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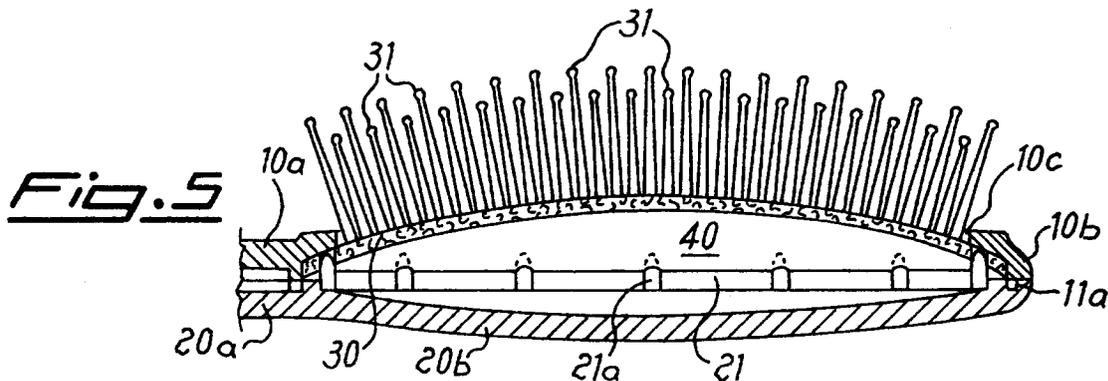
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(54) Resilient hair brush

(57) Brush for hair and the like, comprising a body consisting of a shell (10) supporting a resilient membrane (30) provided with teeth (31) and a shell (20) for fixing said membrane (30), wherein said support shell (10) has a narrow raised edge (11) projecting towards the fixing shell (20) and said fixing shell (20) has an

annular shoulder (21) which projects towards the support shell (10) and from which studs (21a) extend, said studs being designed to engage with the membrane (30) so as to hold it in position.



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Description

The present invention relates to a brush for hair and the like, comprising a resilient membrane provided with teeth or bristles and joined to the brush body so as to form an air chamber, wherein said brush body consists of a support shell and a shell for fixing said membrane, said support shell having a narrow raised edge projecting towards the fixing shell and said fixing shell having an annular shoulder from which studs extend, said studs being designed to engage with the membrane so as to hold it in position.

In the technical sector relating to the production of brushes for hair and the like, so-called "pneumatic brushes", which are thus called because the teeth or bristles of the brush are inserted through a resilient membrane fixed to the body of the brush itself, so that, once one part has been assembled with the other part, an air chamber is formed between them, said air chamber being designed to form a cushioning system for the teeth of the brush, also referred to as bristles, so that the brush is less rigid and more comfortable to use.

It is also known that application of the membrane to the brush body is performed by means of bonding together of the two parts, resulting in the need to provide in the brush body undercuts, designed to form a seat for receiving and retaining the perimetral edge of the membrane itself, as well as a shoulder for containing the bonding agent.

Although functional, these brushes have certain drawbacks, however, including the need for complicated and multiple-part moulds in order to be able to provide the said undercuts and the fact that the bonding agent tends to deteriorate with time, resulting in separation of the membrane from the brush body.

The technical problem which is posed, therefore, is that of providing a brush of the pneumatic type which allows the aforementioned technical problems to be resolved, proving to be functional, long-lasting and easy and inexpensive to manufacture and assemble.

These technical problems are solved according to the present invention by a brush for hair and the like, comprising a resilient membrane provided with teeth or bristles and joined to the brush body so as to form an air chamber, wherein said brush body consists of a shell supporting said membrane and a shell for fixing said membrane, said support shell having a narrow raised edge projecting towards the fixing shell which in turn has an annular shoulder from which studs extend, said studs being designed to engage with the membrane so as to hold it in position.

Further details may be obtained from the following description of a non-limiting example of embodiment of the invention provided with reference to the accompanying drawings, in which:

Figure 1 shows a side view of the brush according to the invention;

Figure 2 shows a plan view of the brush according to Fig. 1;

Figure 3 shows a partial schematic cross-sectional view of the component parts of the brush in exploded form;

Figure 4 shows a cross-section along the plane indicated by IV-IV in Fig. 2; and

Figure 5 shows a longitudinal section along the plane indicated by V-V in Fig. 2.

As shown, the brush according to the invention consists of a body formed by two shells 10 and 20 respectively supporting and fixing a membrane 30 provided with the teeth or bristles 31.

In greater detail, the support shell 10 has a solid part 10a forming the handle in combination with the corresponding part 20a of the fixing shell 20, and an annular part 10b for supporting the edge of the said membrane 30.

The central part of the support shell 10 has an opening 10c for allowing arrangement of the membrane 30 provided with the teeth 31, such that it has a convexity projecting towards the outside of the support shell 10 (Fig. 4).

On its external edge 10d the support shell 10 is moreover provided with a narrow raised edge 11 extending over the entire perimetral length of the shell, which has an interruption 11a (Fig. 5) designed to allow the air to pass through, as will emerge more clearly below.

The fixing shell 20 is entirely solid and has, in a manner corresponding to the support shell 10, a part shaped in the form of a gripping handle 20a and a closed part 20b.

Said centring and fixing part 20b of the fixing shell 20 has, formed on it, a continuous raised frame 21 provided with studs 21a projecting towards the inside and designed to engage with corresponding holes 30a formed on the edge of the membrane 30.

Assembly of the brush is therefore performed in accordance with the following steps:

- Once the membrane 30 with the teeth 31 has been arranged in position, the said membrane is inserted into its annular seat 10b of the support shell 10; thus the membrane 30 is retained inside the perimetral raised edge 11 and projects with convexity towards the outside;
- the fixing shell 20 is fitted onto the support shell 10, causing entry of the studs 21a projecting from the continuous frame 21 into the corresponding holes 30a of the membrane 30, which is thus stably centred and retained between the two shells, forming an air chamber 40 with the fixing shell 20;

- a perimetral weld is performed, for example by means of ultrasound, between the two shells 10,20 so as to join together the parts of the brush in a fixed manner.

It must be emphasized, however, that said weld is performed between the fixing surface of the perimetral narrow edge 11 of the support shell 10 and the corresponding contact surface of the fixing shell 20. Therefore, air flows from/towards the outside along the cavity 11a in the narrow edge 11 itself, thus allowing the entry/exit of the air itself into/from the air chamber 40 formed between the membrane 30 and the fixing shell 20 so as to obtain the desired effect of pneumatic cushioning, while on the other hand the seal prevents entry into the said air chamber 40 of water and/or detergents during washing thereof.

It is therefore obvious how the brush according to the invention allows correct pneumatic operation by means of a simple and low-cost structure which, avoiding the use of bonding agents and preventing the entry of water and/or detergents and the like into the brush and stagnation thereof, considerably prolongs the duration of said brush.

In addition to this, the joining together of the three parts of the brush (support shell, fixing shell and resilient membrane) by means of insertion of the studs 21a into the associated holes 30a of the membrane 30 ensures reliable and easy centring of the membrane, avoiding any possibility of accidental extraction of the membrane itself from the brush body.

Although described with regard to a brush with handle it is entirely obvious that the characteristic features of the present invention may also be applied to brushes without a handle and the like.

Claims

1. Brush for hair and the like, comprising a body consisting of a shell (10) supporting a resilient membrane (30) provided with teeth (31) and a fixing shell (20) for retaining said membrane (30), characterized in that said support shell (10) has a narrow raised edge (11) projecting towards the fixing shell (20) and in that said fixing shell (20) has an annular shoulder (21) which projects towards the support shell (10) and from which studs (21a) extend, said studs being designed to engage with the membrane (30) so as to hold it in position.
2. Brush according to Claim 1, characterized in that said membrane (30) has holes (30a) designed to engage with said studs (21a) of the fixing shell (20).
3. Brush according to Claim 1, characterized in that said annular shoulder (21) is continuous.
4. Brush according to Claim 1, characterized in that said annular shoulder (21) is discontinuous.
5. Brush according to Claim 1, characterized in that said narrow edge (11) of the support shell (10) surrounds the edge of the membrane (30).
6. Brush according to Claim 1, characterized in that said narrow edge (11) of the support shell (10) has at least one interruption (11a) along its length.
7. Brush according to Claim 1, characterized in that the fixing surface of said narrow edge (11) of the support shell (10) is in contact with a corresponding internal surface portion of the fixing shell (20).
8. Brush according to Claim 1, characterized in that said support shell (10) and said fixing shell (20) are joined together by means of welding.
9. Brush according to Claims 1 and 8, characterized in that said weld is performed between the fixing surface of the narrow edge (11) of the support shell (10) and the corresponding contact surface of the fixing shell (20).
10. Brush according to Claim 8, characterized in that said weld is an ultrasound weld.

Fig. 1

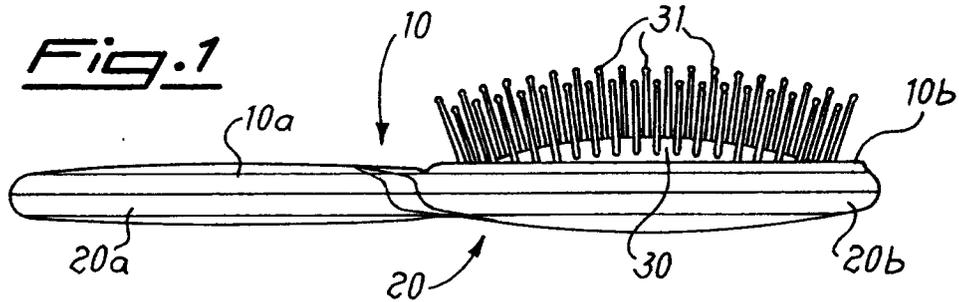


Fig. 2

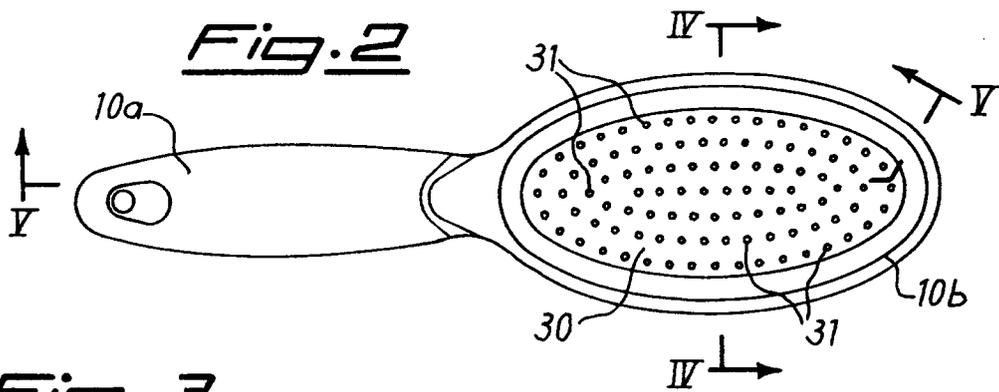


Fig. 3

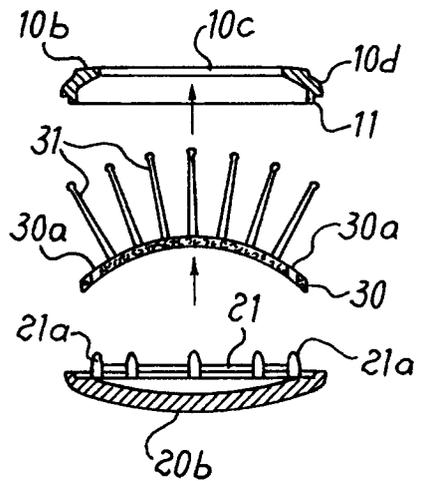


Fig. 4

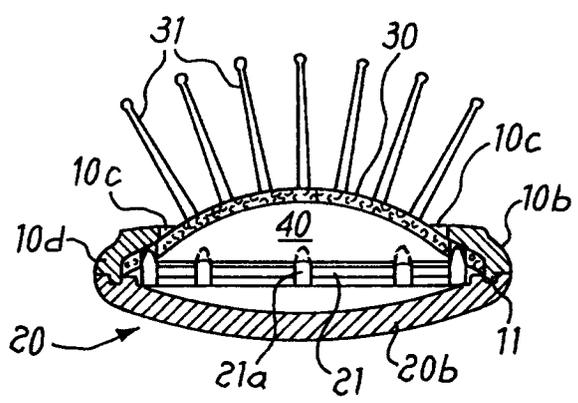


Fig. 5

