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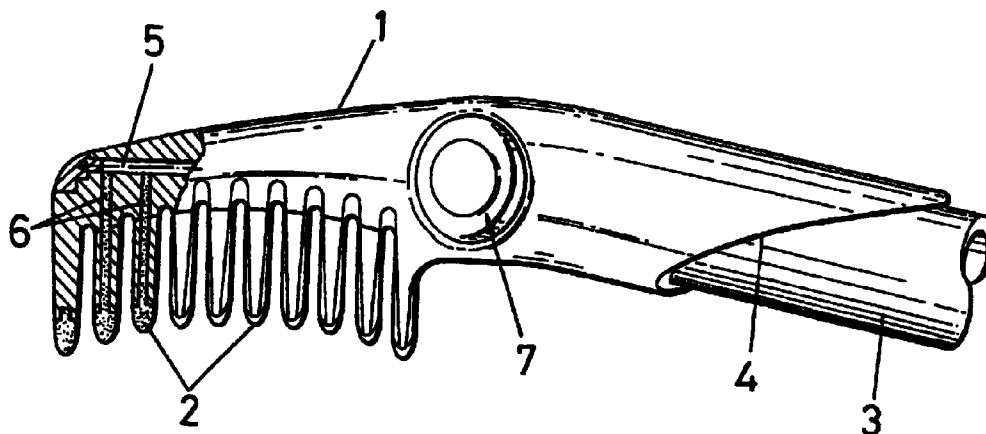
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(54) **APPLICATION TOOTH FOR THE HAIR AND/OR SCALP TREATMENT**

(57) Permits a collection of these to be inserted into a tubular body (1) as supporting element, functioning as a "comb", permitting liquid or gelatinous products to be applied precisely and economically, by having attached to it a container or receptacle holding the treatment product.

For scalp treatment, the product enters the teeth (2, 2<sup>I</sup>, 2<sup>II</sup>, 2<sup>III</sup>, 2<sup>IV</sup>), impregnating only the lower or free end of said teeth, where a recipient material is located (8,

11). This material may cover all or only the sides of said teeth, depending on whether the treatment is to be given on the totality of the hair and scalp, or only on the former. Depending on the application, the tooth structure has a rigid core constituting the support for a permeable, peripheral cladding (13), or only a lateral cladding (12), without reaching the end, mainly.



**FIG. 1**

**Description****OBJECT OF THE INVENTION**

[0001] The present invention, as stated in the title to this specification, relates to an application tooth for treating the hair and/or scalp, with which enhancement is obtained of the benefits offered by the existing systems for applying both liquid and viscous products currently employed, though in a more precise, cleaner and quicker manner than is achieved with these conventional methods, providing also a considerable saving in the amount employed of said products.

**BACKGROUND TO THE INVENTION**

[0002] The systems that are presently being employed for applying different hair products, have the disadvantage that, for specific applications (for hair and scalp independently), they are insufficiently precise for the application process and this, in the long run, can lead to problems, if not for the hair itself, then for the scalp due to products producing irritation when coming into contact with it.

[0003] In the utility model U-9601817 of the same applicant as the present invention, a perfected comb was made known for hair treatment, the object of which is to facilitate the application of liquid products such as lotions, dyes, etc., in less time, with greater safety and cleanliness, than when employing the methods of conventional systems. It comprises a comb having a hollow main body constituent part of a reservoir for holding the liquid to be used in the treatment. This body leads into tubular teeth the operational ends of which form a curved concave line, instead of terminating in a straight line as is normal practice. The means of impelling the product consists basically of flexible segments in the handle, permitting pressure to be applied manually.

[0004] In the international application PCT/ES97/00167 by the same applicant, a comb was made known for hair treatment in which, in addition to the features offered by the aforementioned utility, other benefits are provided such as those indicated below:

[0005] The product reservoir is at least in part in the form of a main body from which the teeth radiate, said body having a mouth joined through a means of opening and hermetically closing to the handle. The reservoir incorporates a refillable and/or replaceable cartridge. The teeth can come with a bevel cut and also have multiple perforations practised along them and also incorporate a small brush.

**DESCRIPTION OF THE INVENTION**

[0006] In general lines, the application tooth for hair and/or scalp treatment, which comprises the object of the invention, basically offers a feature of interchangeability whereby a single support is capable of being used

for different applications of products and treatments for the hair or scalp.

[0007] These teeth, in the number of units specified, are coupled or attached to the body acting as common head and which can come in different forms. To this body is fitted an adapted container or receptacle and which is the element that may hold the hair products. On mounting the head on this container, if the latter holds any hair product, the teeth attached absorb a certain amount of said product by capillary action, or else by manual pressure on the pertinent pliable segment or pushbutton, it being possible thereby to apply the product to the hair or scalp according to the version of teeth being employed, as required by the user.

[0008] By means of a set of teeth, the structure and distribution of which differ for each application, in accordance with the different versions which shall be remarked later in connection with the figures, a perfect application can be achieved. These teeth can come joined together forming a unit for assembly or replacement, or separate from each other, since certain tooth models or versions cannot be produced as a block. For their use the teeth can be inserted in the body which has been defined as head for a container or receptacle and which at the same time protects the teeth connected to it.

[0009] The body serving as head, can come in different shapes, hold one or more application teeth, in line or alternated and having different geometric forms. It can also have a concave base to adapt anatomically to the user's head.

[0010] As has been indicated above and depending on the application, a first type of tooth has been foreseen having a design to deposit the product on the scalp alone, when the hair is being combed, by means of a permeable fibre which is attached to the back part of the tooth. In this manner, the front part of said tooth provides a means of support and guidance which produces a tiny furrow in the skin of the scalp which the fibre makes use of to impregnate the scalp with the product, avoiding the adsorption of said product by the hair.

[0011] Another type of tooth for another application or treatment, mainly for applying viscous products to the scalp or at the base of the hair, incorporates at the operational end, a number of bristles inserted on the back part to facilitate the application process. This arrangement is similar to that mentioned above, the permeable fibre being replaced by bristles.

[0012] There is another type of application tooth designed to prevent products coming into contact with the scalp, since there are some of these which are harmful to it, such as anti-parasitic lotions.

[0013] This last type of tooth mentioned, has both the front and rear of the lower part stiff, while the rest is of permeable fibre. Thus, the product can be deposited on the hair when combing, but is prevented from reaching the scalp and hair roots.

[0014] To permit the application of the product indistinctly to the hair and the scalp, stiff-cored teeth can be employed with a permeable fibre cladding which retains the product.

[0015] For applying gels or viscous products intended for the hair, teeth can be used with a cladding provided with longitudinal recesses or holes which facilitate the emission, these being possible with or without fibre.

[0016] For those applications in which it is necessary for any of the different versions of teeth to have the product continuously available, the head can be fitted with a dosing mechanism which controls the flow of the product to be sent to the application tips connected to the dosing mechanism, said product coming from a cartridge which can be self-actuating. This cartridge can also be refillable or disposable.

[0017] To maintain the product in perfect condition, the cartridge comes fitted with a cap having a vacuum valve and in this case the container or receptacle serves to protect the tips.

[0018] To facilitate a better understanding of the characteristics of the invention and forming an integral part of this specification, a number of drawings are attached in which figures, in an illustrative and not restrictive manner, the following aspects are shown:

#### **BRIEF DESCRIPTION OF THE FIGURES**

[0019]

**Figure 1.-** Shows a partial longitudinal side view of a comb which includes a set of application teeth for hair and/or scalp treatment, in accordance with the invention.

**Figure 2.-** Shows a side view of that shown in figure 1, with the portion corresponding to the teeth and pushbutton in section.

**Figure 3.-** Shows a partial sectional view, of the end of an application tooth with a permeable fibre on the back part.

**Figure 4.-** Shows a view of the end of an application tooth which incorporates pliable bristles on the back part.

**Figures 5 to 7.-** Show respective views in perspective of different models of application teeth for different hair and/or scalp treatments.

#### **DESCRIPTION OF THE PREFERRED EMBODIMENT**

[0020] With reference to the numbering scheme adopted in the figures, it can be seen how the application tooth for hair and/or scalp treatment, which is proposed in the invention, is interchangeable in nature by forming part of an assembly which can be inserted into a tubular body 1 serving as support. The body 1 has connected to it a plurality of teeth 2 of tubular structure through which passes the product held in the container

3 joined to the mouthpiece 4 of the tubular body 1, provided in turn with the axial channel 5 and the side branches 6, mutually coplanar and in line with the core of the tubular teeth 2, as can be seen in figure 1.

[0021] When the pushbutton 7 is manually depressed, the product to be applied held in the receptacle or container 3, is fed into the teeth 2. The teeth 2 are detachable and replaceable to permit their insertion into the body 1 itself of the comb or holder and as has been stated above, depending on the application they have a specific structure and distribution.

[0022] Thus, in figure 3, a tooth tip model 2<sup>I</sup> is shown which is employed to deposit the treatment product on the scalp only, by having a permeable fibre 8 on the back part of its extremity. Reference 9 indicates the lateral orifice of the tooth permitting the product to reach the permeable fibre 8. The front part 10 of this tooth 2<sup>I</sup>, being of a stiff material, produces a furrow in order that the back part 8 only applies the product to the scalp.

[0023] In figure 4 the reference 2<sup>II</sup> is given to a tooth of which the rear extremity has bristles 11 instead of the permeable fibre 8 of figure 3. As has been indicated earlier, this permits the product to be applied only to the base of the hair or scalp.

[0024] The application tooth 2<sup>III</sup> shown in figure 5, has a structure designed precisely to prevent contact between the product and the scalp, the former being deposited only on the hair when combed. The lower part of the end of the tip and the front and back thereof, are stiff, while on the sides there is a permeable fibre 12 for impregnating the hair.

[0025] In figure 6, the tooth having reference 2<sup>IV</sup> has a rigid structure sheathed in a layer of permeable fibre 13, suitable for applying the product indistinctly to the hair or to the scalp, permitting all the hair to be moistened or wetted with any type of product.

[0026] The tooth shown in figure 7, having reference 2<sup>V</sup>, works by capillary action in like manner to a pen nib or a draughtsman's pen, having a longitudinal opening 14 through which the product to be applied is fed. The tooth is given this structure in order to permit the application of denser or more adherent products.

#### **Claims**

1. **APPLICATION TOOTH FOR HAIR AND/OR SCALP TREATMENT**, which being capable of incorporation in a holder useable as a comb, permits the application of liquid or gelatinous products in a highly precise and economical manner, characterised in that it is connected to one of the sockets provided in alignment or in another disposition, on the surface of a tubular body (1) which contains a receptacle (3) holding the product to be applied, there being means to provoke the emission of the product.

2. **APPLICATION TOOTH FOR HAIR AND/OR**

**SCALP TREATMENT**, in accordance with claim 1, characterised in that the different units capable of being fitted to said tubular body (1), are fastened to each other forming a unit for assembly or replacement.

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**3. APPLICATION TOOTH FOR HAIR AND/OR SCALP TREATMENT**, in accordance with claim 1, characterised in that it is prepared for applying hair treatment liquid products only to the scalp, by having a permeable fibre (8) on the back part of its free end, the front part serving to create a furrow into which the permeable fibre (8) discharges.

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**4. APPLICATION TOOTH FOR HAIR AND/OR SCALP TREATMENT**, in accordance with claims 1 and 2, characterised in that it is prepared for applying viscous products to the base of the hair or scalp, by having bristles (11) inserted in the back part of its end.

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**5. APPLICATION TOOTH FOR HAIR AND/OR SCALP TREATMENT**, in accordance with claims 1 and 2, characterised in that it is prepared for applying the product to the hair only, without said product coming into contact with the scalp, by being constituted in the form of a lower stiff part extended in front and rear likewise stiff strips, the sides being of permeable fibre (12) in order to impregnate the hair with the product without the base thereof being likewise impregnated.

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**6. APPLICATION TOOTH FOR HAIR AND/OR SCALP TREATMENT**, in accordance with claims 1 and 2, characterised in that it permits moistening or wetting of the hair and scalp at the same time with any type of product, by consisting of a rigid core sheathed with a layer of permeable fibre (13) which retains the product and deposits it on the hair as the latter passes between the teeth.

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**7. APPLICATION TOOTH FOR HAIR AND/OR SCALP TREATMENT**, in accordance with claims 1 and 2, characterised in that it includes on its periphery a longitudinal opening (14) to which the product to be applied gains access, advantageously when of a more viscous or adherent nature.

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**8. APPLICATION TOOTH FOR HAIR AND/OR SCALP TREATMENT**, in accordance with the preceding claims, characterised in that the tubular body (1) includes a dosing mechanism with a push-button (7) situated advantageously at an easily accessible point on one of its sides.

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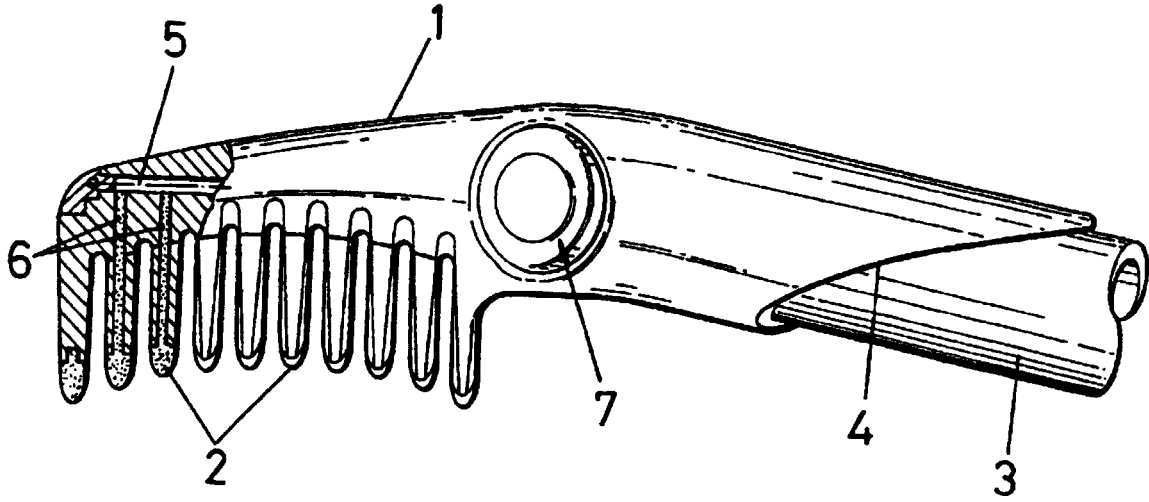


FIG. 1

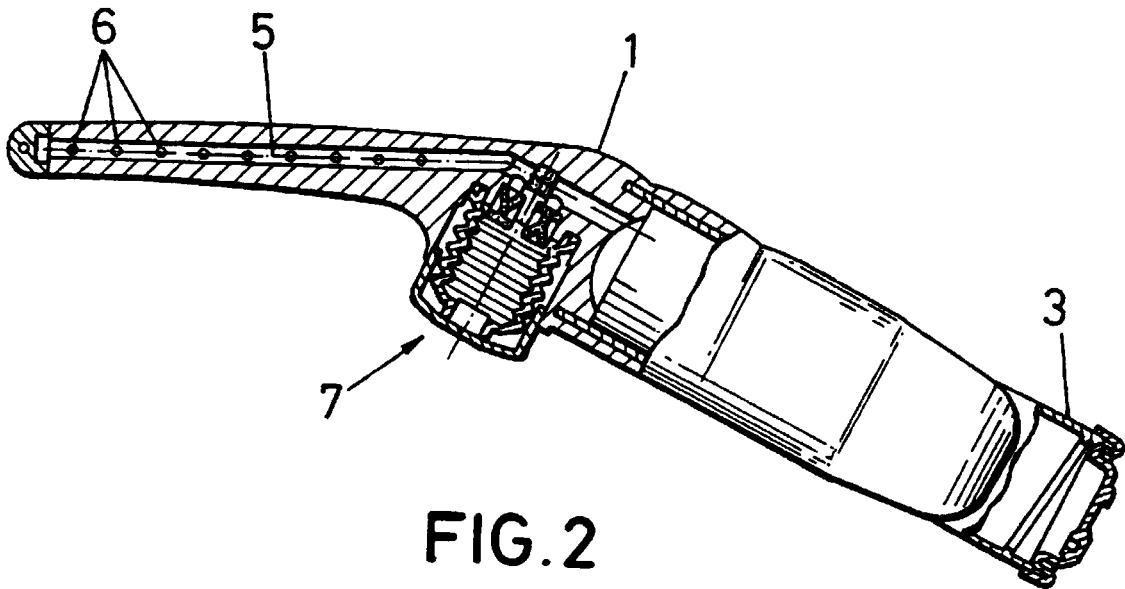


FIG. 2



FIG. 3

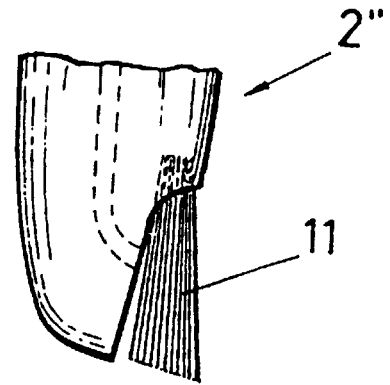


FIG. 4

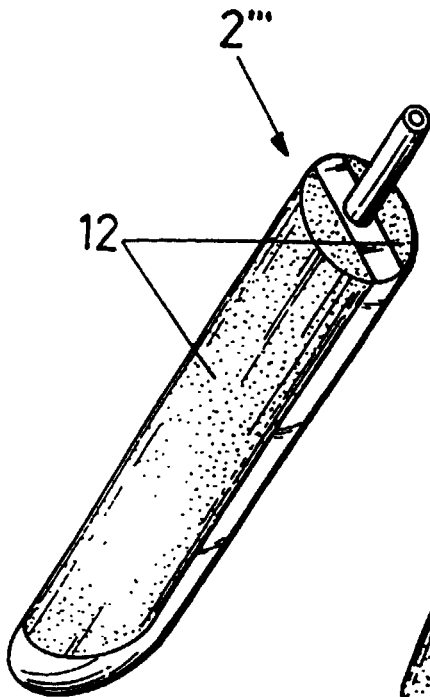


FIG. 5

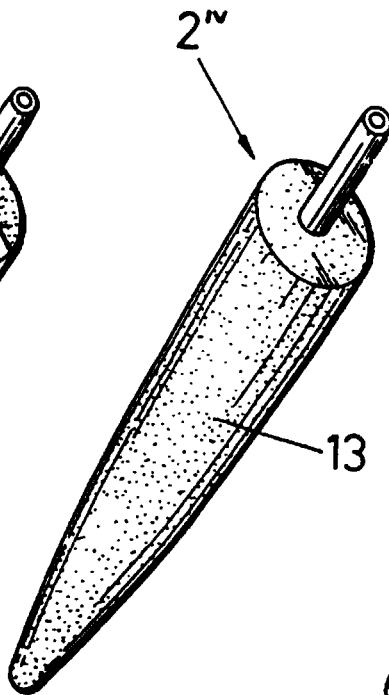


FIG. 6

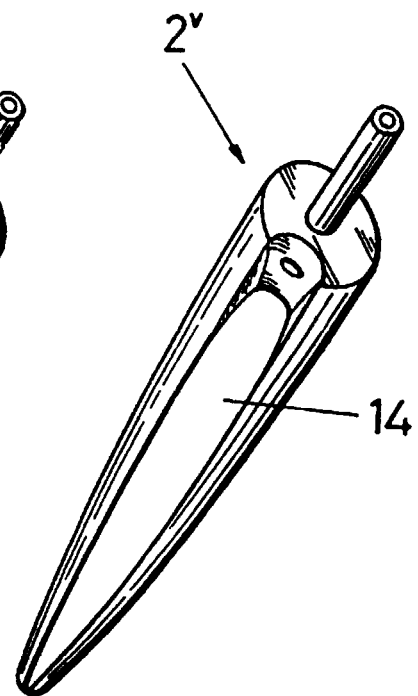


FIG. 7

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/ES99/00201

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC6 A45D 24/22, 19/02 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC6 A45D  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 practical, search terms used) CIBEPAT, EPODOC, WPI		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
<b>Category*</b>	<b>Citation of document, with indication, where appropriate, of the relevant passages</b>	<b>Relevant to claim No.</b>
P, X Y	WO 9926510 A1 (THE PROCTER & GAMBLE COMPANY) 03 June 1999 (03.06.99), figures 1, 7-12; page 12, line 4 – page 13, line 21 ; page 24, line 4-page 28, line 27.	1-3 4, 7, 8
Y	WO 9801053 A1 (CLEMENTE MARCO, J.C.) 15 January 1998 (15.01.98), figures 6, 7, 9, 10; page 6, line 23-page 7, line 22.	4, 7, 8
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X	ES 1031484 U (FERNÁNDEZ MATEOS M.G.) 16 January 1996 (16.01.96), figures 1, 2; pages 5-6.	1, 2
<input type="checkbox"/> Further documents are listed in the continuation of box C.		<input type="checkbox"/> Patent family members are listed in annex.
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family
Date of the actual completion of the international search 27 September 1999 (27.09.99)		Date of mailing of the international search report 07 October 1999 (07.10.99)
Name and mailing address of the ISA/ SPTO		Authorized officer  Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.  
PCT/ES 99/00201

C. (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3861407 A (GABRIELE) 21 January 1975 (21.01.75), figure 1; column 4, line 35-column 5, line 4.	1, 5, 6
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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/ES99/00201

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