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(54) **HAIR ROLLER**

(57) The invention is a hair roller (1) for styling a generic lock of hair (H), comprising a sleeve (2) with an open end (21) for the insertion of said lock of hair (H) and two thin cords (3) suited to cause said sleeve (2) to curl, and wherein said sleeve (2) is suited to be deformed so

that it passes from a generically straight configuration (A), in which said hair (H) contained therein is not deformed, to a completely curled (B) or partially curled (C) configuration, in which said hair (H) is correspondingly deformed.

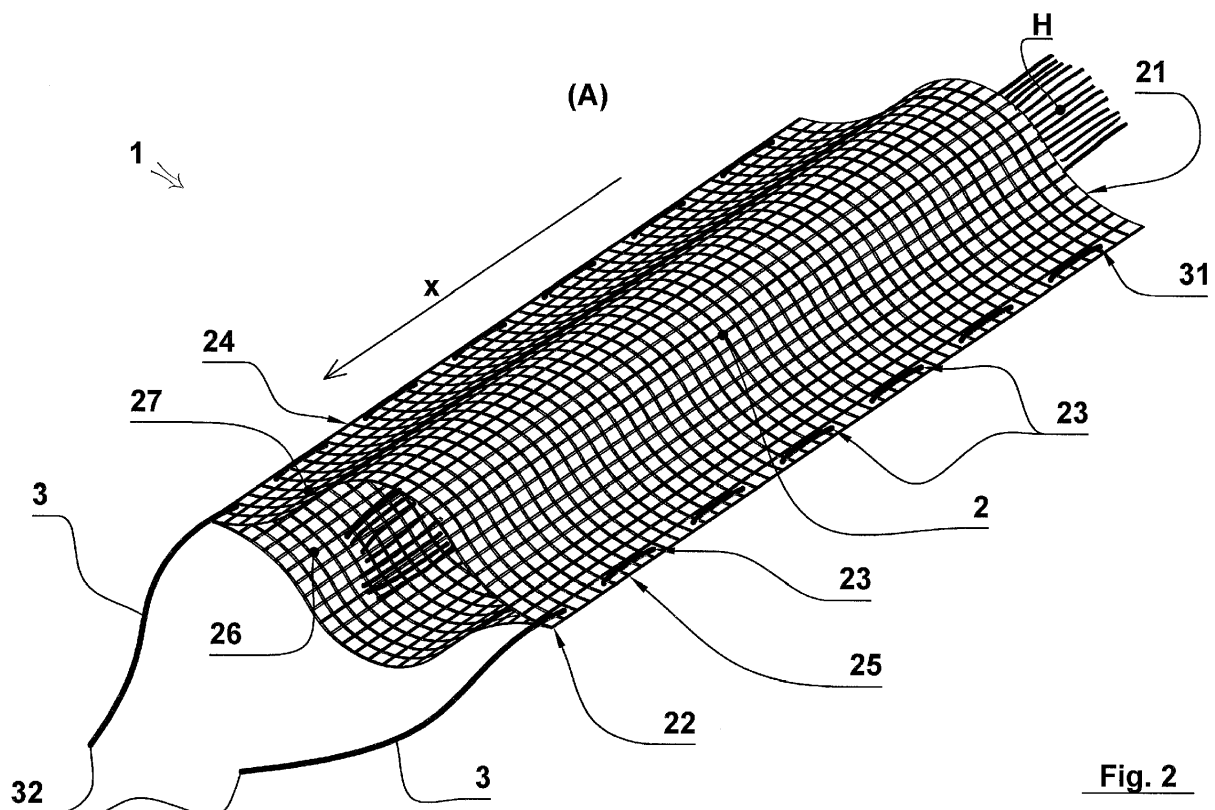


Fig. 2

Description

[0001] The present invention concerns accessories for hairdressers, and in particular it concerns a new improved hair roller.

[0002] The accessories commonly used by hairdressers include hair rollers, objects in a substantially cylindrical shape around which a lock of hair is wound several times in order to modify its shape.

[0003] For example, rollers for hairdos are known, which are constituted by a hollow cylinder open at its ends in order to allow the passage of air and humidity. This type of hair rollers is used to wind a lock of hair several times on the outside of said cylinder, the hair being generally wet or humid, applying heat to said lock of hair in such a way that, once the hair roller has been removed after a given time interval, said lock of hair assumes the desired shape, style or waved form. In order to allow the uniform passage of hair and humidity, said cylinder is generally made of a rigid but breathing material, for example a plastic or metallic rigid net. In order to guarantee the stable winding of the lock of hair, said hair rollers are provided with elements or thin cords projecting from their external surface or with means for fixing the hair to the rollers themselves. Perm rollers are also known, constituted by a solid cylinder or in any case a cylinder closed at its ends, around which the lock of hair is wound several times after being treated with special perming substances intended to modify the shape, style or waved form of the lock of hair itself.

[0004] The result obtained through the application of said type of hair rollers consists in locks of hair that are substantially shaped as a corkscrew.

[0005] The size of the selected hair rollers, meaning their diameter, is determined by the length of the hair, but also by the curvature radius of the wave to be obtained.

[0006] Therefore, the hairdresser must have several types of hair rollers at his/her disposal, in various sizes and in a number sufficient for more than one customer. Other types of accessories used for hairstyling are also known, such as, for example, hair rollers in the shape of elongated and deformable elements which, when wound or arranged in various manners together with a lock of hair, curl the lock of hair according to the desired style.

[0007] Accessories are also known which are constituted by a sort of cup, that is, a cylindrical body closed at one end, while the opposite open end is constrained to an annular element by means of an extensible elastic membrane.

[0008] When a lock of hair is introduced into said annular element and said elastic membrane in an elongated configuration, and then the elastic membrane is allowed to shrink, the lock of hair inside it is rolled up in a disorderly manner, adhering to the membrane itself, and it is not possible to intervene in order to modify the shape of the resulting curl.

[0009] The result that will be obtained by applying that

type of accessory is therefore difficult to foresee and often it may not satisfy the tastes and needs of the customer.

[0010] In addition to the above, the body of the cup is rigid and can be extremely uncomfortable to handle for the user. Furthermore, since the cup and the membrane are made of a non-breathing material, the lock of hair cannot be dried, which limits the possible applications of this type of accessory. Document JP2007075231A concerns a device for modelling a lock of hair, comprising a flat tubular element open at its ends, wherein a thin cord is inserted through the tubular element and arranged in a zigzag pattern. To use the device, it is necessary to introduce a lock of hair in the tubular element and pull it in the direction towards the hair roots, thus causing the tubular element to curl.

[0011] The zigzag configuration of the thin cord produces a screw-like curling effect, meaning that the tubular element is twisted on itself, consequently deforming the lock of hair. The result obtained once the device has been removed is a lock of hair that is deformed in a disorderly and undefined manner.

[0012] Furthermore, the tubular element is not made of a breathing material and therefore does not allow the homogeneous passage of air and humidity.

[0013] The subject of the present patent is a new type of improved hair roller.

[0014] It is the main object of the present invention to provide a hair roller that can be used in various manners depending on the result to be obtained and on the length/type of hair to be treated.

[0015] It is another object of the present invention to provide a hair roller capable of obtaining diversified results based on the needs, and of styling the hair over the entirety or part of its length.

[0016] It is another object of the present invention to provide a hair roller capable of styling the hair so that it looks natural.

[0017] It is a further object of the present invention to provide a hair roller that can be used to obtain different hair styles.

[0018] It is a further object of the present invention to provide a hair roller that is comfortable for the user, being extremely light and flexible.

[0019] It is another object of the present invention to provide a hair roller that allows the lock of hair to be dried uniformly because it is made of a breathing material. These and other direct and complementary objects are achieved by the new improved hair roller, whose main parts comprise the following:

- a tubular element or sleeve made of a flexible material, having at least one first open end for the insertion of a given quantity of hair, completely or partially contained in said sleeve;
- at least one thin cord, tape or other means suited to cause said sleeve containing the hair to curl, said at least one thin cord being constrained in proximity to or at the level of said first end of said sleeve and

thoroughly inserted in a substantially longitudinal direction in one or more holes or seats or slots made in the sleeve itself,

and wherein said sleeve containing the hair is suited to be deformed from a generically straight configuration, in which said hair is not deformed, to a completely or partially curled configuration, in which said hair is correspondingly deformed, said curled configuration being obtained by maintaining said at least one thin cord substantially stretched and moving the second end of the sleeve itself towards said first open end.

[0020] Said curled configuration, in particular, is constituted by a succession of curves with alternating opposite concave sides.

[0021] In particular, said at least one thin cord is constrained with a first end to said first end of said sleeve, while its second end is free and preferably projecting from said second end of the sleeve, in order to make it easier for the user to hold it in his/her hands.

[0022] In the preferred solution, said new hair roller comprises at least two of said thin cords or tapes positioned parallel to each other and in opposite positions with respect to a diameter of said sleeve, in such a way as to guarantee that a symmetrical curl will be obtained. Said at least two thin cords or tapes can be joined at one end so as to form a single U-shaped thin cord or they can be two distinct thin cords.

[0023] Each one of said thin cords, in particular, passes through a plurality of holes or slots or seats substantially aligned on said sleeve according to a longitudinal direction, at regular or irregular intervals.

[0024] According to the invention, said holes can be made in said flattened sleeve in proximity to the lateral edges of the same, thus being distributed on both halves, the upper half and the lower half, of the sleeve itself.

[0025] According to the invention, the arrangement of said thin cords can also be selected by the user, who can introduce them in all of said holes or just in part of the same, in such a way as to selectively vary the degree of curling of the sleeve. According to the invention, said sleeve may comprise, instead of said holes or slots or seats, a single longitudinal elongated slot for each one of said thin cords, for example positioned outside or inside the sleeve itself.

[0026] The new hair roller preferably comprises also stop means suited to prevent said sleeve from sliding with respect to said thin cord, which therefore lock said sleeve in said completely or partially curled configuration.

[0027] Said stop means are, for example, common spring cord locks preferably mounted on the side of the second end of said thin cords, but the use of any other device useful for the same purpose cannot be excluded.

[0028] In the preferred embodiment, said sleeve is made of a breathing material.

[0029] In the simplest and preferred embodiment, said sleeve is made of a breathing or mesh material.

[0030] The new improved hair roller is thus extremely

light, has no rigid parts that may be uncomfortable to handle and is flexible, in fact all of its parts can adapt to the head of the user.

[0031] Said second end of the sleeve is preferably open, too, in order to allow the ends of the hair that do not need to be curled or styled in any way to exit from said second end.

[0032] The length of said sleeve is preferably sufficient to completely contain medium-long hair in the straight configuration, meaning from the root to the end.

[0033] For example, the length of said sleeve can be approximately 30 cm, but any length is possible.

[0034] The new hair roller can thus be used to style the hair over its entire length or over one part of its length only.

[0035] For example, in order to model only a portion of the hair included between an intermediate point and the ends, leaving the portion near the roots unaltered, it is sufficient to curl only a part of said sleeve, and in particular the part containing the portion of hair to be modelled.

[0036] This is possible thanks to the fact that the sleeve slides with a certain degree of friction with respect to the thin cord.

[0037] According to another example of use, to model only an intermediate portion of the hair or the portion near the hair roots, it is sufficient to make the ends exit from said second end and to curl said sleeve, thus correspondingly deforming the hair contained therein.

[0038] Once said sleeve has been curled, it must be maintained in said curled configuration through said stop means and fixed through one or more fixing means, for example at the level of the hair roots. Said fixing means can be common beak clips, hair clips or hairpins.

[0039] At this point, after a given time interval, depending on the type of treatment to which the hair is subjected, with perming agents and/or with water only, and after the successive drying step, it is possible to remove the fixing means, said stop means and thus straighten said sleeve, withdrawing the hair from the inside of the latter.

[0040] Thanks to this process it is possible to obtain a natural hairstyle and the hair will not assume a disorderly or unexpected style, but will be naturally wavy, the waves being larger or smaller depending on the curling action exerted on said sleeve.

[0041] The new hair roller can also be modelled in any way, curling it or not, in order to consequently model the lock of hair in a corresponding manner. For example, the new hair roller can be modelled by twisting it so that it assumes the shape of a corkscrew, in order to obtain a lock of hair in the shape of a "ringlet".

[0042] The new improved hair roller can be conveniently used both for perms and for hairdos, as it is made of a breathing material and thus allows air and humidity to flow through the sleeve.

[0043] The characteristics of the new hair roller are illustrated in greater detail here below through the following description, with reference to the attached drawings

which are attached hereto by way of non-limiting example.

Figure 1 shows a schematic three-dimensional view of the new hair roller (1) in the straight configuration (A).

Figure 2 shows a schematic three-dimensional view of the new hair roller (1) in the straight configuration (A) with a lock of hair (H) inserted in a sleeve (2).

Figure 3 shows a schematic side view of the new hair roller (1) in a partially curled configuration (B).

Figure 4 shows a schematic side view of the new hair roller (1) in the completely curled configuration (C).

[0044] The invention is a new hair roller (1) for modeling a generic lock of hair (H), comprising a tubular element or sleeve (2) made of a flexible material, with at least one first open end (21) for the insertion of said lock of hair (H) which is contained in said sleeve (2) for the entirety or part of its length.

[0045] Said first end (21) is suited to be constrained to the hair by means of a common beak clip or another fixing means, for example at the hair roots.

[0046] In the preferred solution, also the opposite end (22) of said sleeve (2) is open.

[0047] The new hair roller (1) also comprises at least one but preferably at least one pair of thin cords (3) substantially parallel to each other and in opposite positions with respect to a diameter of said sleeve (2), wherein each one of said thin cords (3) is constrained with one end (31) in proximity to or at the level of said first end (21) of said sleeve (2) and thoroughly inserted in a substantially longitudinal direction (X) through one or more holes or seats or slots (23) made in the sleeve (2) itself.

[0048] The second end (32) of each one of said thin cords (3), instead, projects from the second end (22) of said sleeve (2) so that it can be held by the user.

[0049] Said sleeve (2) is suited to be deformed and to pass from a generically straight configuration (A), in which said hair (H) contained in it is not deformed (Figure 2), to a completely curled (C) or a partially curled configuration (B) (Figures 3, 4) in which said hair (H) is correspondingly deformed, said curled configuration (B, C) being obtained by maintaining said at least one thin cord (3) substantially stretched and moving said second end (22) of the sleeve (2) itself near said first open end (21).

[0050] In the preferred solution, each one of said thin cords (3) passes through a plurality of holes or slots or seat (23) substantially aligned in the longitudinal direction (X) on said sleeve (2), at regular or irregular intervals.

[0051] For example, said holes (23) are made in said flattened sleeve (2) in proximity to its lateral edges (24, 25), being distributed on both the upper half and the lower half (26, 27) of the sleeve (2) itself.

[0052] For example, said holes (23) are constituted by the meshes of the net of which said sleeve (2) is made.

[0053] The new hair roller (1) also comprises one or

more stop means (4), for example common cord locks, mounted on the side corresponding to the second end (32) of said thin cords (3) and suited to prevent said sleeve (2) from sliding with respect to said thin cords (3), thus locking said sleeve in said curled configuration (B, C).

[0054] Therefore, with reference to the above description and the attached drawings, the following claims are expressed.

Claims

1. Hair roller (1) for styling a lock of hair (H), comprising at least one tubular element or sleeve (2) made of a flexible material, having at least one first open end (21) for the insertion of said lock of hair (H) that will be contained in said sleeve (2) for the entirety or part of its length, **characterized in that** it comprises two or more thin cords (3) or tapes substantially parallel to one another and in opposite positions with respect to a diameter of said sleeve (2), and suited to cause said sleeve (2) to curl, each one of said thin cords (3) being constrained in proximity to or at the level of said first end (21) of said sleeve (2) and inserted in one or more holes or seats or slots (23) so that it passes through them in a substantially longitudinal direction (X), said holes or seats or slots (23) being made in the sleeve (2) itself, and wherein said sleeve (2) is suited to be deformed so that it passes from a generically straight configuration (A), in which said hair (H) contained therein is not deformed, to a completely curled (B) or partially curled (C) configuration, in which said hair (H) is correspondingly deformed, said curled configuration (B, C) being obtained by maintaining said thin cords (3) substantially stretched and pushing the second end (22) of the sleeve (2) towards said first open end (21) of the sleeve (2) itself.
2. Hair roller (1) according to claim 1, **characterized in that** each one of said thin cords (3) is constrained with a first end (31) in proximity to said first end (21) of said sleeve (2), while the second end (32) protrudes from said second end (22) of said sleeve (2) so that it can be held by the user.
3. Hair roller (1) according to any of the preceding claims, **characterized in that** each one of said thin cords (3) passes through a plurality of holes or slots or seats (23) that are substantially aligned in the longitudinal direction (X) on said sleeve (2), at regular or irregular intervals.
4. Hair roller (1) according to claim 3, **characterized in that** said holes (23) are made in said flattened sleeve (2) in proximity to the side edges (24, 25) of the sleeve (2) itself and are distributed on both the

upper half and the lower half (26, 27) of the sleeve (2).

5. Hair roller (1) according to any of claims 1, 2, 3, 4,
characterized in that said thin cords (3) are selec- 5
tively inserted in all of said holes (23) or only in some
of them, in such a way as to selectively vary the de-
gree of curling of said sleeve (2).
6. Hair roller (1) according to any of claims 1, 2, **char-** 10
acterized in that said sleeve (2) comprises a single
longitudinal elongated slot (3) for each one of said
thin cords (3), placed in said longitudinal direction
(X) outside or inside the sleeve (2) itself.
7. Hair roller (1) according to any of the preceding 15
claims, **characterized in that** it comprises one or
more stop means (4) suited to prevent the sliding
movement of said sleeve (2) with respect to said thin
cord (3) by locking said sleeve in said completely or
partially curled configuration (B, C). 20
8. Hair roller (1) according to any of the preceding
claims, **characterized in that** said sleeve (2) is
made of a breathing or net-like material. 25
9. Hair roller (1) according to any of the preceding
claims, **characterized in that** said second end (22)
of said sleeve (2) is open. 30

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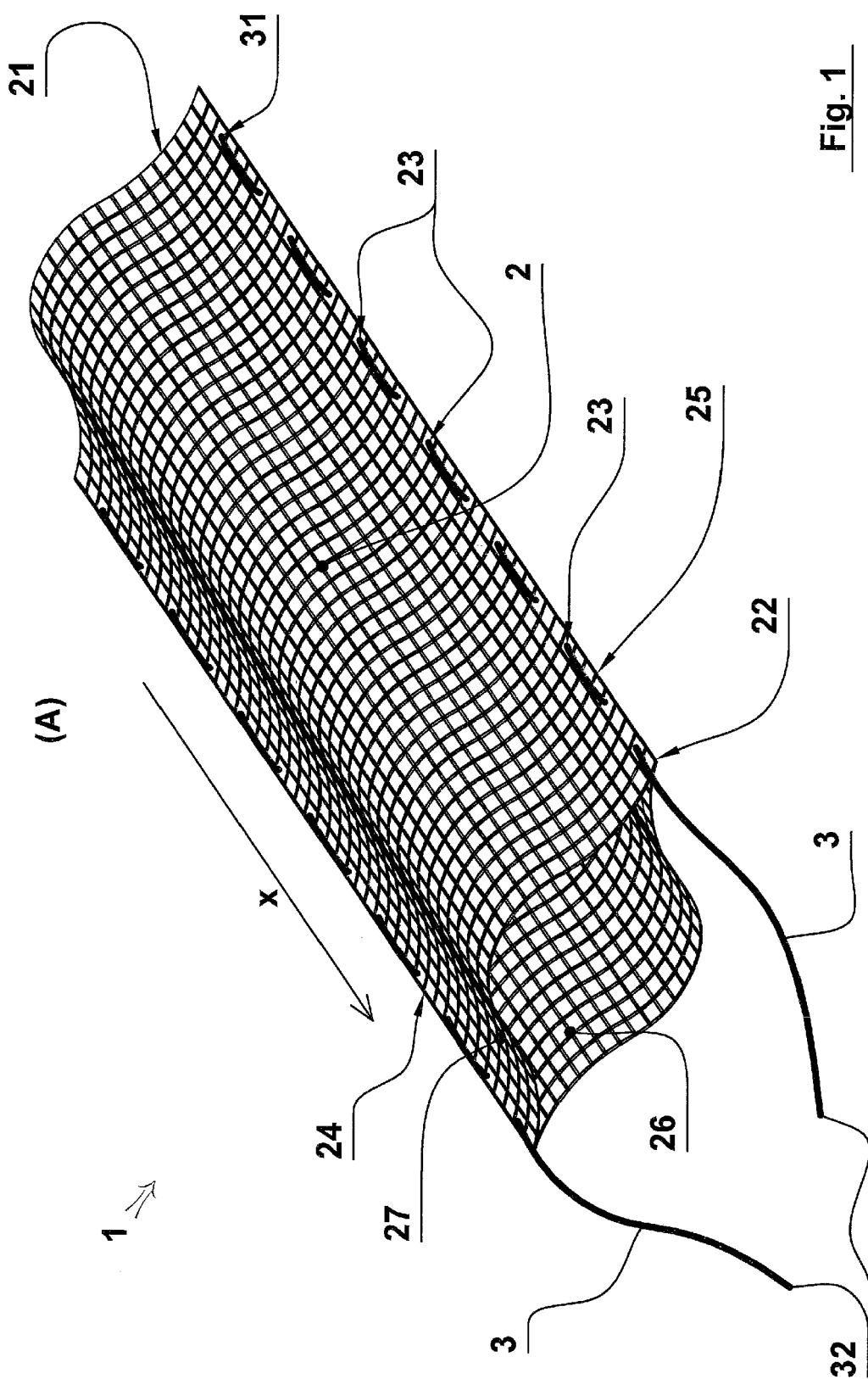
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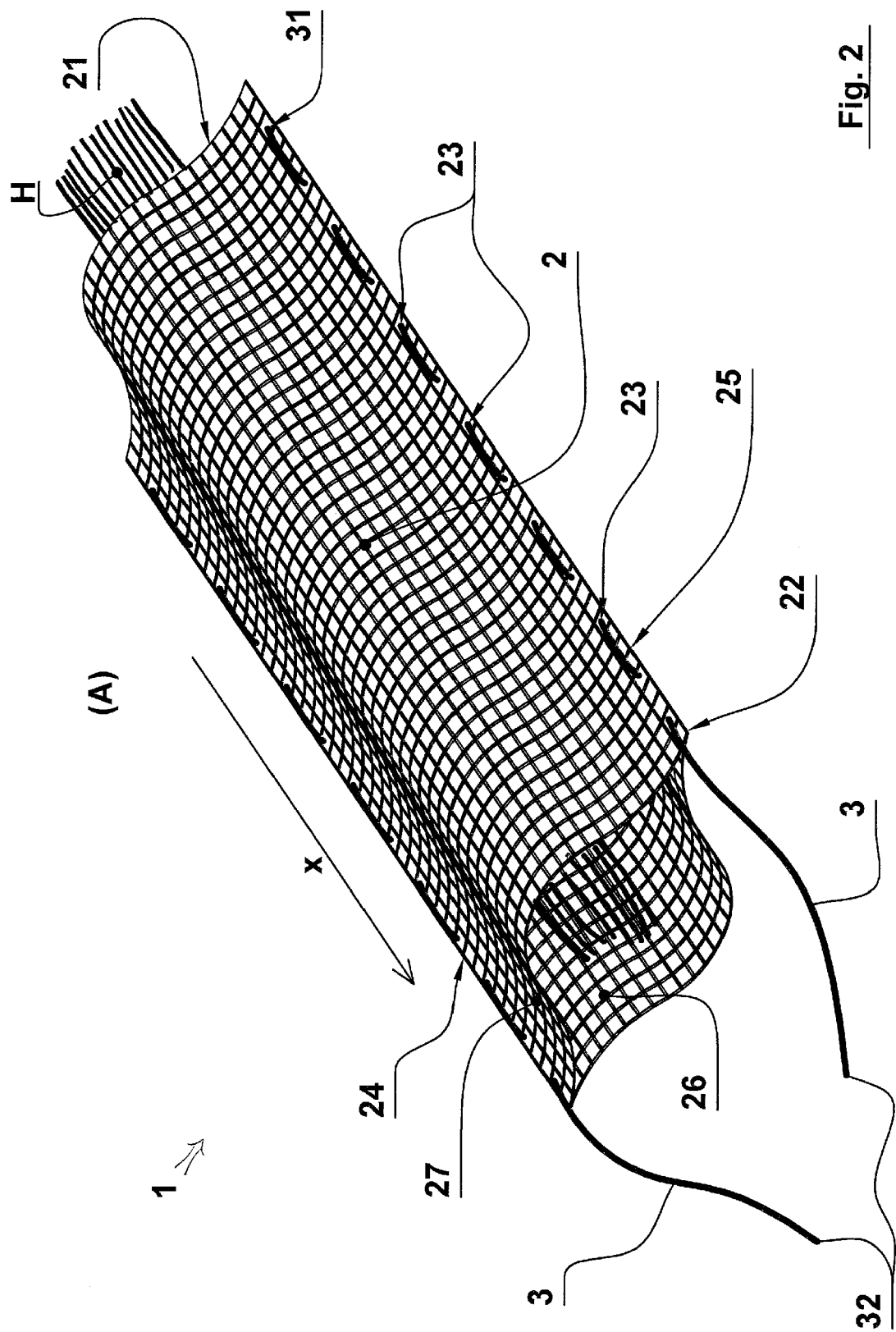


Fig. 2

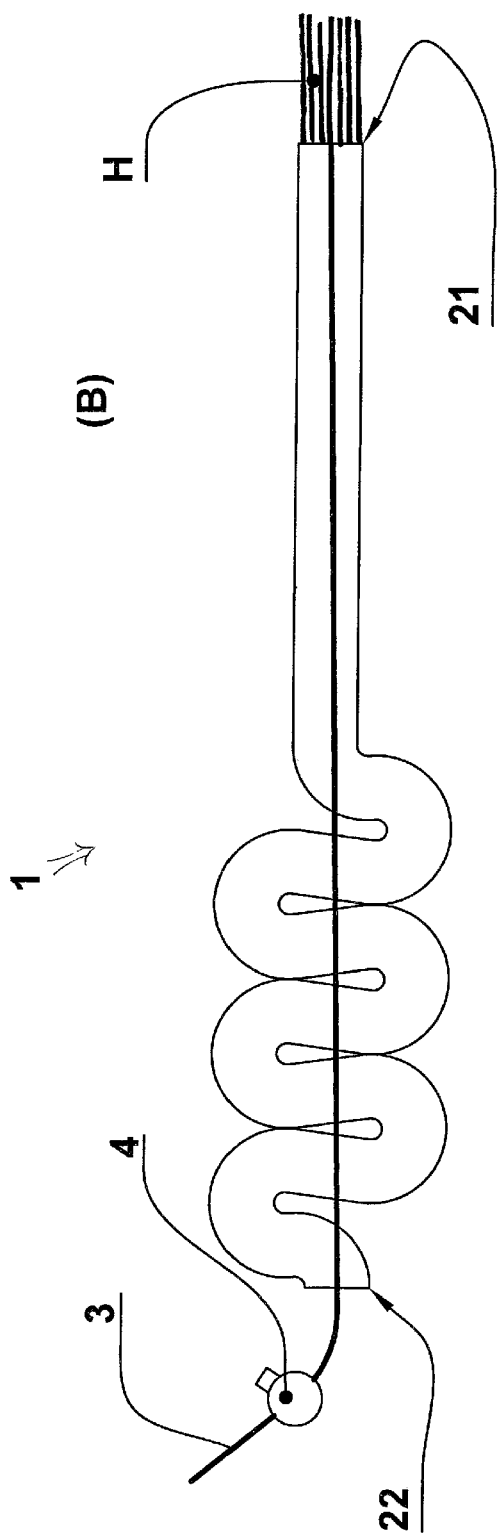


Fig. 3

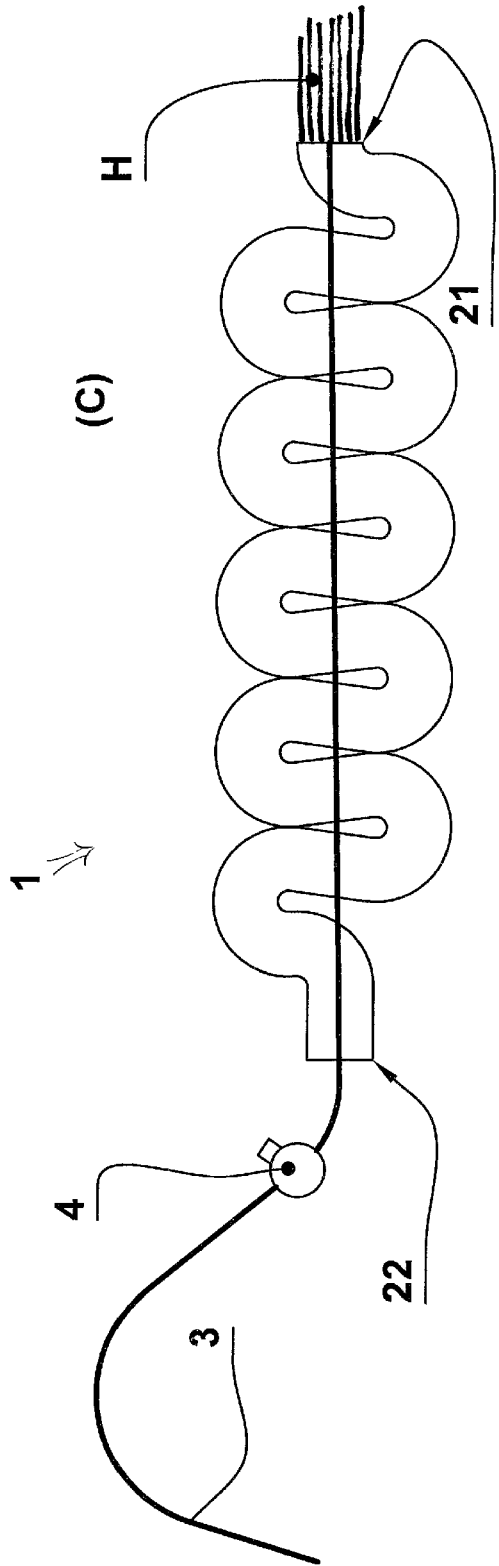


Fig. 4



EUROPEAN SEARCH REPORT

Application Number
EP 16 19 6307

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Place of search		Date of completion of the search	Examiner
The Hague		19 December 2016	Nicolás, Carlos
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			

EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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