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(54) **STRAP STRUCTURE**

(57) A strap structure includes a main body, a hooking structure and a through structure. The main body has a first end and a second end opposite to the first end. The hooking structure is located at the first end and has flexibility. The through structure is located at the second end. At least one portion of the main body is adapted to pass through the through structure and is wound into an

annulus for a hair bundle to pass therethrough. The main body between the hooking structure and the through structure is adapted to be wound around the hair bundle in a direction counter to a direction of wounding of the main body to form the annulus, and the hooking structure is adapted to be fixed on the hair bundle.

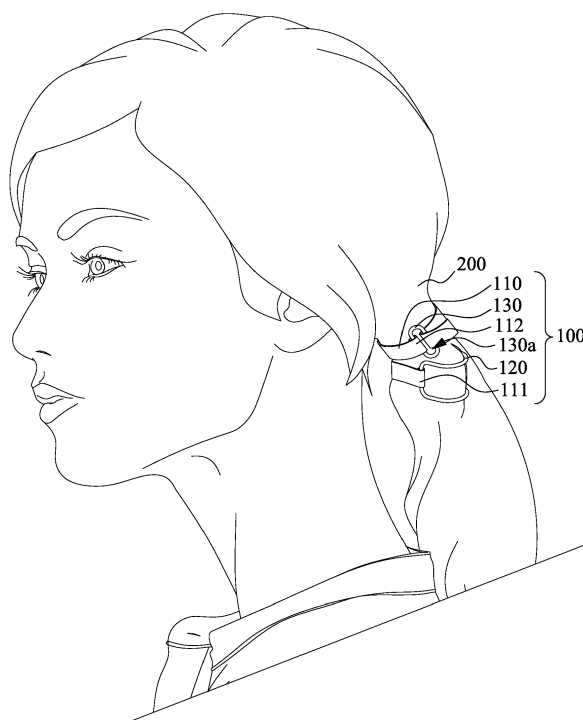


Fig. 3

## Description

### BACKGROUND

#### Technical Field

[0001] The present disclosure relates to a strap structure. More particularly, the present disclosure relates to a strap structure for fastening a hair bundle.

#### Description of Related Art

[0002] In daily lives, ladies with long hair often tie their hair to the back by a strap structure for different styles, in different occasions and under different needs.

[0003] The strap structures available on the market are often designed as a fixed ring. Thus, ladies cannot tie more hair or less hair with this fixed ring according to their preferences and their needs. When a lady uses a fixed ring to tie more hair, even if the fixed ring has certain elasticity, her hair can be easily over-tightened. In contrast, when less hair is desired to be tied, a strap structure of a fixed ring cannot tighten the hair.

[0004] Therefore, many ladies have use the strap structures of different sizes, in order to meet different needs. It implies that many ladies have to spend more money to buy more strap structures and have to arrange more room for storing the strap structures.

### SUMMARY

[0005] A technical aspect of the present disclosure is to provide a strap structure, which can tightly tie hair bundles of different sizes.

[0006] According to an embodiment of the present disclosure, a strap structure includes a main body, a hooking structure and a through structure. The main body has a first end and a second end opposite to the first end. The hooking structure is located at the first end and the hooking structure has flexibility. The through structure is located at the second end. At least one portion of the main body is adapted to pass through the through structure and is wound into an annulus for allowing a hair bundle to pass therethrough. The main body between the hooking structure and the through structure is adapted to be wound around the hair bundle in a direction counter to a direction of wounding the main body to form the annulus, and the hooking structure is adapted to be fixed on the hair bundle.

[0007] In one or more embodiments of the present disclosure, the main body is elastic.

[0008] In one or more embodiments of the present disclosure, the through structure is a ring structure, and a hollow portion of the ring structure is a through hole.

[0009] In one or more embodiments of the present disclosure, the through structure is pivotally connected with the main body.

[0010] In one or more embodiments of the present dis-

closure, the through structure includes a ring portion and a hook portion. A hollow portion of the ring portion is a through hole. The hook portion is connected to an outer edge of the ring portion and is located outside the annulus wound by the main body.

[0011] In one or more embodiments of the present disclosure, the hooking structure is pivotally connected with the main body.

[0012] In one or more embodiments of the present disclosure, the main body is formed from fabric.

[0013] In one or more embodiments of the present disclosure, the main body is formed as a sleeve, and the hooking structure is received in the main body and is located at the first end.

[0014] In one or more embodiments of the present disclosure, the through structure is formed from two through holes overlapped on the main body.

[0015] In one or more embodiments of the present disclosure, the hooking structure is a spring piece.

[0016] In one or more embodiments of the present disclosure, the main body is formed from a string, and the through structure is a noose formed by the main body at the second end.

[0017] Compared with the prior art, the above-mentioned embodiments of the present disclosure have at least the following advantages.

(1) Since the main body at least partially passes through the through structure, the size of the annulus wound by the main body can be adjusted according to the relative positions of the through structure and the main body. Therefore, the strap structure can tighten the hair bundle of different sizes.

(2) Since the hooking structure has flexibility, when the hooking structure is fixed on the hair bundle, the hooking structure can have a close contact to the hair bundle and its strength of grasping the hair bundle is enhanced. In this way, the strap structure can tighten the hair bundle more firmly.

(3) Since the main body can be formed from fabric and the through structure is formed from two through holes overlapped on the main body, the manufacturing process of the strap structure can be simplified.

(4) Since the main body is formed from a string, and the through structure is a noose formed by the main body at the second end with the through hole located in the noose, the manufacturing process of the strap structure can be simplified.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0018] The disclosure can be more fully understood by reading the following detailed description of the embodiments, with reference made to the accompanying drawings as follows:

Fig. 1 is a schematic view of a strap structure according to an embodiment of the present disclosure;

Fig. 2 is an application diagram of the strap structure of Fig. 1;

Fig. 3 is an application diagram of the strap structure of Fig. 1, in which the hooking structure is fixed on a hair bundle;

Fig. 4 is a schematic view of a strap structure according to another embodiment of the present disclosure;

Fig. 5 is a schematic view of a strap structure according to another embodiment of the present disclosure;

Fig. 6 is a schematic view of a strap structure according to another embodiment of the present disclosure; and

Fig. 7 is a schematic view of a strap structure according to another embodiment of the present disclosure.

## DETAILED DESCRIPTION

**[0019]** Drawings will be used below to disclose a plurality of embodiments of the present disclosure. For the sake of clear illustration, many practical details will be explained together in the description below. However, it is appreciated that the practical details should not be used to limit the claimed scope. In other words, in some embodiments of the present disclosure, the practical details are not essential. Moreover, for the sake of drawing simplification, some customary structures and elements in the drawings will be schematically shown in a simplified way. Wherever possible, the same reference numbers are used in the drawings and the description to refer to the same or like parts.

**[0020]** Unless otherwise defined, all terms (including technical and scientific terms) used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this disclosure belongs. It will be further understood that terms, such as those defined in commonly used dictionaries, should be interpreted as having a meaning that is consistent with their meaning in the context of the relevant art and the present disclosure, and will not be interpreted in an idealized or overly formal sense unless expressly so defined herein.

**[0021]** Please refer to Figs. 1-3. Fig. 1 is a schematic view of a strap structure 100 according to an embodiment of the present disclosure. Fig. 2 is an application diagram of the strap structure 100 of Fig. 1. Fig. 3 is an application diagram of the strap structure 100 of Fig. 1, in which the hooking structure 120 is fixed on a hair bundle 200. As shown in Figs. 1-3, a strap structure 100 includes a main

body 110, a hooking structure 120 and a through structure 130. The main body 110 has a first end 111 and a second end 112 opposite to the first end 111. The hooking structure 120 is located at the first end 111 and the hooking structure 120 has flexibility. The through structure 130 is located at the second end 112. At least one portion of the main body 110 is adapted to pass through the through structure 130 and is wound into an annulus for allowing a hair bundle 200 to pass therethrough. The main body 110 between the hooking structure 120 and the through structure 130 is adapted to be wound around the hair bundle 200 in a direction counter to a direction of wounding the main body 110 to form the annulus, and the hooking structure 120 is adapted to be fixed on the hair bundle 200.

**[0022]** In other words, since the main body 110 at least partially passes through the through structure 130, the size of the annulus wound by the main body 110 can be adjusted according to the relative positions of the through structure 130 and the main body 110. It means that the size of the annulus can be changed according to the size of the hair bundle 200. When the hair bundle 200 is of a larger size, the through structure 130 can be located closer to the hooking structure 120, such that the main body 110 is wound into a larger annulus to fit the hair bundle 200. When the hair bundle 200 is of a smaller size, the through structure 130 can be located farther away from the hooking structure 120, such that the main body 110 is wound into a smaller annulus to fit the hair bundle 200. In this way, the strap structure 100 can tighten the hair bundle 200 of different sizes.

**[0023]** Furthermore, since the hooking structure 120 has flexibility, when the hooking structure 120 is fixed on the hair bundle 200, the hooking structure 120 can have a close contact to the hair bundle 200 and its strength of grasping the hair bundle 200 is enhanced. In this way, the strap structure 100 can tighten the hair bundle 200 more firmly. In this embodiment, the hooking structure 120 can be formed from metal wire or plastic wire for its flexibility. However, this does not intend to limit the present disclosure. Furthermore, the mode that the hooking structure 120 is fixed on the hair bundle 200 can be covering the hair bundle 200 or at least partially oppressing on the hair bundle 200. However, this does not intend to limit the present disclosure.

**[0024]** After the main body 110 is wound into the annulus of suitable sizes to fit the hair bundle 200, the main body 110 between the hooking structure 120 and the through structure 130 is wound around the hair bundle 200 in the direction counter to the direction of wounding the main body to form the annulus. Thus, the annulus can firmly tighten the hair bundle 200. In order to fix the strap structure 100 to the hair bundle 200, as mentioned above, the hooking structure 120 is fixed on the hair bundle 200. Since the hair bundle 200 is tightened by the annulus wound by the main body 110, the hair bundle 200 is adapted to allow the hooking structure 120 to fix thereon.

**[0025]** Furthermore, in order to make the hooking structure 120 fixed on the hair bundle 200 more easily and more firmly, in this embodiment, the hooking structure 120 is pivotally connected with the main body 110, such that the angle included the hooking structure 120 and the main body 110 can be flexibly adjusted. In this way, the user can flexibly adjust the position of the hooking structure 120 to be fixed on the hair bundle 200 according to the actual needs, thus achieving the effect of fixing the hooking structure 120 on the hair bundle 200 easily and firmly.

**[0026]** In order to provide a further flexibility for the size of the annulus wound by the main body 110 to fit the hair bundle 200 of different sizes, the main body 110 can be elastic. However, this does not intend to limit the present disclosure.

**[0027]** As shown in Figs. 1-3, the through structure 130 is a ring structure, and a hollow portion of the ring structure is a through hole 130a. In this embodiment, the through structure 130 is pivotally connected with the main body 110. It means that the angle included between the through structure 130 and the main body 110 can be flexibly adjusted. Thus, it becomes easier and more flexible to wind the main body 110 into annulus of different sizes. The material of the through structure 130 can be metal or plastic. However, this does not intend to limit the present disclosure.

**[0028]** Please refer to Fig. 4. Fig. 4 is a schematic view of a strap structure 100 according to another embodiment of the present disclosure. In this embodiment, as shown in Fig. 4, the through structure 130 includes a ring portion 131 and a hook portion 132. A hollow portion of the ring portion 131 is a through hole 130a. The hook portion 132 is connected to an outer edge of the ring portion 131 and is located outside the annulus wound by the main body 110. After the main body 110 is wound into the annulus and the hair bundle 200 passes through the annulus, the hook portion 132 can be fixed on the hair bundle 200 in the way such as at least partially oppressing on the hair bundle 200, in order to prevent the main body 110 as the annulus from rotating relative to the hair bundle 200, thereby helping to fix the strap structure 100 to the hair bundle 200.

**[0029]** Please refer to Fig. 5. Fig. 5 is a schematic view of a strap structure 100 according to another embodiment of the present disclosure. In this embodiment, as shown in Fig. 5, the hooking structure 120 is a spring piece. In this way, when the spring piece (i.e. the hooking structure 120) is fixed on the hair bundle 200, an additional elastic force can be exerted on the hair bundle 200. Therefore, the strap structure 100 can be fixed to the hair bundle 200 more firmly. The material of the elastic piece can be metal or plastic. However, this does not intend to limit the present disclosure.

**[0030]** Please refer to Fig. 6. Fig. 6 is a schematic view of a strap structure 100 according to another embodiment of the present disclosure. In this embodiment, as shown in Fig. 6, the through structure 130 is formed from two

through holes overlapped on the main body 110. To be more specific, the main body 110 can be formed from fabric. It also means the main body 110 and the through structure 130 can be formed by the same piece of fabric.

Thus, the manufacturing process of the strap structure 100 can be simplified.

**[0031]** Furthermore, as shown in Fig. 6, the main body 110 is formed as a sleeve, and the hooking structure 120 is received in the main body 110 and is located at the first end 111. Since the hooking structure 120 is received in the main body 110, by the covering of the fabric and the feature of the fabric which is deformable in response to the shape of the hooking structure 120, the hooking structure 120 can be simply fixed at the first end 111 of the main body 110.

**[0032]** Please refer to Fig. 7. Fig. 7 is a schematic view of a strap structure 100 according to another embodiment of the present disclosure. In this embodiment, as shown in Fig. 7, the main body 110 of the strap structure 100 is formed from a string. The hooking structure 120 is located at the first end 111, while the through structure 130 is a noose formed by the main body 110 at the second end 112, and the through hole 130a is located in the noose. Thus, the manufacturing process of the strap structure 100 can be simplified.

**[0033]** In sum, compared with the prior art, the embodiments of the present disclosure mentioned above have at least the following advantages:

(1) Since the main body at least partially passes through the through structure, the size of the annulus wound by the main body can be adjusted according to the relative positions of the through structure and the main body. Therefore, the strap structure can tighten the hair bundle of different sizes.

(2) Since the hooking structure has flexibility, when the hooking structure is fixed on the hair bundle, the hooking structure can have a close contact to the hair bundle and its strength of grasping the hair bundle is enhanced. In this way, the strap structure can tighten the hair bundle more firmly.

(3) Since the main body can be formed from fabric and the through structure is formed from two through holes overlapped on the main body, the manufacturing process of the strap structure can be simplified.

(4) Since the main body is formed from a string, and the through structure is a noose formed by the main body at the second end with the through hole located in the noose, the manufacturing process of the strap structure can be simplified.

## Claims

1. A strap structure (100), comprising:

- a main body (110) having a first end (111) and a second end (112) opposite to the first end (111);  
 a hooking structure (120) located at the first end (111), the hooking structure (120) having flexibility; and  
 a through structure (130) located at the second end (112);  
 wherein at least one portion of the main body (110) is adapted to pass through the through structure (130) and is wound into an annulus for allowing a hair bundle (200) to pass there-through, and the main body (110) between the hooking structure (120) and the through structure (130) is adapted to be wound around the hair bundle (200) in a direction counter to a direction of wounding the main body (110) to form the annulus, and the hooking structure (120) is adapted to be fixed on the hair bundle (200).
2. The strap structure (100) of claim 1, wherein the main body (110) is elastic.
3. The strap structure (100) of claim 1, wherein the through structure (130) is a ring structure, and a hollow portion of the ring structure is a through hole (130a).
4. The strap structure (100) of claim 3, wherein the through structure (130) is pivotally connected with the main body (110).
5. The strap structure (100) of claim 1, wherein the through structure (130) comprises a ring portion (131) and a hook portion (132), and a hollow portion of the ring portion (131) is a through hole (130a), and the hook portion (132) is connected to an outer edge of the ring portion (131) and is located outside the annulus wound by the main body (110).
6. The strap structure (100) of claim 1, wherein the hooking structure (120) is pivotally connected with the main body (110).
7. The strap structure (100) of claim 1, wherein the main body (110) is formed from fabric.
8. The strap structure (100) of claim 7, wherein the main body (110) is formed as a sleeve, and the hooking structure (120) is received in the main body (110) and is located at the first end (111).
9. The strap structure (100) of claim 7, wherein the through structure (130) is formed from two through holes overlapped on the main body (110).
10. The strap structure (100) of claim 1, wherein the hooking structure (120) is a spring piece.
11. The strap structure (100) of claim 1, wherein the main body (110) is formed from a string, and the through structure (130) is a noose formed by the main body (110) at the second end (112).

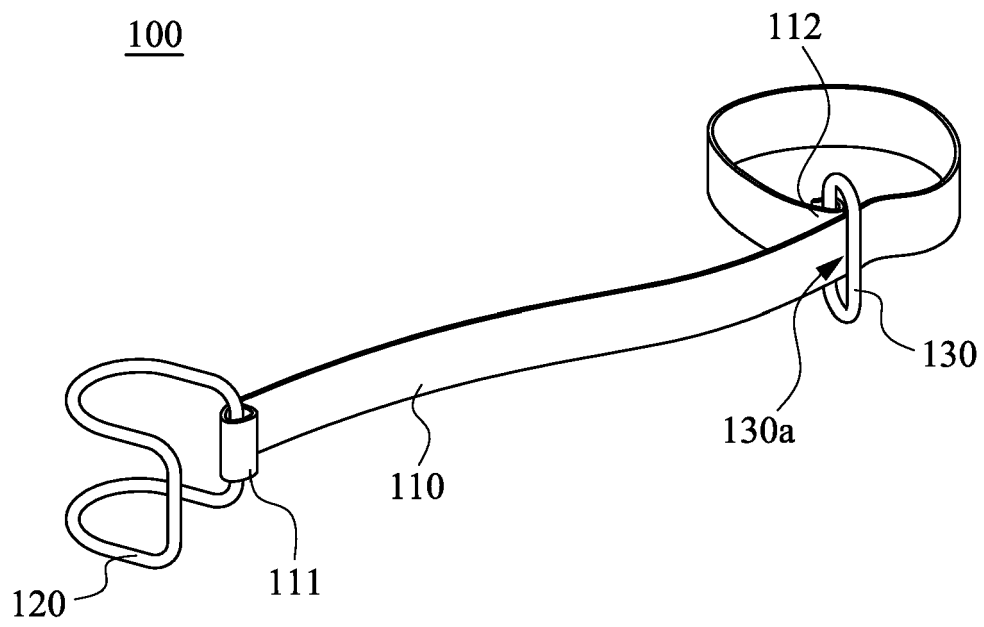


Fig. 1

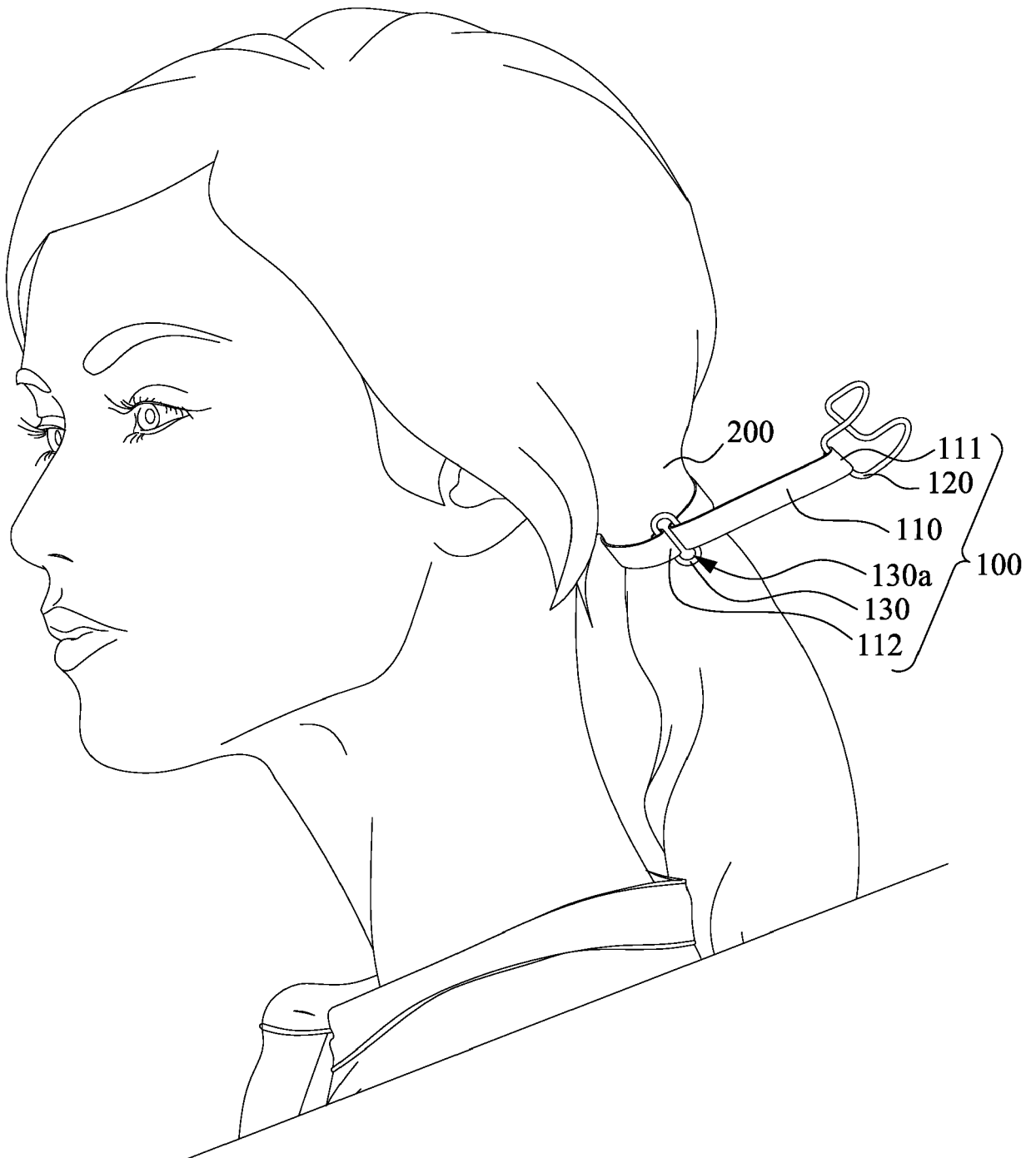


Fig. 2

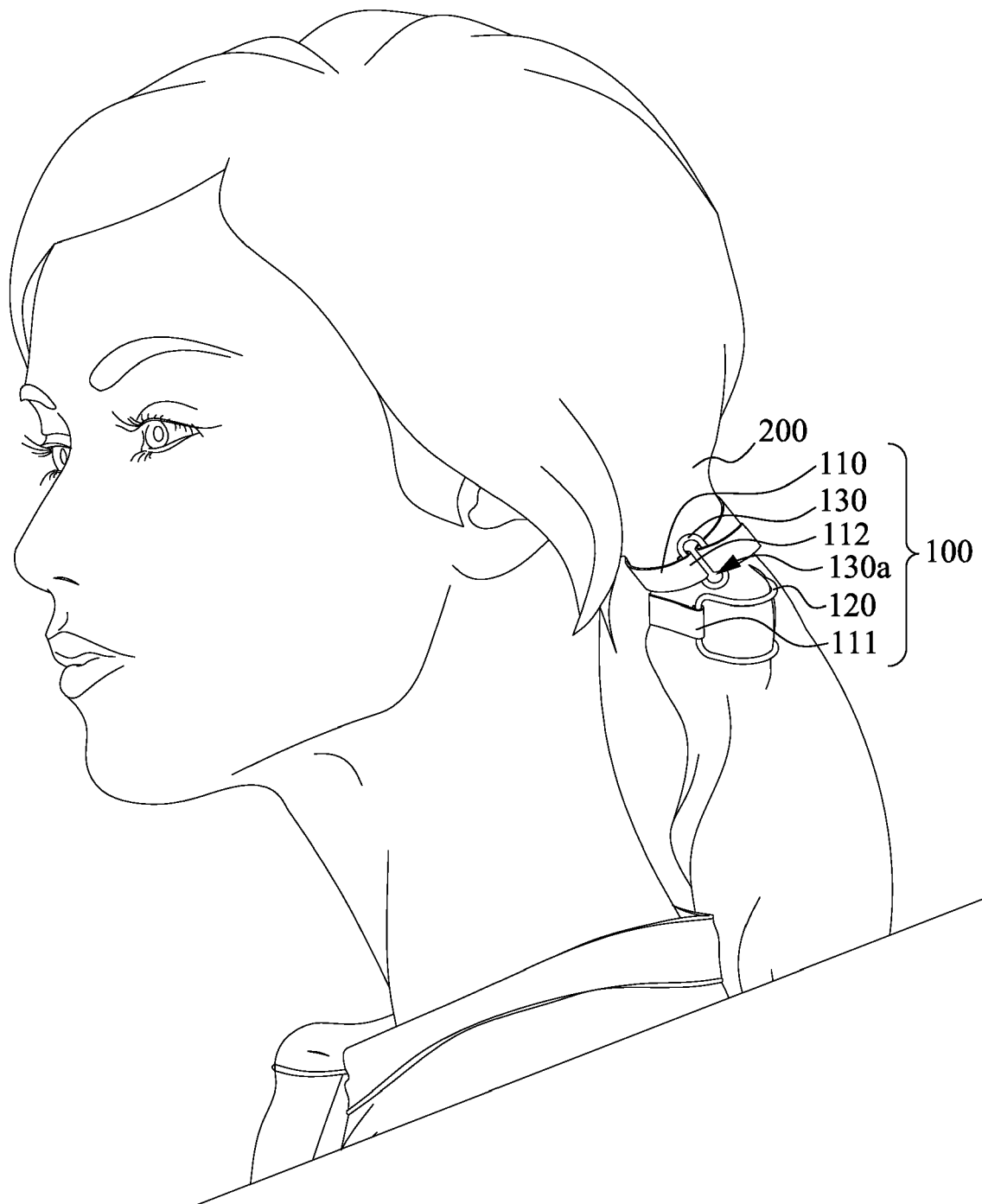


Fig. 3



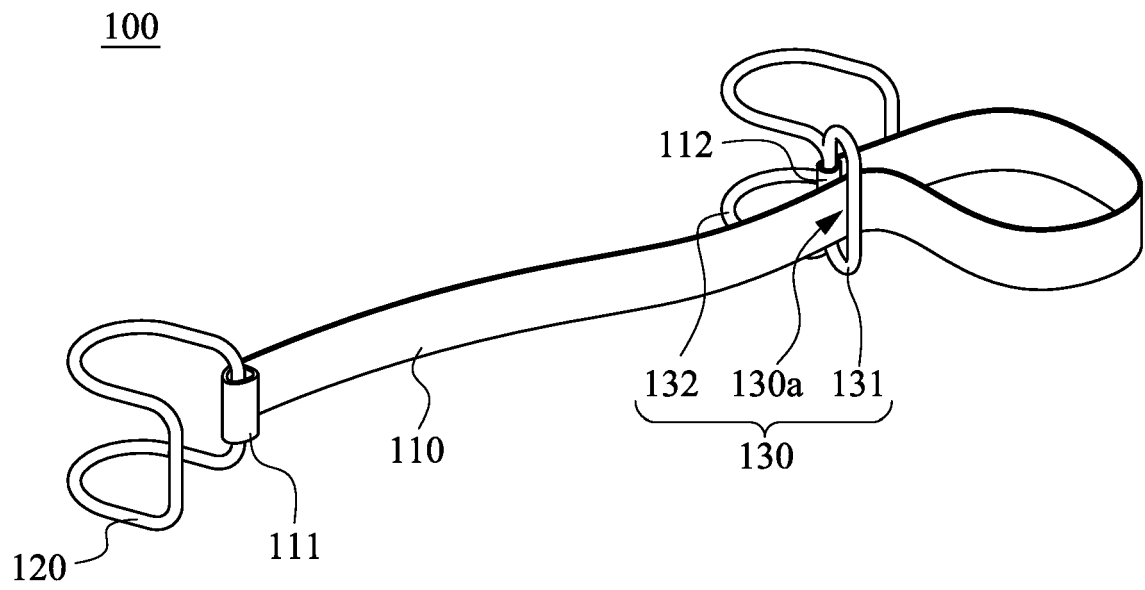


Fig. 4

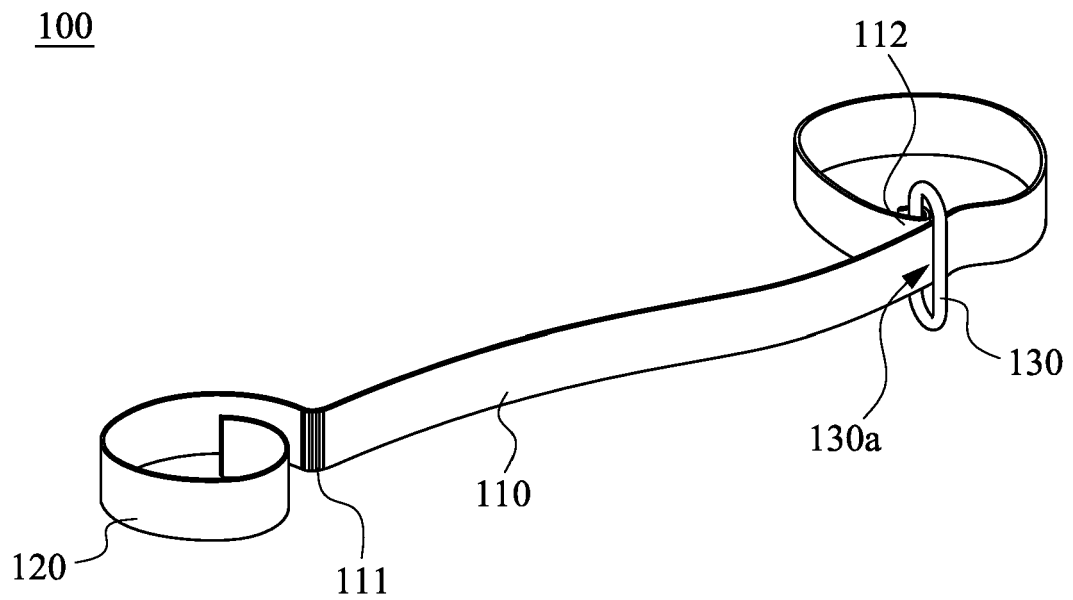


Fig. 5

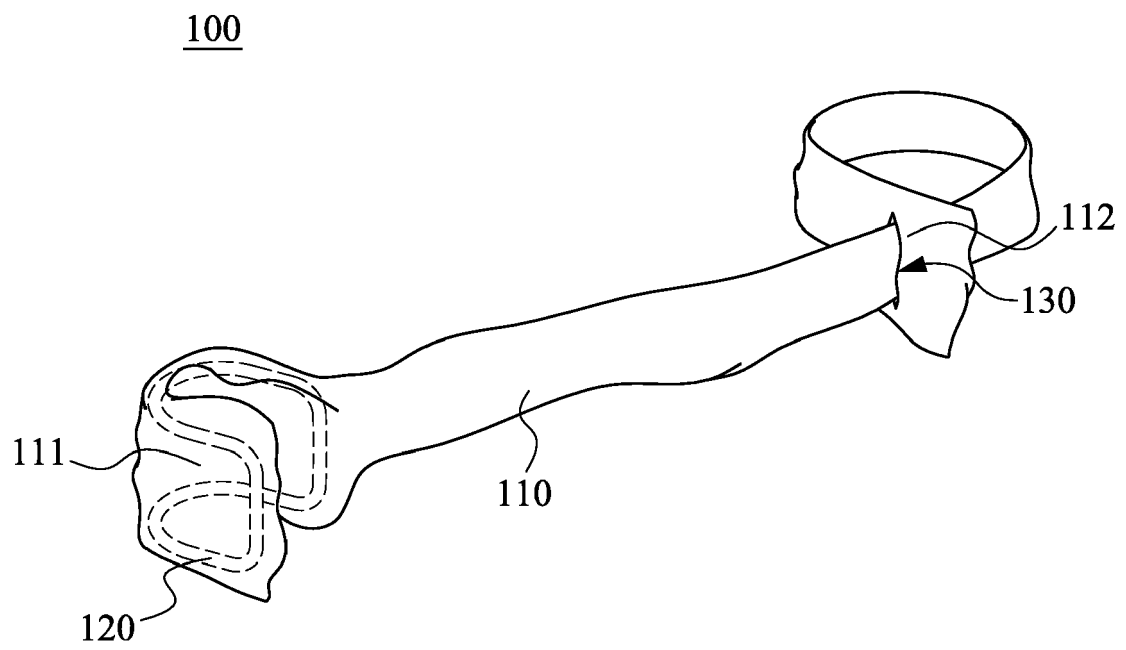


Fig. 6

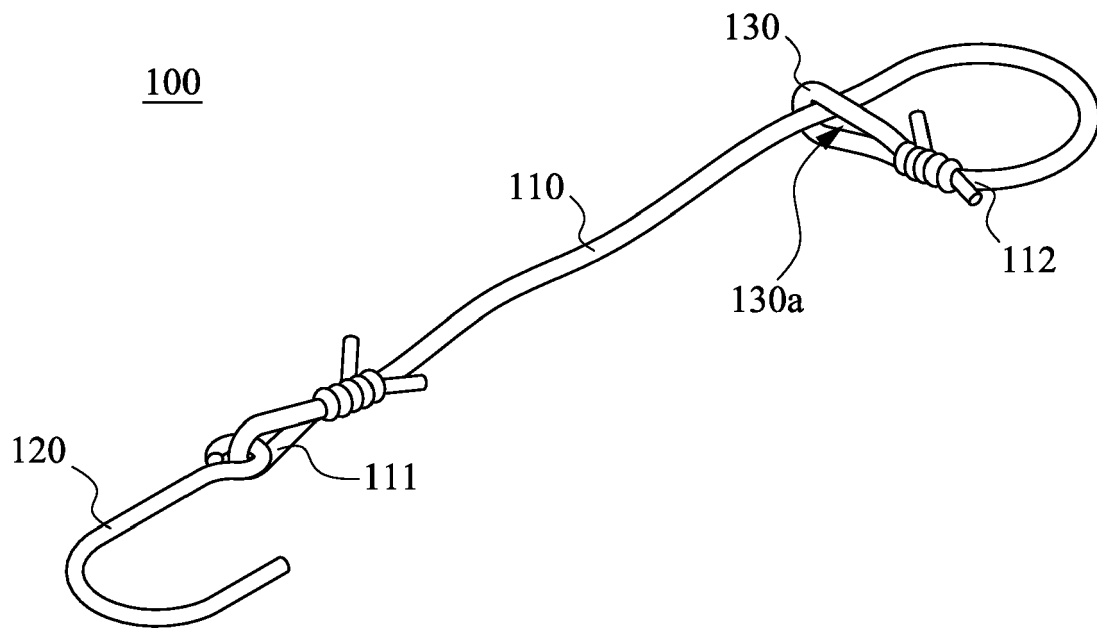


Fig. 7



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 Application Number  
 EP 16 15 4072

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Y	* the whole document *	3,4	
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			TECHNICAL FIELDS SEARCHED (IPC)
			A45D A45F
The present search report has been drawn up for all claims			
Place of search <b>The Hague</b>		Date of completion of the search <b>9 June 2016</b>	Examiner <b>Dinescu, Daniela</b>
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.  
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