

19



Europäisches Patentamt  
European Patent Office  
Office européen des brevets

11

Publication number:

**0 245 213**  
**A2**

12

## EUROPEAN PATENT APPLICATION

21

Application number: **87830094.6**

51

Int. Cl.<sup>4</sup>: **A 46 B 7/00**

22

Date of filing: **12.03.87**

30

Priority: **12.03.86 IT 2121586 U**

71

Applicant: **KOH-I-NOOR DI CARLO SCAVINI & C. S.p.A.,  
Via Meucci, 10, I-21049 Tradate (Varese) (IT)**

43

Date of publication of application: **11.11.87**  
**Bulletin 87/46**

72

Inventor: **Scavini, Carlo, Via Meucci 10, I-21049 Tradate  
(Varese) (IT)**

84

Designated Contracting States: **CH DE ES FR GB LI**

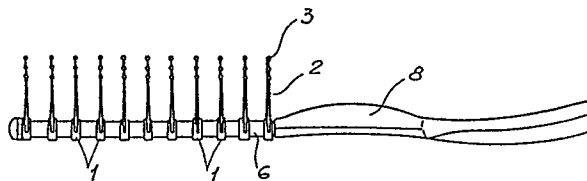
74

Representative: **Cicogna, Franco, Ufficio Internazionale  
Brevetti Dott.Prof. Franco Cicogna Via Visconti di  
Modrone, 14/A, I-20122 Milano (IT)**

54

**Hair brush made by coupling mating elements and provided with rounded tip bristles.**

57 The invention relates to a hair brush comprising a plurality of flat elements, in the form of circular segments, provided with radial thread like elements ending with spheric enlarged portions and which may be made by molding, using a suitable mold, these flat elements being fitted, in any suitable numbers, to a shaped rod, having a corresponding length and mounted at the end of a suitable handle.



**EP 0 245 213 A2**

BACKGROUND OF THE INVENTION

The present invention relates to a hair brush structure, made by coupling mating elements and provided with bristles having rounded tips.

As is known, brushes are presently made by using, instead of conventional piles or bristles, of animal or vegetable nature, plastics material threads or yarns.

These threads or yarns may advantageously be made by suitable molding steps, jointly to the body, or supporting member, of the brush itself.

In this case, pointed tip threads or yarns are inevitably obtained, because of the nature of the molds, which yarns frequently present crack formations at their tips.

Thus, these hair brushes may damage the user scalp, and, moreover they do not offer the possibility of smoothly massaging the scalp itself.

Moreover, the known plastics material hair brushes can be constructed only with given length, depending on the size of the mold used for making them.

SUMMARY OF THE INVENTION

Accordingly, the main object of the present

invention is to overcome the above mentioned drawbacks by providing such a plastics material hair brush in which the thread set, defining the brushing surface, is provided with suitably rounded tips.

Another object of the present invention is to provide a plastics material hair brush which is very simple construction-wise.

Another object of the present invention is to provide a plastics material hair brush, which may be easily made in a plurality of different lengths, depending on requirements.

Yet another object of the present invention is to provide a plastics material hair brush which may be made with portions having different colors in the transversal direction.

According to one aspect of the present invention, the above mentioned objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a hair brush characterized in that it comprises a plurality of flat elements, in the form of circular segments, provided with radial threads ending with spheric enlarged portions and effective to be individually made, by molding, in a mold which may be opened along the longitudinal center line,

0245213

and devoid of any cut-outs, said flat elements being force fitted, in any suitable numbers, on a small shaped rod mounted at the end of a suitable handle.

BRIEF DESCRIPTION OF THE DRAWINGS

Further characteristics and advantages of the hair brush according to the present invention will become more apparent hereinafter from the following description of a preferred embodiment of said hair brush, being illustrated, by way of an indicative example, in the figures of the accompanying drawings, where:

figure 1 illustrates a polygonal cross-section small rod adapted for supporting said flat elements and mounted on a handle;

figure 2 illustrates a perspective view of one of the mentioned flat elements, which radially bear a plurality of threads;  
and

figure 3 is a side view of the hair brush according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the figures of the drawings, the hair brush according to the present invention comprises a plurality of modular elements 1, of circle segment shape and having, at the curved portion thereof,

a plurality of radial threads 2 which are formed at even spacings and are provided with a small-ball rounded portion,3.

These modular elements are provided with a middle throughgoing hole (4) of substantially polygonal cross-section and perimetrically defined, on two sides thereof, by a coaxial cylindrical seat 5 and a projecting tubular portion 6 the outer diameter of which is substantially equal to the inner diameter of said seat.

Those same modular elements are fitted to a small rod 7 the cross-section of which is like to that of the throughgoing holes, so as to provide a prismatic type of coupling.

In this connection it should be pointed out that said elements are in turn mutually coupled by partially inserting the projecting portions 6 of one of these elements into the corresponding cylindrical seat 5 of the adjacent element.

Moreover elements such as opposite pins and hollows may be provided, formed at corresponding positions on the two faces of the modular elements and adapted for mutually locking these elements.

The number of said elements, to be fitted to the small rod 7, will obviously depend on the length of said rod, which rod is affixed, at one end thereof, to a suitable handle 8 and is provided, at the opposite end, with a threaded portion 9 thereon a blind nut 10 is engaged.

Accordingly it will be possible to change, depending on requirements, the length of the hair brushes, by simply varying the length of the supporting rod.

Moreover it will be possible to make different color brushes, by simply coupling, at will, the colors of the coupled modular elements forming the brush.

While the invention has been disclosed and illustrated with reference to a preferred embodiment thereof, it should be apparent that the disclosed embodiment is susceptible to many modifications and variations all of which come within the spirit and scope of the invention as defined in the accompanying claims.

C L A I M S

1- A plastics material hair brush, characterized in that it comprises a plurality of flat elements, in the form of circular segments, provided with radial threads ending with spheric enlarged portions and effective to be individually made, by molding, in a mold which may be opened along the longitudinal center line, and devoid of any cut-outs, said flat elements being force fitted, in any suitable numbers, on a small shaped rod mounted at the end of a suitable handle.

2- A hair brush, according to the preceding claim, characterized in that said modular elements are in the form of circular segments and are provided, at their curved portions, with a plurality of radial threads formed at even spacings and having each a small-ball rounded tip, said modular elements being further provided with a middle throughgoing hole, of preferably polygonal cross-section and perimetrically defined, on the two sides, by a coaxial cylindrical seat and a projecting tubular portion the outer diameter of which is substantially equal to the inner diameter of said seat.

3- A hair brush according to the preceding claims, and

characterized in that said modular elements are fitted to a small rod the cross-section of which repeats the cross-section of the throughgoing holes, so as to provide a prismatic type of coupling, said modular elements, moreover, being in turn mutually coupled by partially inserting the projecting portion of one of them into the corresponding cylindrical seat of the adjoining element.

4- A hair brush, according to the preceding claims, characterized in that said modular elements are provided with means, such as opposite pins and hollows, formed, at corresponding positions, on the two faces of said elements and adapted to prevent them from relatively rotating.

5- A hair brush, according to one or more of the preceding claims, characterized in that said small rod is coupled, at one end thereof, to a suitable handle and is provided, at the opposite end, with a threaded portion thereon a blind nut may be engaged for holding said modular elements on said small rod.

6- A hair brush, according to the preceding claims, and characterized in that it may be made with any desired lengths by coupling different color modular elements.



