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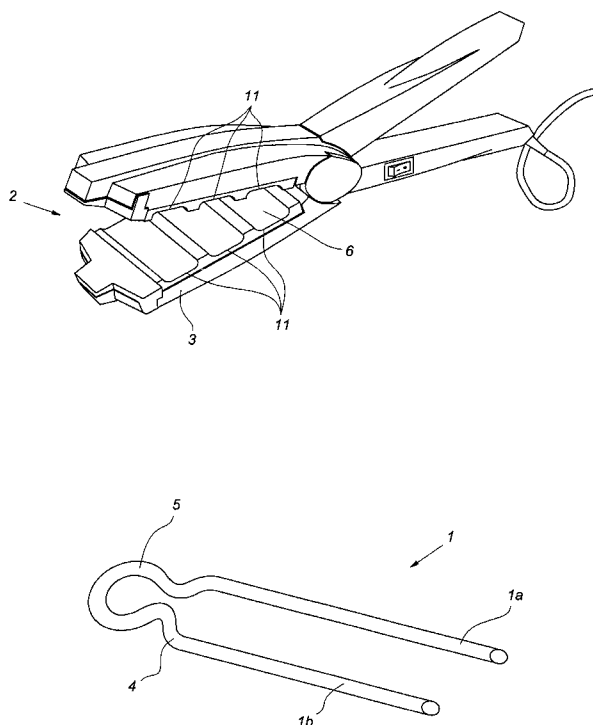
(54) **Device for the creation of two-dimensional hair curls**

(57) This innovation concerns a device for giving hair a particular type of curl through the application of a fixing product and a rapid treatment applied at high temperature.

This innovation concerns a device made up of a couple of arms, for example fork-shaped, associated

with a pair of heating plates (2) on which there is at least one groove (6) made to capture the hair (7) wrapped around the fork for the time necessary.

The lock of hair, which is passed alternately around the arms (1a) and (1b) of the fork to form a series of spirals, is then heated keeping it between the plates.



*Fig. 1*

EP 1 234 520 A1

## Description

**[0001]** This invention concerns a device for giving hair a particular type of curl through the application of a fixing product and a rapid treatment applied at high temperature.

**[0002]** This invention concerns a device made up of a couple of arms, for example fork-shaped, associated with a pair of heating plates (2) on which there is at least one groove (6) made to capture the hair (7) wrapped around the fork for the time necessary.

## STATE OF THE ART

**[0003]** According to a well-known method, in order to give natural hair a determined shape, it is subjected to high temperatures for a short time, using heating equipment.

**[0004]** This method does not change basically, if the head of hair is in its natural position, i.e. on the interested party's head, or if it makes up a wig or a toupee.

**[0005]** The typology of the devices used to implement this method depends on the shape that one desires to give to the hair.

**[0006]** In the event that one wishes to make hair straight or wavy, with various types of waves, the used device is made up of plates heated to the right temperature, being smooth or waved plates with various wave shapes. The lack of hair is placed between the plates, which is then blocked between the plates that are usually mounted onto a pincer device.

**[0007]** If one desires to obtain curly hair, the device used is a cylindrical rod, heated to a suitable temperature, around which a section of hair is wound: this lack of hair is blocked against the rod by a pincer device.

**[0008]** In both these cases described, the devices are maintained at the working temperature, which is extremely high (normally about 150 - 200°C). This is harmful for the hair if applied for more than a few seconds.

**[0009]** Therefore, owing to the long time required to treat a whole head of hair, these devices cannot be used to apply methods, which imply the hair staying in contact with the device for more than a few seconds.

**[0010]** This limitation is overcome by a method that is the subject of a separate application filed by the same applicant, and that provides for:

- combing of a lack of hair and applying a fixing product;
- twisting the lack of hair around itself and wrapping it onto a special tool to give the section of hair the desired shape;
- heating the lack of hair wrapped onto the tool for some seconds at high temperature (normally 150-200°C) and applying pressure for the entire duration of the heating process.

**[0011]** The subject of this invention is a device con-

ceived to be used with the described method in order to obtain two-dimensional hair curls according to a type of wave lying on a flat surface.

**[0012]** The invention requires the section of hair to be treated with a fixing product, twisted around itself, then wrapped onto a shaped tube in a series of tight spirals, blocked into position and then heated using a shaped plate.

**[0013]** Below, the device that is the subject of this invention will be described in detail and the advantages compared to the already known technique will be pointed out, making reference to the attached figures that show the elements which make up the device.

## DESCRIPTION OF THE INVENTION

**[0014]** The invention can be understood better by reading the following detailed description, supplied as a non-limiting example, with reference to the attached drawings, in which:

- Figure 1 shows the device which is the subject of this invention;
- Figure 2 shows a particular moment during the creation of the curls.

**[0015]** The device that is subject of this invention is shown in figure 1 and is basically made up of a support (1) with two fork-shaped parallel rods associated with a pair of heating plates (2), which are mounted onto a pincer device (3).

**[0016]** The support or fork (1) can be of differing sizes, according to the size of the curl one wishes to obtain. It has bounce, since it can be deformed in the sense that the two arms can be pushed against each other by applying a moderate pressure.

**[0017]** The support (1) is made up of a pair of rods or similar, which are basically parallel or slightly divergent, mounted on a base acting as a handle, so as to obtain a sort of fork.

**[0018]** In the example shown in the picture, the support (1) is made up of a circular rod (4) that is bent to obtain a fork-shaped element, which is made up of two parallel rods and a handle (5). It is understood that the same support may be made in another way, for example by applying two circular rods to a plastic support or similar, in order to obtain a fork-shaped element.

**[0019]** This invention requires that on each of the two heated plates (2) there are one or more grooves (6), whose size depends on the size of the curl one wishes to obtain. When completely pressed against each other, the two plates form a cavity made to capture and contain the lack of hair wrapped around the support (1) by applying a slight pressure on it.

**[0020]** These grooves (6) can be of the same length as the size of the plate on which they are made, to obtain looped grooves where the wrapped hair can lie, or these grooves (6) can provide blind grooves.

[0021] The solution with looped grooves allows one to treat hair that, once twisted and then wrapped around the fork (1), it makes a roll (7) that is longer than the size of the plate, therefore allowing you to treat the roll (7) at a later stage.

[0022] The grooves (6) will be shaped according to the shape of the roll (7), as better described below.

[0023] The lack of hair is wrapped around the support (1) as illustrated in the diagram shown in figure 2.

[0024] The lack of hair, to be positioned alternately around the arms (1 a) and (1 b) of the fork, will form a series of spirals, whose projection on a flat surface (8), perpendicular to the axis (9) of the fork (1), will be shaped as indicated by (10) and have the line (12) as envelope.

[0025] By pushing the plates against each other, the pairs of opposite grooves will become grooves where the hair wrapped around the arms (1) can lie.

[0026] While performing the operation of wrapping the rope of hair, a slight pressure should be applied on the arms (1 a) and (1 b) of the fork (1) to push them against each other. Once released, they will stretch the hair elastically. Once the wrapping operation has been completed, the lack of hair will be slightly compressed as indicated by the arrows (14) in order to form a solid roll that will be bound in a thin sheet of aluminum.

[0027] Once the described wrapping and binding operations have been completed, the roll will be positioned in one of the grooves (6) of the heated plates (2) for some seconds, to fix it.

[0028] In this way, the plates will delicately clamp the section of hair, thanks to the elastic return of the two arms stretching the spirals and making them adhere to the plates, thus allowing a good compaction of the section of hair and a quick heating process.

[0029] These grooves can be either of differing cross sizes, to create rolls of various diameters, or they can all be of the same cross size.

[0030] The advantages provided by the device that is the subject of this invention basically, compared to the already known technique, lie in the fact that the device allows one to carry out the operation of wrapping the lack of hair on a cold fork, with considerable advantages for the operator and for the hair's healthiness.

[0031] After wrapping and binding the hair on the fork (1) heat is applied via the heated plates (2).

[0032] The result obtained by using the device that is the subject of this invention consists of a curl distinguished by a particular wave shape.

sociated with a pair of heating plates (2) on which there is at least one groove (6) made to capture the hair (7) wrapped around the fork for the time necessary.

2. Device according to the previous claim, **characterized by** the fact that the described support (1) consists of a fork.

3. Device according to the previous claim, **characterized by** the fact that:

- The support or fork (1) consists of two arms (1 a) and (1 b);
- On each of the two heated plates (2) there are one or more grooves (6) that define a groove whose shape basically corresponds to the shape of the section of hair wrapped onto this support (1).

4. Device according to the previous claim, **characterized by** the fact that the fork (1) has a moderate bounce, in the sense that the two arms (1a) and (1b) of the fork can be pushed against each other by applying a slight pressure with one's fingers, so that once these arms (1a) and (1b) are released, they will slightly pull the section of hair wrapped onto the arms (1a) and (1b) of this fork (1).

5. Device according to the claim 3 or 4, **characterized by** the fact that the arms are slightly divergent, so that when they are pushed against each other until they are parallel, they perform an elastic action keeping the section of hair wrapped.

6. Device according to the claim (2), **characterized by** the fact that these grooves (6) are of the same length as the size of the plate on which they are made.

7. Device according to the claim (2), **characterized by** the fact that these grooves (6) are shorter than the size of the plate on which they are made and provide blind grooves.

## Claims

1. Device for creating hair curls and/or waves, in either their natural position or as part of a wig, a toupee or similar, **characterized by** the fact of including a support (1) made up of a pair of separated rods on which a hair rope is wrapped, this support being as-

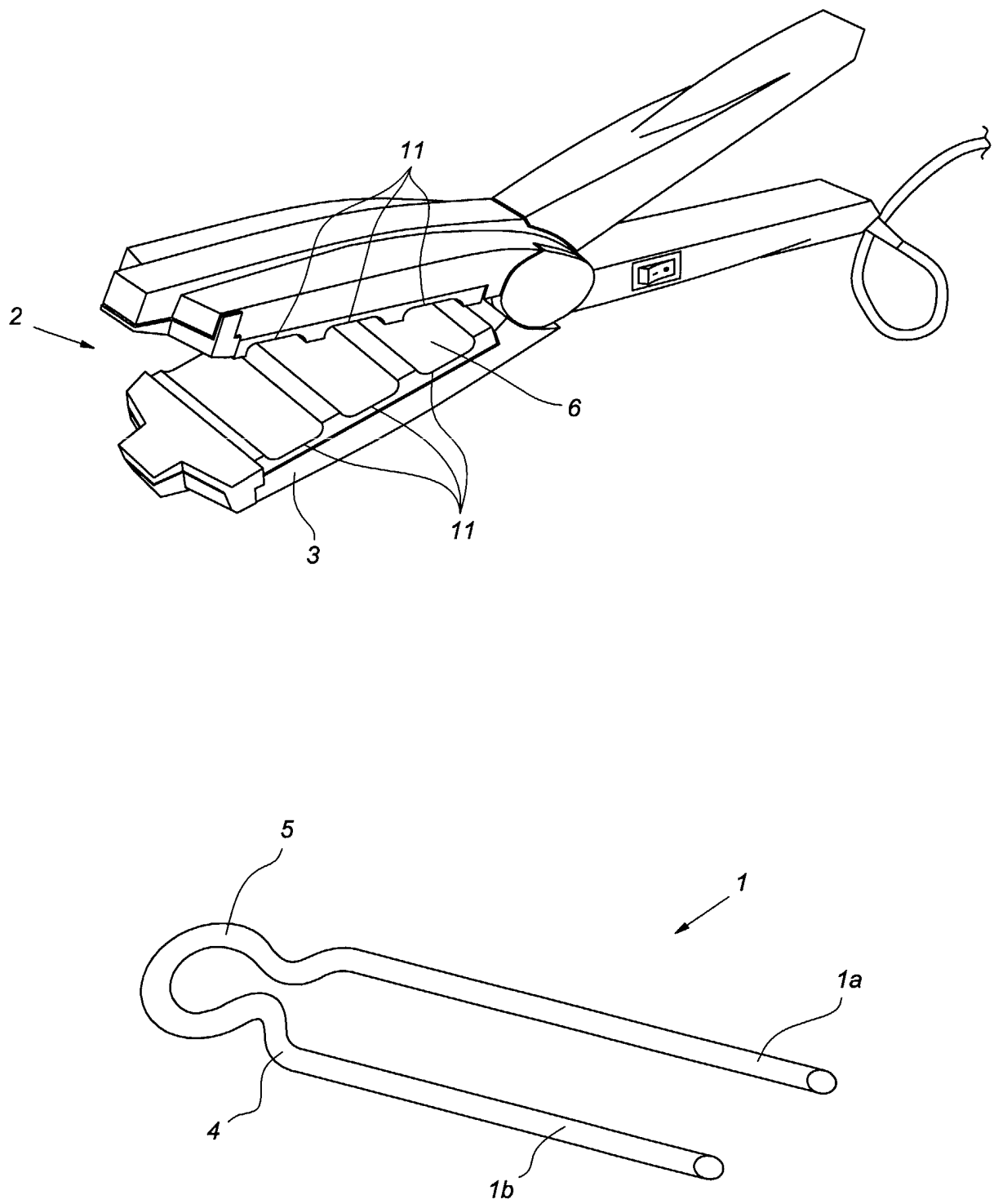


Fig. 1

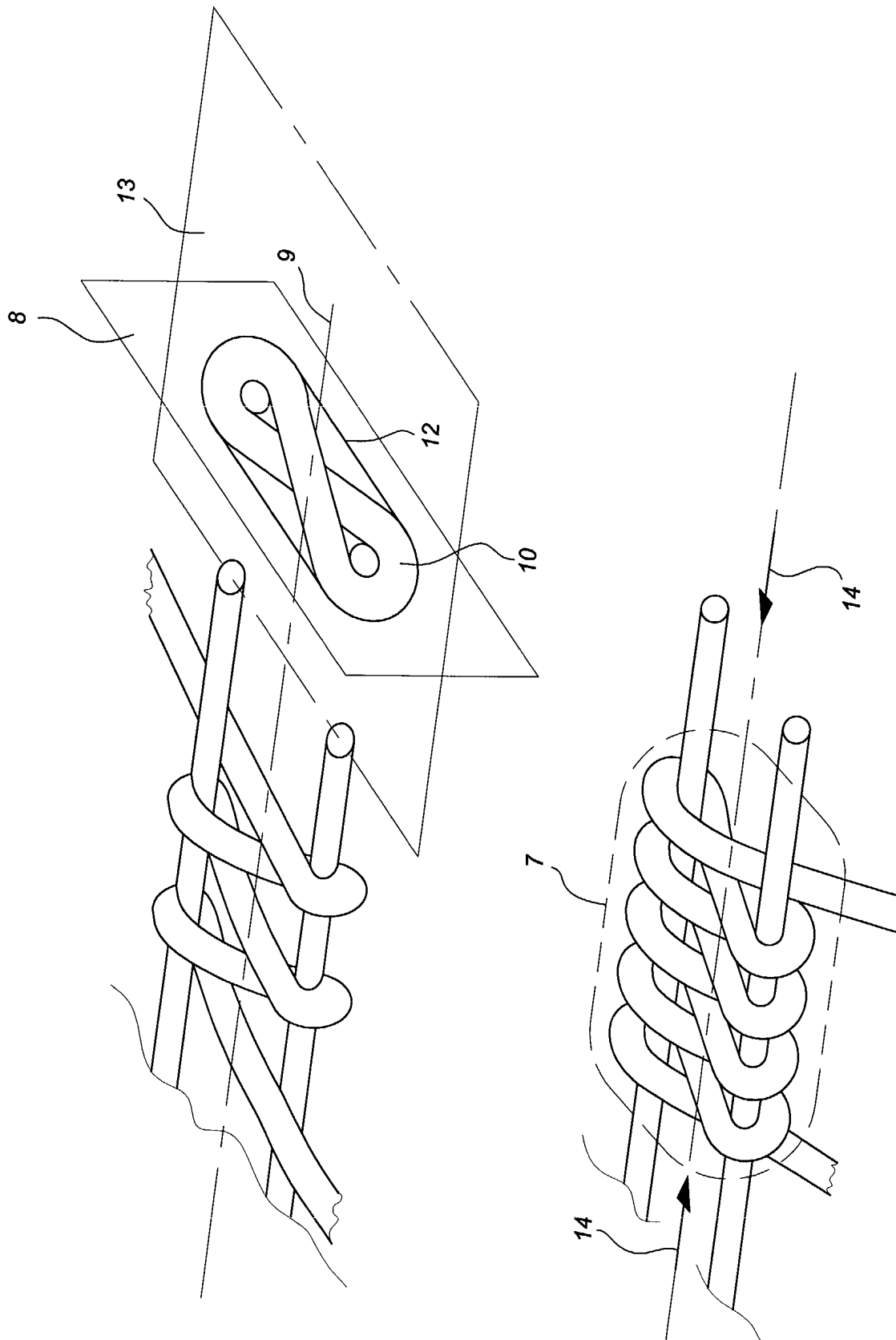


Fig. 2



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# EUROPEAN SEARCH REPORT

Application Number  
EP 02 00 3647

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 448 778 A (MQ N1 DI QUARTA COSIMO) 2 October 1991 (1991-10-02) * column 1, line 50 - column 2, line 51; figures 1,5 *	1-3	A45D2/36 A45D2/00
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A	US 1 352 978 A (FRANK LANTIERI ET AL) 14 September 1920 (1920-09-14) * page 2, line 114 - line 124 *		
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A45D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 13 May 2002	Examiner Lehe, J
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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 &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03 92 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 02 00 3647

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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13-05-2002

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