von Stufen (7 und 8) aufweist, die mit Abstand angeordnet sind, und der Kopf (1) und die perforierte zylindrische Hülse (5) zwischen den Stufen (7 und 8) festgehalten werden.
2. Vorrichtung zur Befestigung von zylindrischen perforierten Hülsen (5) an den Griffen (2) von Radialhaarbürsten gemäß dem vorhergehenden An-

spruch, **dadurch gekennzeichnet, dass** sich eine tiefe, lotrechte, zentrale Kerbe (9) im Körper des elastischen Befestigungselements (6) bildet, wenn dieser aufgrund von Aufstellungserfordernissen gedehnt werden muss.

5

Revendications

1. Dispositif destiné à fixer des manchons cylindriques perforés (5) aux poignées (2) de brosses à "cheveux radiales, **caractérisé en ce qu'**un élément de fixation élastique (6) s'étend à travers les deux trous correspondants (3 et 4) proposés un sur la tête (1) de la poignée (2) pour prendre la brosse à cheveux radiale et un sur le manchon cylindrique perforé (5) qui est fixé à l'intérieur de ladite tête (1) ; ledit élément de fixation élastique (6) présentant des saillies sous la forme d'étages (7) et (8) espacées de ceux-ci, ladite tête (1) et ledit manchon cylindrique perforé (5) étant retenus entre lesdits étages (7 et 8).

10

15

20

2. Dispositif destiné à fixer des manchons cylindriques perforés (5) aux poignées (2) de brosses à cheveux radiales selon la revendication précédente, **caractérisé en ce que** quand, en raison des exigences de l'ensemble, le corps de l'élément de fixation élastique (6) doit être étendu, une encoche centrale perpendiculaire profonde (9) est formée à l'intérieur.

25

30

35

40

45

50

55

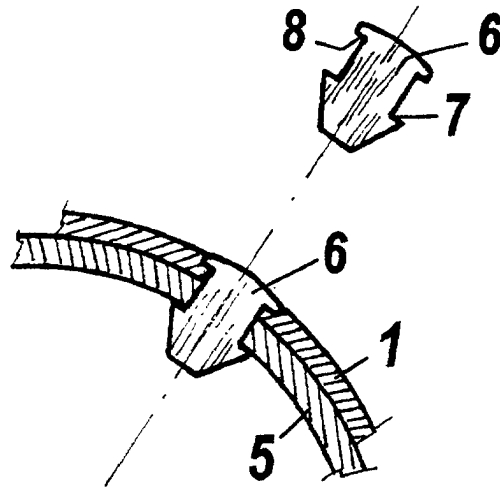


Fig. 1

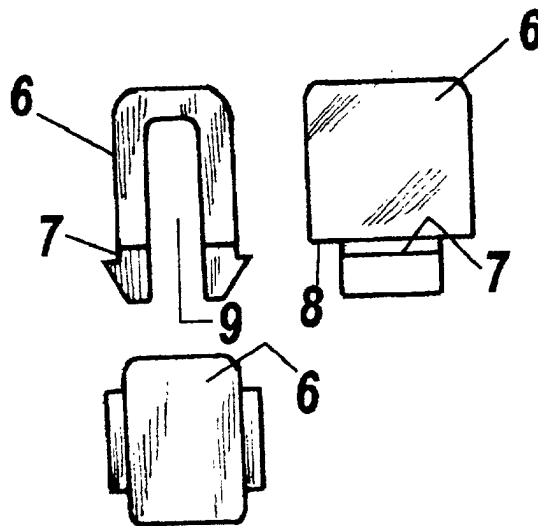


Fig. 2

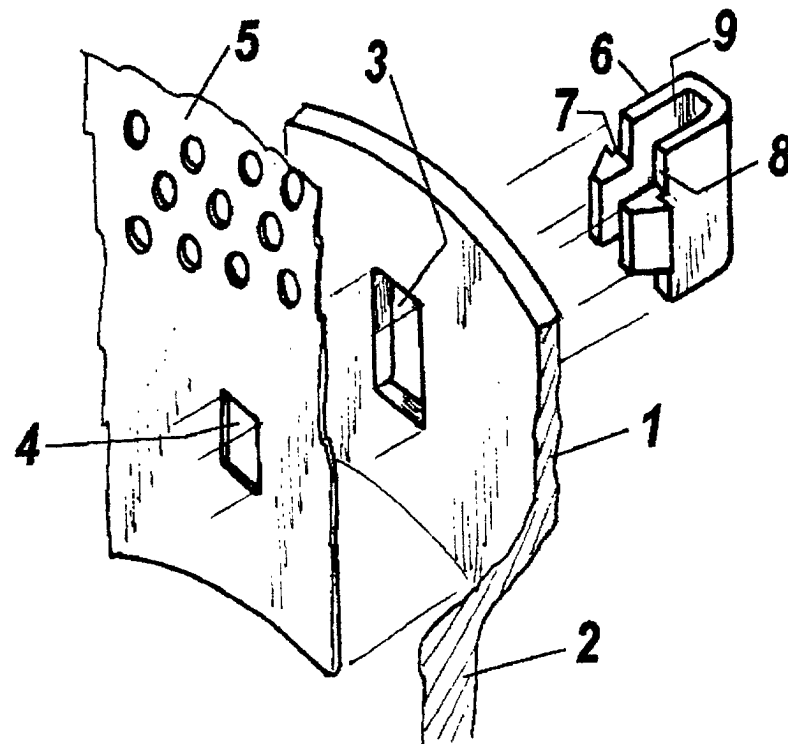


Fig. 3

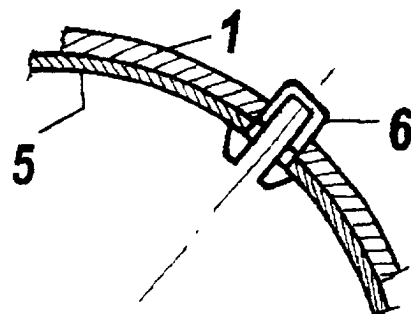


Fig. 4