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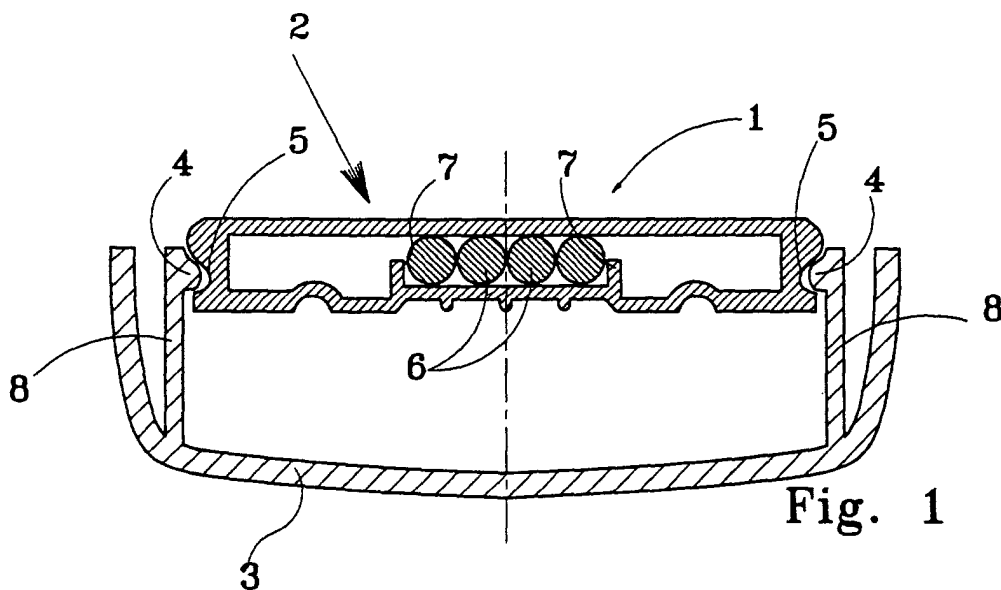
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(54) **Hair-straightening apparatus, with a heating plate equipped with rapid attachment means**

(57) Hair-straightening apparatus of the type comprising a pincer support upon which at least one heating

plate (2) is applied, wherein said hair-straightening apparatus foresees rapid attachment means (4,5) for the fitting of said plate on said support.



Description

[0001] The present invention proposes a heating plate for hair-straightening apparatuses, characterised by the presence of rapid attachment means, consisting of suitable tabs which allow the rapid attachment of the heating plate, as well as of its electrical resistance heating means to the support which holds it.

[0002] The solution according to the invention allows some drawbacks which have been encountered in the prior art relating to systems for the positioning of the resistances inside the plates and to their attachment to the respective supports to be avoided, proposing a new assembly system which allows the use of screws or similar to be avoided, instead using flexible elements which make the fitting and the removal of the different parts simpler and easier.

[0003] As is known, in the field of professional equipment for hair-dressers, different types of plate for straightening or styling hair are known, which comprise a pincer support to which a pair of heating plates are applied, generally made up of a plate or a metallic profile behind which there are electrical resistances suitable for producing the necessary heat.

[0004] These pieces of equipment usually are made out of plastic materials which are sometimes reinforced with fibreglass to withstand hot temperatures, and generally use wire resistances and control apparatuses such as thermostats for precisely controlling the temperature, safety thermostats, etc., which guarantee a safety and quality according to the standards required for these apparatuses.

[0005] Each of the two arms of the pincer has a configuration adapted for receiving the heating elements, which can consist of a flat or possibly undulated plate, and are associated with one or more electrical resistances, fixed behind the plate.

[0006] The main drawback encountered with the use of known heating plates is given by the fact that the heating elements are attached to the support or profile through the use of screws or other similar locking systems, which require the use of tools for the assembly and disassembly, making the assembly and also the maintenance of the apparatus difficult.

[0007] Moreover, even the plates themselves are assembled onto the arms of the pincer by means of screws or like.

[0008] The purpose of the invention is that of eliminating the aforementioned drawbacks and, to this end, proposes a new system for holding and locking the heating part onto the respective support, capable of easing the assembly and disassembly operations of the plate itself.

[0009] This result is obtained through the use of releasable attachment means, which do not require the use of tools, so as to simplify and to speed up the assembly and disassembly steps of the heating parts, with all of the practical advantages which derive from this.

[0010] In accordance with the invention, the purposes

and the advantages indicated above are all achieved by a heating plate for hair-straightening apparatuses which is shaped so as to realise a rapid system for the fitting of the resistances, and in which, in correspondence with at least one edge of the support shell of the heating plate, a wall made of deformable elastic material is formed equipped with one or more tabs and/or teeth made of elastic material suitable for engaging onto respective seats formed in the heating plate itself, to allow the attachment thereof with respect to the supports which hold it.

[0011] Further characteristics and details of the invention can be better understood from the following description, given as a non-limiting example, referring to the attached drawings wherein:

- figure 1 represents a schematic section view of the containment shell with which the heating plate is associated through the use of elastic holding means;
- figure 2 is the schematic front view of the containment shell wherein the heating plate is inserted and attached.

[0012] With reference to the attached figures, with 1 is indicated the whole consisting of the heating plate and of the respective support made up of one of the two ends of the apparatus for straightening or styling hair according to the invention.

[0013] It concerns an apparatus of the type with pincers, which has two supports hinged together in the central part, forming two grips and two functional ends each of which comprises a heating plate 2 and the relative support or shell 3, intended to contain and lock the heating plate itself.

[0014] The shell or support 3 of the heating plate has a substantially concave form, and close to one or more edges a wall 8 made of deformable elastic material is present, equipped with at least one ridge or tooth 4.

[0015] In the case illustrated, the walls 8 are foreseen near to the two opposing edges of the shell 3.

[0016] In turn, the heating plate 2 is of a size such as to fit at least in part into the shape of the shell, and has shaped edges 5 so as to couple with the teeth 4 of the flexible walls 8 of the shell 3.

[0017] Inside the heating plate 2 a seat is formed in which the electrical resistance 6 is housed, which, once connected to an electrical energy source, causes the heating of the plate itself.

[0018] The electrical resistance remains contained inside two walls or raised edges indicated with 7, which hold the resistance without locking it in, creating a suitable space for the optimal diffusion of the heat on all of the plate.

[0019] The heating plate can thus be inserted into its housing consisting of the support shell and locked in place through simple pressure until the shaped sockets 5 are inserted and engage in the teeth 4 of the support.

[0020] To remove the heating plate it is sufficient to

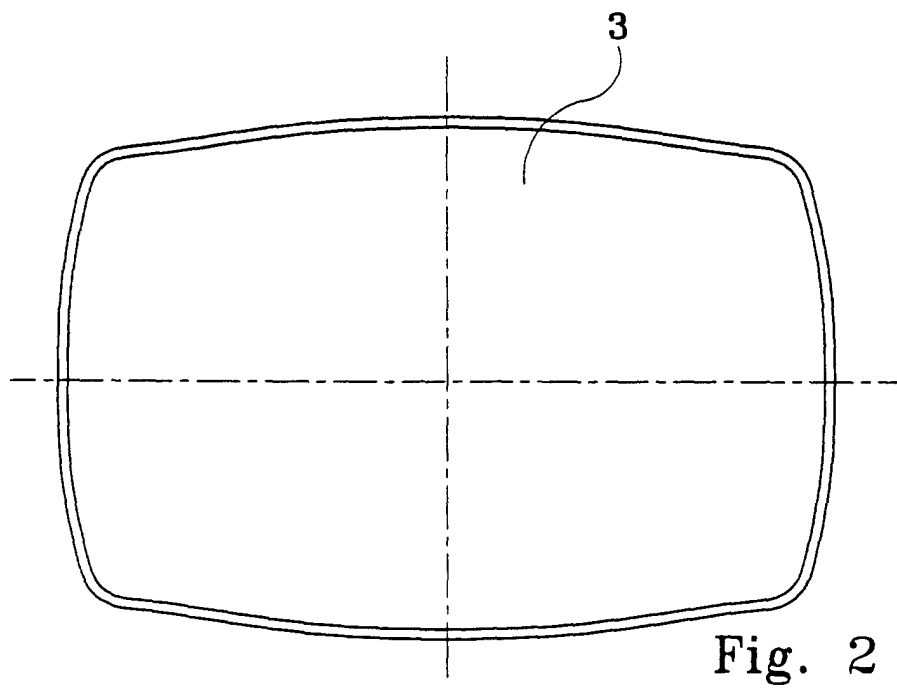
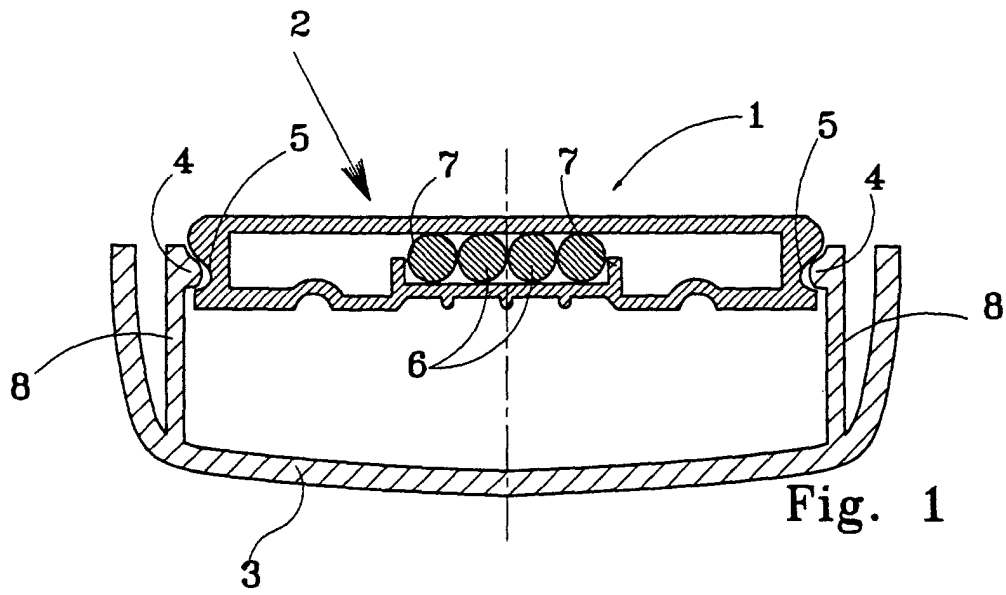
slightly open the walls 8 with a finger or with a pointed object, so as to disengage the sockets 5 from the teeth 4, allowing the disattachment of the two parts for example in the case of cleaning or maintenance.

[0021] As can be seen, the heating plate can be inserted and removed with the maximum simplicity from the support which holds it, without the need for the use of tools, so as to simplify and to speed up the assembly and disassembly steps of the heating parts, with all the practical advantages which derive from this.

[0022] A man skilled in the art can also foresee different embodiments of the same solution idea described as a non-limiting example, obtaining solutions which are to be deemed as being included in the scope of protection of the invention, defined by the following claims.

Claims

1. Hair-straightening apparatus of the type comprising a pincer support with at least one heating plate applied, **characterised in that** it foresees rapid attachment means for the fitting of said plate on said support.
2. Hair-straightening apparatus according to claim 1, **characterised in that** said heating plates are fitted onto a support shell in correspondence with at least one edge, one of which is a wall made of deformable elastic material equipped with raised parts suitable for engaging with respective seats formed in the heating plate itself, to hold it in position with respect to the support which contains it.
3. Hair-straightening apparatus according to the previous claim, **characterised in that** the support of the heating plate has a substantially concave form and at the perimetric zone a wall made of deformable elastic material is foreseen equipped with at least one tooth suitable for inserting into a corresponding seat formed in the edge of said heating plate.
4. Hair-straightening apparatus according to the previous claims, **characterised in that** said heating plate consists of a metallic profile suitable for inserting into the shape of the concave support, and wherein, in the edges sockets are realised suitable for coupling with the respective flexible tabs or teeth of the support.
5. Hair-straightening apparatus according to the previous claims, **characterised in that** inside the heating plate a pair of walls are foreseen which define a seat in which the electrical resistance for heating the plate itself is housed.





European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 01 20 4266

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		24 January 2002	Lehe, J
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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