(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 3 498 125 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
19.06.2019 Bulletin 2019/25

(51) Int Cl.:
A44C 5/00 *(2006.01)* ***A44C 17/02*** *(2006.01)*
G04B 47/04 *(2006.01)*

(21) Application number: **17207529.3**

(22) Date of filing: **14.12.2017**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
MA MD TN

(71) Applicant: **Hung, Yun-Tung**
100 Taipei City (TW)

(72) Inventor: **Hung, Yun-Tung**
100 Taipei City (TW)

(74) Representative: **Cabinet Chaillot**
16/20, avenue de l'Agent Sarre
B.P. 74
92703 Colombes Cedex (FR)

(54) BRACELET ASSEMBLY

(57) A bracelet assembly includes a base and a module part. The module part is repalceably connected to the base by connection between a first engaging member of the module part and a notch of the base, and by connection between a second engaging member of the module part and a hole of the base. The module part of different functions can be replaced so as to need different needs.

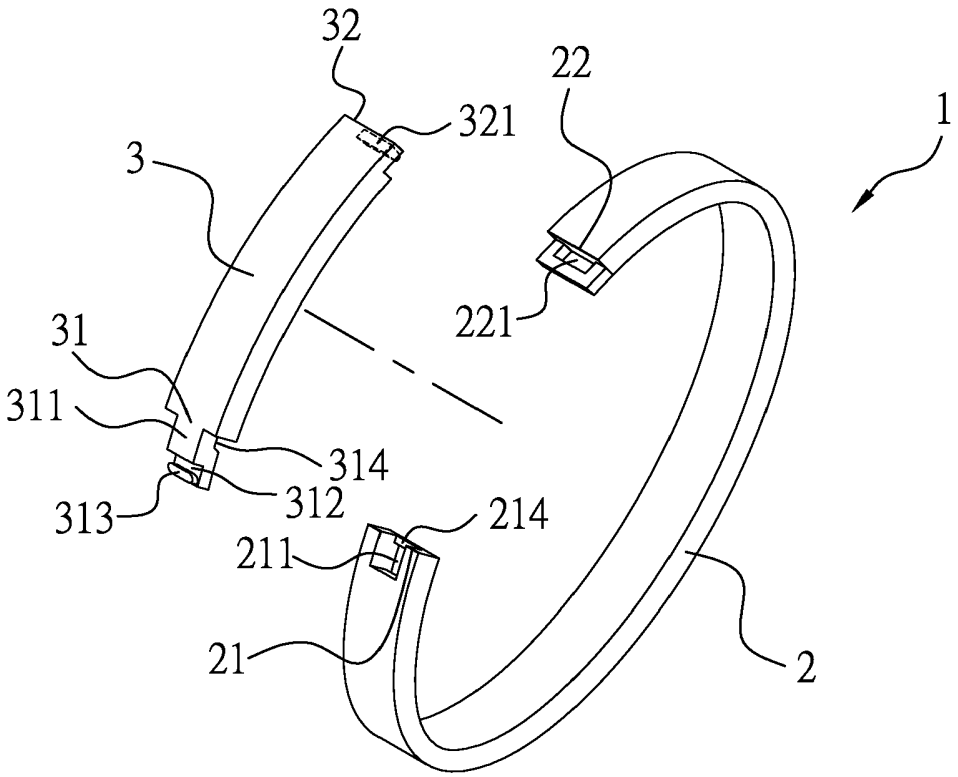

FIG.2

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Description

BACKGROUND OF THE INVENTION

1. FIELDS OF THE INVENTION

[0001] The present invention relates to a bracelet assembly, and more particularly, to a multi-function bracelet with a replaceable module part.

2. DESCRIPTIONS OF RELATED ART

[0002] The conventional bracelets are mostly designed for fashion purposes and may use different types of metals or include jewelry attached thereon. Recently, the bracelets are designed to detect or monitor the health conditions of the wearers who can check the physiological data from the bracelets. However, what the wearers want from the bracelets not just being able to monitor the physiological conditions, the wearers also want to wear a bracelet with decorative features. The expenses will be very high if he or she purchase many bracelets for different features or purposes.

[0003] The present invention intends to provide a multi-function bracelet with a replaceable module part which can be replaceable as needed.

SUMMARY OF THE INVENTION

[0004] The present invention relates to a bracelet assembly and comprises a base having two distal ends, wherein one of the two distal ends of the base has at least one reception portion and at least one notch which is located next to the at least one reception portion, and the other one of the two distal ends of the base has at least one hole.

[0005] A module part is replaceably connected to the base and has two ends. One of the two ends of the module part has at least one extension portion which extends through and is engaged with the at least one reception portion, and the at least one extension portion has at least one first engaging member which is engaged with the at least one notch. The other one of the two ends has at least one second engaging member which is engaged with the at least one hole. The at least one first engaging member and the at least one second engaging member respectively face two opposite directions.

[0006] Preferably, the module part is one of an electronic device, a piece of jewelry, a cosmetic product or a perfume box.

[0007] Preferably, the electronic device is a calculator, a pedometer, a timer, a calorie calculator, a physiological monitor, a clock, a positioning device, an audio/video recording device, an alarm pager, a video communication device, an LED unit, a an audio/video playing device, a voice translation device, a camera or an electronic ticketing device wirelessly connected with a phone.

[0008] Preferably, the base is a round, rectangular, oval or polygonal base.

[0009] Preferably, the bracelet assembly is made of gold, platinum, silver, palladium, tungsten carbide, cobalt, tantalum, copper, stainless steel, plastic or wood.

[0010] Preferably, a first protrusion is located between the reception portion and the notch. The extension portion has a recessed area with which the first protrusion is engaged so that the first engaging member is engaged with the at least one notch.

[0011] Preferably, a second protrusion is located at the distal edge of the reception portion. A recess is defined in the backside of the recessed area, and the second protrusion is engaged with the recess, when the extension portion is engaged with the reception portion. The second engaging member is engaged with the hole to connect the module part to the base.

[0012] Preferably, the first engaging member and the second engaging member each are a block.

[0013] Preferably, the base is connected to the module part to form an enclosed bracelet assembly which can be worn to a user's wrist.

[0014] The primary object of the present invention is to provide a bracelet assembly, wherein the module part of different functions can be replaced so as to need different needs. The replacement is easy and friendly used by the users of different ages. The bracelet assembly may be made of different types of material and have different functions.

[0015] The present invention will become more obvious from the following description when taken in connection with the accompanying drawings which show, for purposes of illustration only, a preferred embodiment in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016]

Fig. 1 is a perspective view to show the bracelet assembly of the present invention;

Fig. 2 is an exploded view of the bracelet assembly of the present invention;

Figs. 3 to 5 are cross sectional views to show the steps for connecting the module part to the base of the bracelet assembly of the present invention;

Figs. 6 and 7 are cross sectional views to show the steps for dis-connecting the module part from the base of the bracelet assembly of the present invention;

Figs. 8 to 10 show that the module part of different functions is connected to the base of the bracelet assembly of the present invention;

Fig. 11 is a perspective view to show one preferable embodiment of the base of the bracelet assembly of the present invention;

Fig. 12 is an exploded view to show the preferable embodiment shown in Fig. 11;

Fig. 13 is an exploded view to show one preferable

embodiment of the base of the bracelet assembly of the present invention;

Fig. 14 is a perspective view to show the preferable embodiment shown in Fig. 13;

Fig. 15 is a perspective view to show one preferable embodiment of the base of the bracelet assembly of the present invention;

Fig. 16 is an exploded view to show one preferable embodiment of the base of the bracelet assembly of the present invention;

Fig. 17 is a perspective view to show the preferable embodiment shown in Fig. 16;

Fig. 18 is an exploded view to show one preferable embodiment of the base of the bracelet assembly of the present invention, and

Fig. 19 is a perspective view to show the preferable embodiment shown in Fig. 18.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0017] Referring to Figs. 1 to 10, the bracelet assembly 1 of the present invention comprises a bracelet assembly 1 and comprises a base 2 having two distal ends 21, 22. One of the two distal ends 21 of the base 2 has at least one reception portion 211 and a notch 212 which is located next to the reception portion 211. The other one of the two distal ends 22 of the base 2 has a hole 221. The base 2 is a round, rectangular, oval or polygonal base.

[0018] A module part 3 is replaceably connected to the base 2 and has two ends 31, 32. One of the two ends 31 of the module part 3 has an extension portion 311 which is able to extend and engage with the reception portion 211. The extension portion 311 has a first engaging member 313 which is engaged with the notch 212. In this embodiment, the first engaging member 313 is a block which is not limited thereto. The other one of the two ends 32 has a second engaging member 321 which is engaged with the hole 221. In this embodiment, the second engaging member 321 is a block which is not limited thereto. The first engaging member 313 and the second engaging member 321 respectively face two opposite directions. By extending the extension portion 311 through the reception portion 211, the first engaging member 313 is engaged with the notch 212, and the second engaging member 321 is engaged with the hole 221 of the base 2, so that the module part 3 is connected to the base 2. The bracelet assembly 1 is made of gold, platinum, silver, palladium, tungsten carbide, cobalt, tantalum, copper, stainless steel, plastic or wood, but not limited thereto.

[0019] A first protrusion 213 is located between the reception portion 211 and the notch 212. The extension portion 311 has a recessed area 312 with which the first protrusion 213 is engaged so that the first engaging member 313 is engaged with the notch 212. A second protrusion 214 is located at the distal edge of the reception portion 211. A recess 314 is defined in the backside of the recessed area 312, and the second protrusion 214 is engaged with the recess 314, when the extension portion 311 is engaged with the reception portion 211. The other end 32 of the module part 3 can be moved downward. The second engaging member 321 is engaged with the hole 221 to connect the module part 3 to the base 2.

[0020] The base 2 is connected to the module part 3 to form an enclosed bracelet assembly 1 which can be worn to a user's wrist. When in assembling, the extension portion 311 extends through the reception portion 211, as shown in Fig. 3, and the first engaging member 313 of the module part 3 is engaged with the notch 212 of the base 2. The first protrusion 213 is located corresponding to the recessed area 312, and the second protrusion 214 is engaged with the recess 314 as shown in Fig. 4. The end 32 of the module part 3 is then moved toward the base 2 to engage the second engaging member 321 with the hole 221 to connect the module part 3 to the base 2 as shown in Fig. 5.

[0021] When replacing the module part 3, as shown in Fig. 6, the base 2 is squeezed from two sides thereof to slightly deform the base 2, so that the second engaging member 321 of the module part 3 is disengaged from the hole 221 of the base 2. Then the first engaging member 313 of the module part 3 is disengaged from the notch 212 of the base 2 as shown in Fig. 7. The module part 3 is then removed from the base 2. A new module part 3 can be connected to the base 2.

[0022] The module part 3 may have different functions, as shown in Figs. 8 and 9, the module part 3 can be an electronic device which is a calculator, a pedometer, a timer, a calorie calculator, a physiological monitor, a clock, a positioning device, an audio/video recording device, an alarm pager, a video communication device, an LED unit, a an audio/video playing device, a voice translation device, a camera or an electronic ticketing device wirelessly connected with a phone. As shown in Fig. 10, the module part 3 can be a piece of jewelry, a cosmetic product or a perfume box. The users can choose a specific module part 3 to wear according to needs. Because the module part 3 is replaceable, so that the bracelet assembly 1 involves different functions.

[0023] As shown in Figs. 11 and 12, the size and shape of the base 2 and the module part 3 may be varied, wherein the width of the base 2 is slightly wider than the module part 3. The reception portion 211 and the hole 221 of the base 2 has a rounded inside. The two ends 31, 32 and the extension portion 311 of the module part 3 includes a rounded end which is matched with the rounded inside of the reception portion 211 and the hole 221 of the base 2.

[0024] As shown in Figs. 13 and 14, the base 2 has multiple reception portions 211, and the notch 212 is locate next to each reception portion 211. There are multiple holes 221. The module part 3 includes multiple first engaging members 313 on the end 31 thereof, and multiple second engaging members 321 on the other end 32 of the module part 3. The installation and removal steps are the same as previous embodiment. The module part

3 is replaceable relative to the base 2 and has different functions. As shown in Fig. 15, the module part 3 is a digital clock which is not limited thereto.

[0025] As shown in Figs. 16 and 17, the extension portion 311 extends from the underside of the end 31 of the module part 3. The extension portion 311 has the first engaging member 313 to be engaged with the notch 212. The base 2 includes two distal ends 21, 22. has at least one reception portion 211 defined in the distal end 21 thereof, and the notch 212 is located next to the reception portion 211. The other distal end 22 of the base 2 includes the hole 221. The first protrusion 213 is located between the reception portion 211 and the notch 212. The extension portion 311 has the recessed area 312 with which the first protrusion 213 is engaged so that the first engaging member 313 is engaged with the notch 212. The second protrusion 214 is located at the distal edge of the reception portion 211. The recess 314 is defined in the backside of the recessed area 312, and the second protrusion 214 is engaged with the recess 314 when the extension portion 311 is engaged with the reception portion 211. The other end 32 of the module part 3 can be moved downward. The second engaging member 321 is engaged with the hole 221 to connect the module part 3 to the base 2.

[0026] As shown in Figs. 18 and 19, the extension portion 311 extends from the underside of the module part 3. The extension portion 311 has the first engaging member 313 to be engaged with the notch 212. The difference between the Figs. 16 and 17 is that the reception portion 211 does not have the second protrusion 214 at the distal edge of the reception portion 211. There is no such recess 314 defined in the backside of the recessed area 312. When the extension portion 311 extends through the reception portion 211, the end 32 of the module part 3 is directly moved toward the base 2 to engage the second engaging member 321 with the hole 221 to connect the module part 3 to the base 2.

[0027] The present invention includes the following advantages when comparted with the conventional bracelets, the advantages are that the module part 3 and the base 2 are specifically structured so that the module part 3 of specific function can be replaceable relative to the base 2 easily. The bracelet assembly 1 of the present invention can be used by users of different ages. The bracelet assembly 1 can be made by different types of material to meet specific purposes.

[0028] While we have shown and described the embodiment in accordance with the present invention, it should be clear to those skilled in the art that further embodiments may be made without departing from the scope of the present invention.

Claims

1. A bracelet assembly (1) comprising:

a base (2) having two distal ends (21, 22), one of the two distal ends (21, 22) of the base (2) having at least one reception portion (211) and at least one notch (212) which is located next to the at least one reception portion (211), the other one of the two distal ends (21, 22) of the base (2) having at least one hole (221), and

a module part (3) replaceably connected to the base (2) and having two ends (31, 32), one of the two ends (31) of the module part (3) having at least one extension portion (311) which extends through and is engaged with the at least one reception portion (211), the at least one extension portion (311) having at least one first engaging member (313) which is engaged with the at least one notch (212), the other one of the two ends (32) having at least one second engaging member (321) which is engaged with the at least one hole (221), the at least one first engaging member (313) and the at least one second engaging member (321) respectively facing two opposite directions.

2. The bracelet assembly (1) as claimed in claim 1, wherein the module part (3) is one of an electronic device, a piece of jewelry, a cosmetic product or a perfume box.

3. The bracelet assembly (1) as claimed in claim 2, wherein the electronic device is a calculator, a pedometer, a timer, a calorie calculator, a physiological monitor, a clock, a positioning device, an audio/video recording device, an alarm pager, a video communication device, an LED unit, a an audio/video playing device, a voice translation device, a camera or an electronic ticketing device wirelessly connected with a phone.

4. The bracelet assembly (1) as claimed in claim 1, wherein the base (2) is a round, rectangular, oval or polygonal base.

5. The bracelet assembly (1) as claimed in claim 1, wherein the bracelet assembly (1) is made of gold, platinum, silver, palladium, tungsten carbide, cobalt, tantalum, copper, stainless steel, plastic or wood.

6. The bracelet assembly (1) as claimed in claim 1, wherein a first protrusion (213) is located between the at least one reception portion (211) and the at least one notch (212), the at least one extension portion (311) has a recessed area (312) with which the first protrusion (213) is engaged so that the at least one first engaging member (313) is engaged with the at least one notch (212).

7. The bracelet assembly (1) as claimed in claim 1, wherein a second protrusion (214) is located at a

distal edge of the at least one reception portion (211), a recess (314) is defined in a backside of the recessed area (312) and the second protrusion (214) is engaged with the recess (314), when the at least one extension portion (311) is engaged with the at least one reception portion (211), the at least one second engaging member (321) is engaged with the hole (221) to connect the module part (3) to the base (2).

8. The bracelet assembly (1) as claimed in claim 1, wherein the at least one first engaging member (313) and the at least one second engaging member (321) each are a block.

9. The bracelet assembly (1) as claimed in claim 1, wherein the base (2) is connected to the module part (3) to form an enclosed bracelet assembly (1) which is adapted worn to a user's wrist.

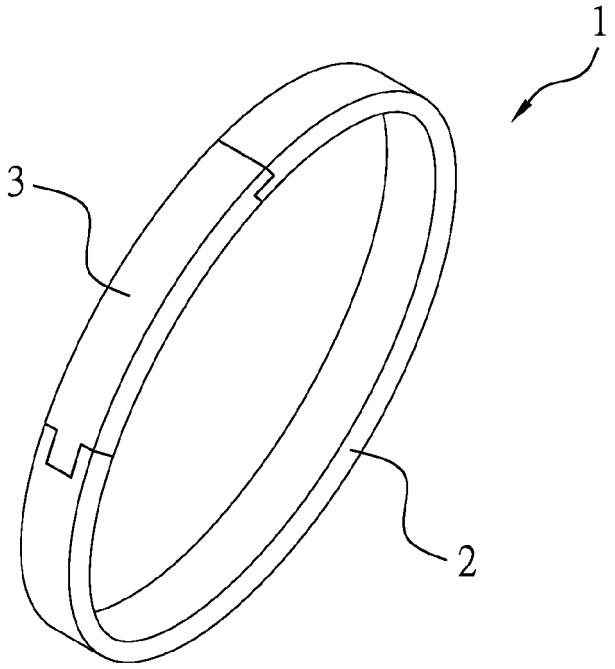

FIG.1

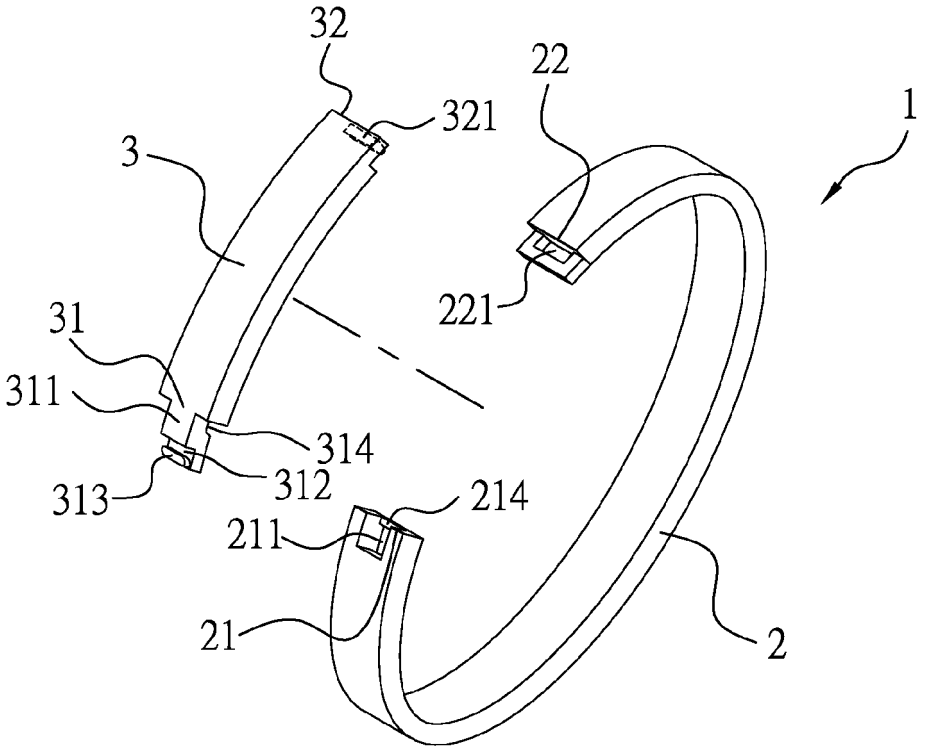

FIG.2

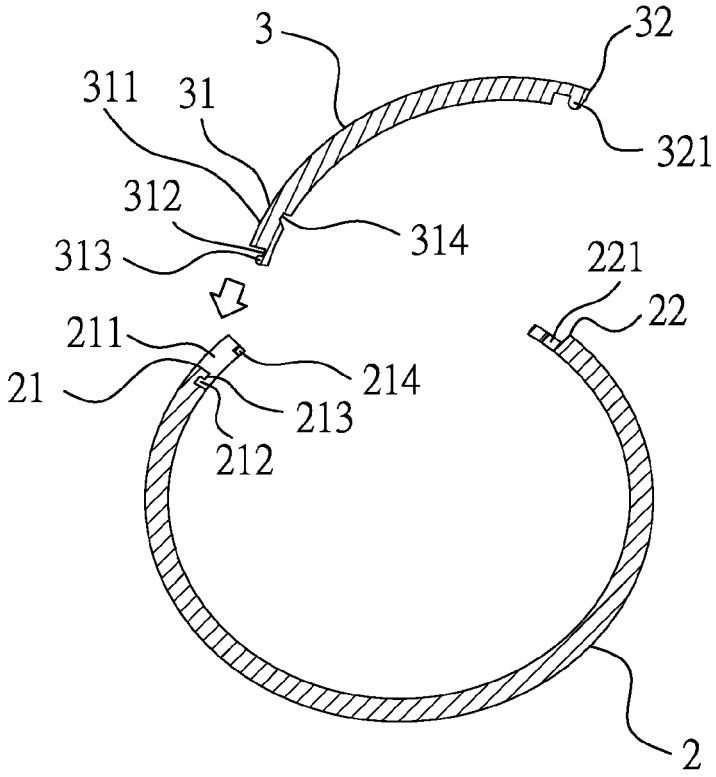
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FIG.3

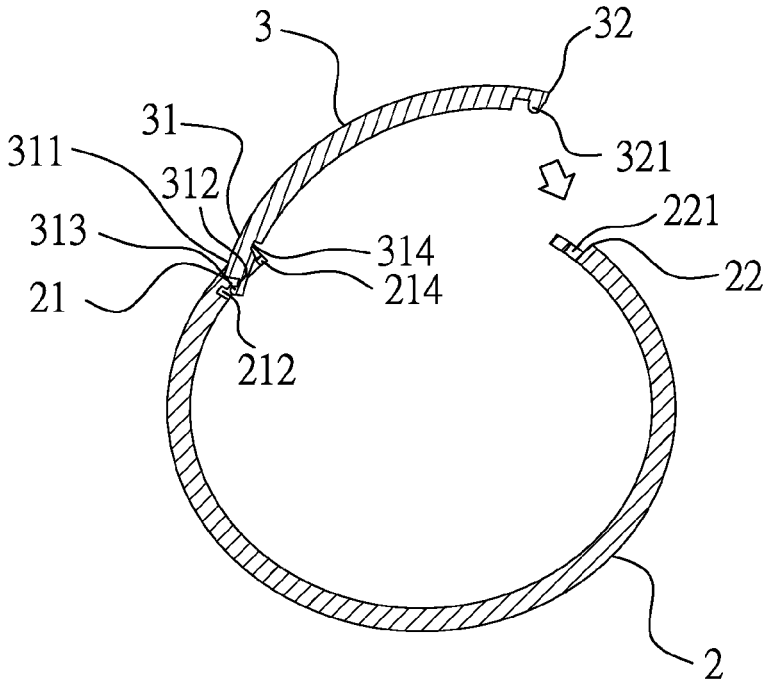
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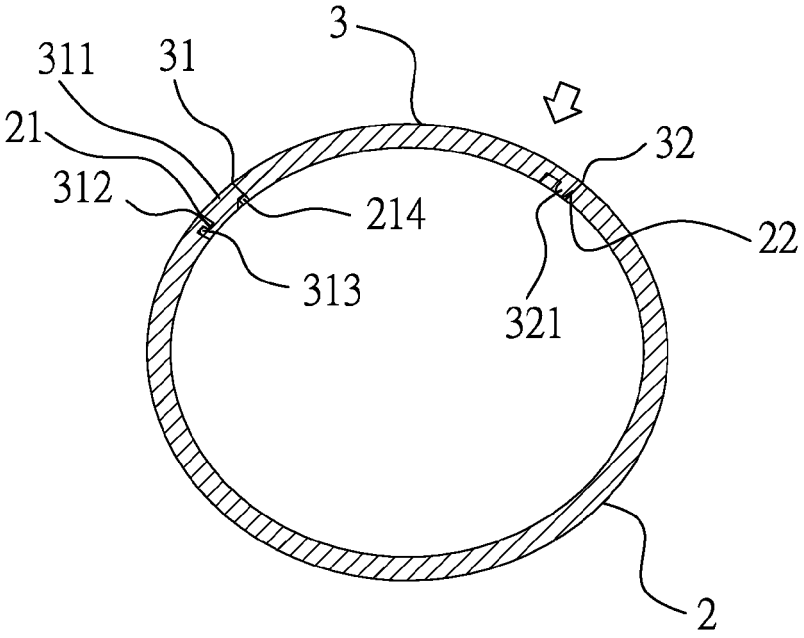
FIG.4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321
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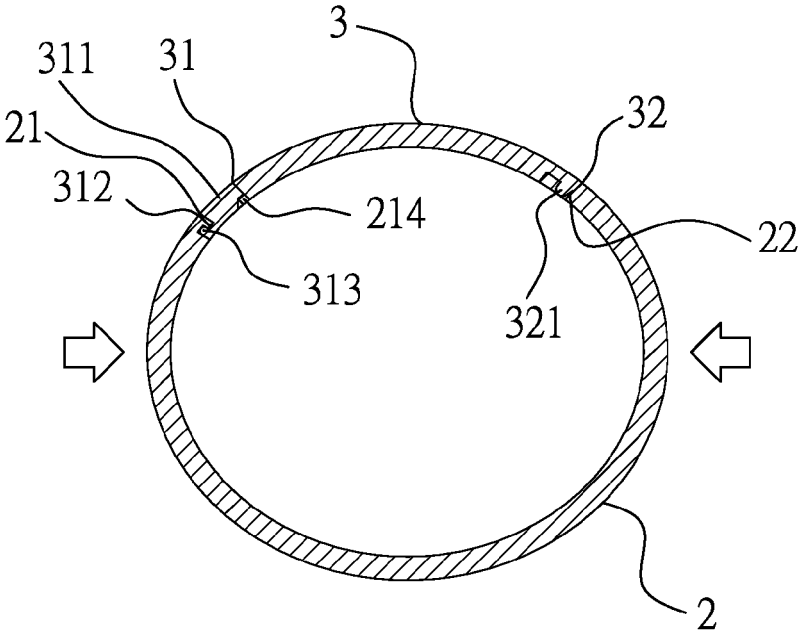
FIG.5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321
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FIG.6

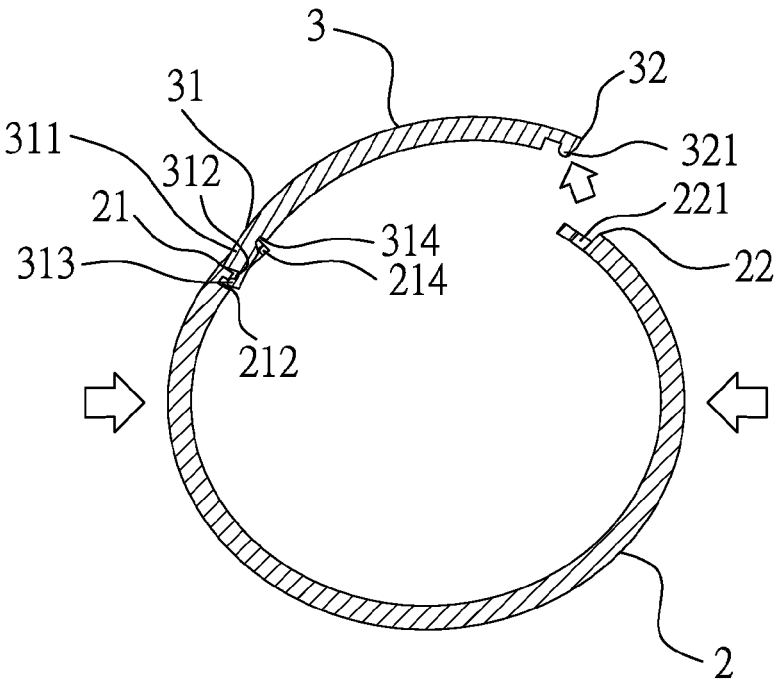


FIG.7

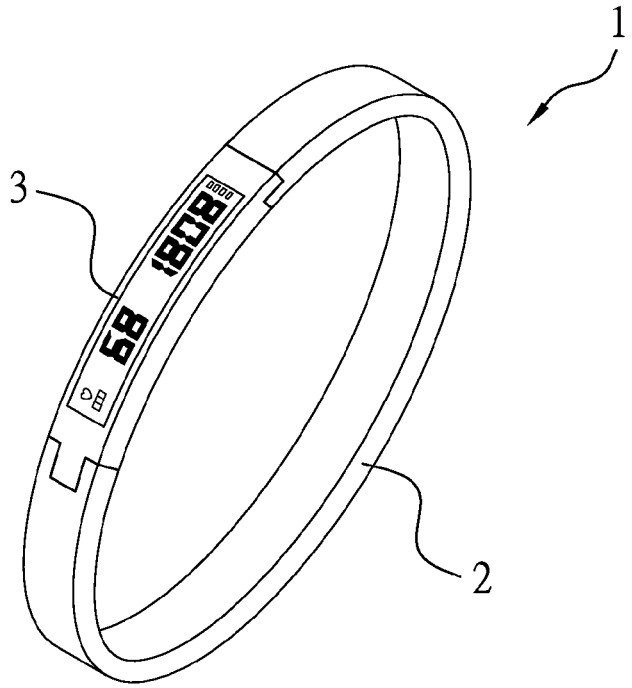


FIG.8

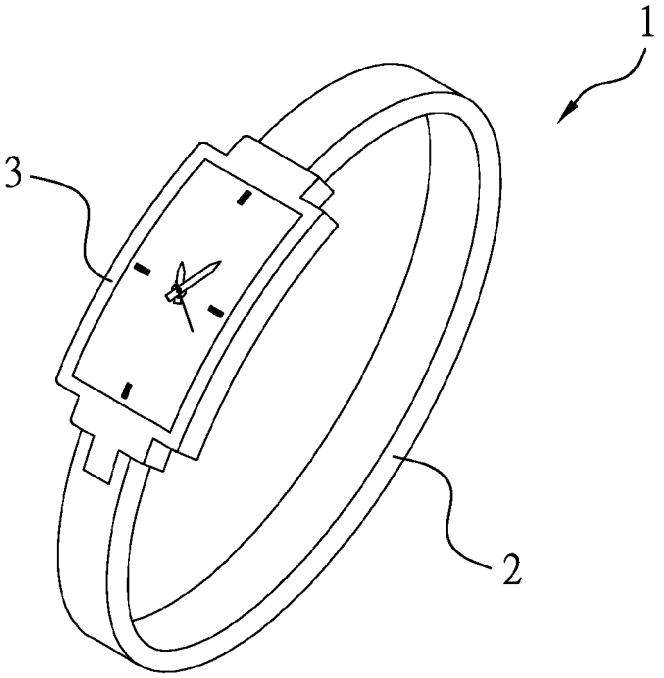


FIG.9

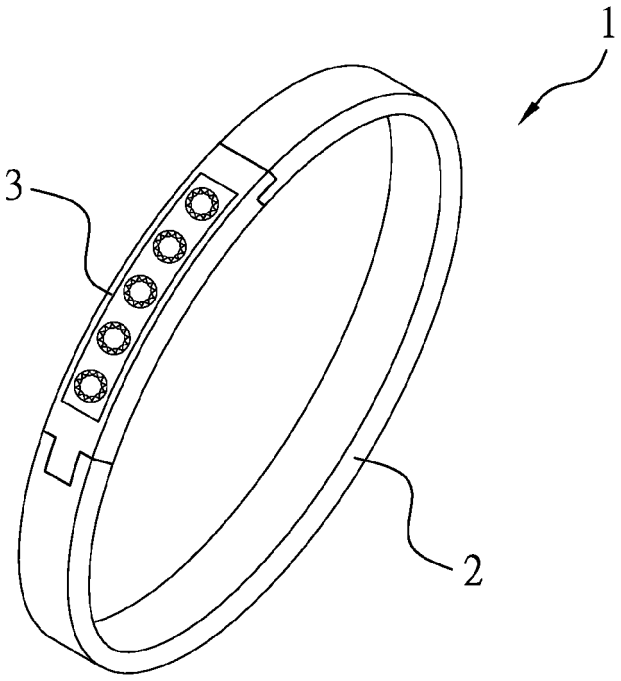


FIG.10

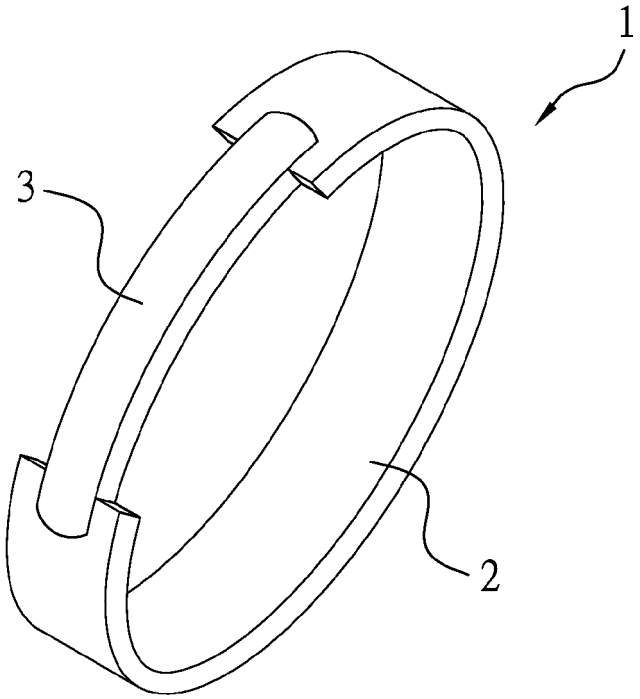


FIG.11

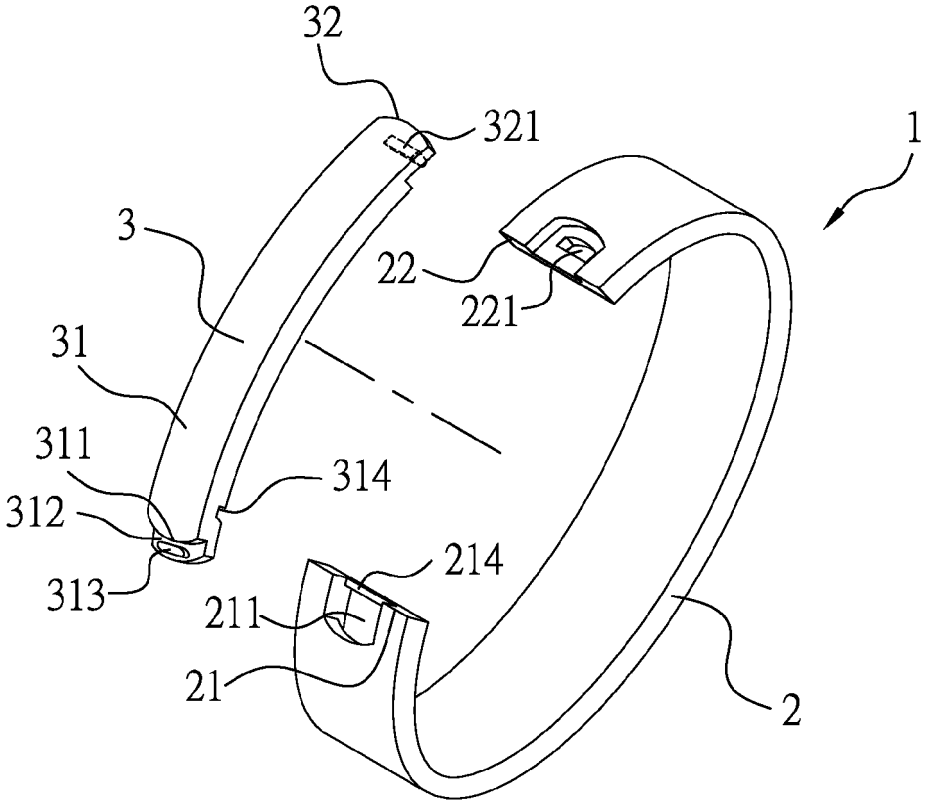
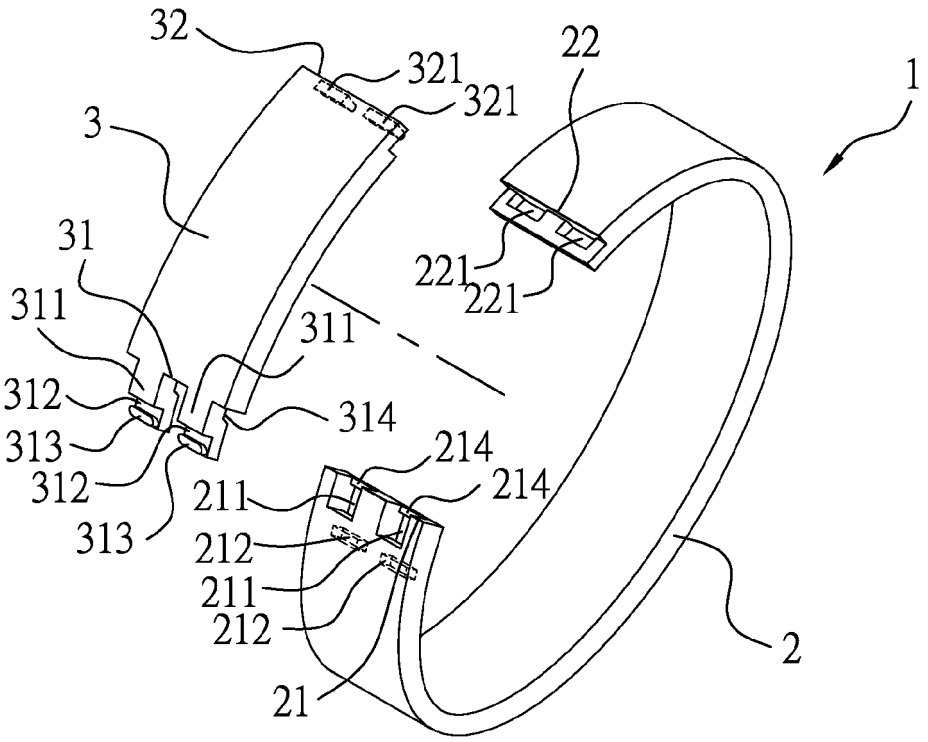


FIG.12


32
321
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22
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3
31
221
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311
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313
214
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21
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FIG.13

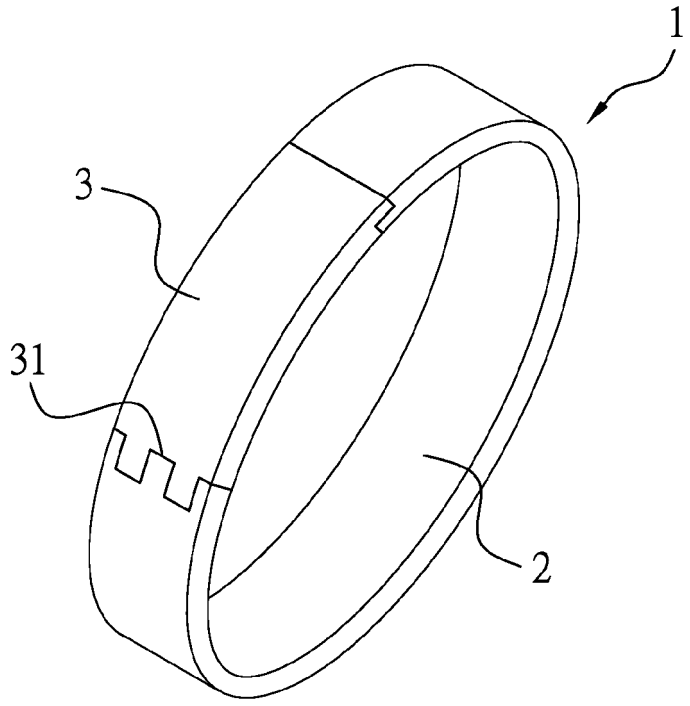
1
3
31
2

FIG.14

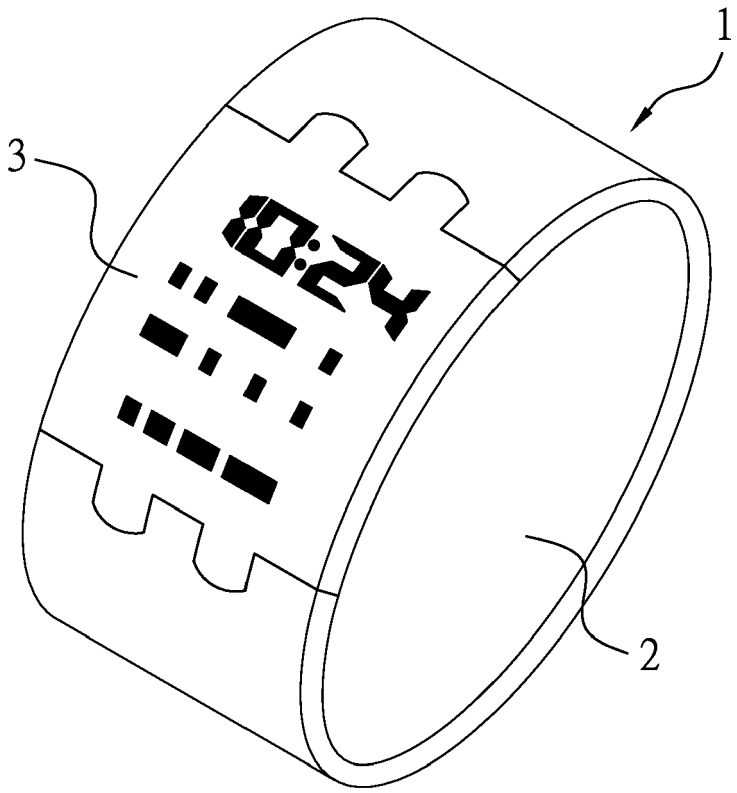

FIG.15

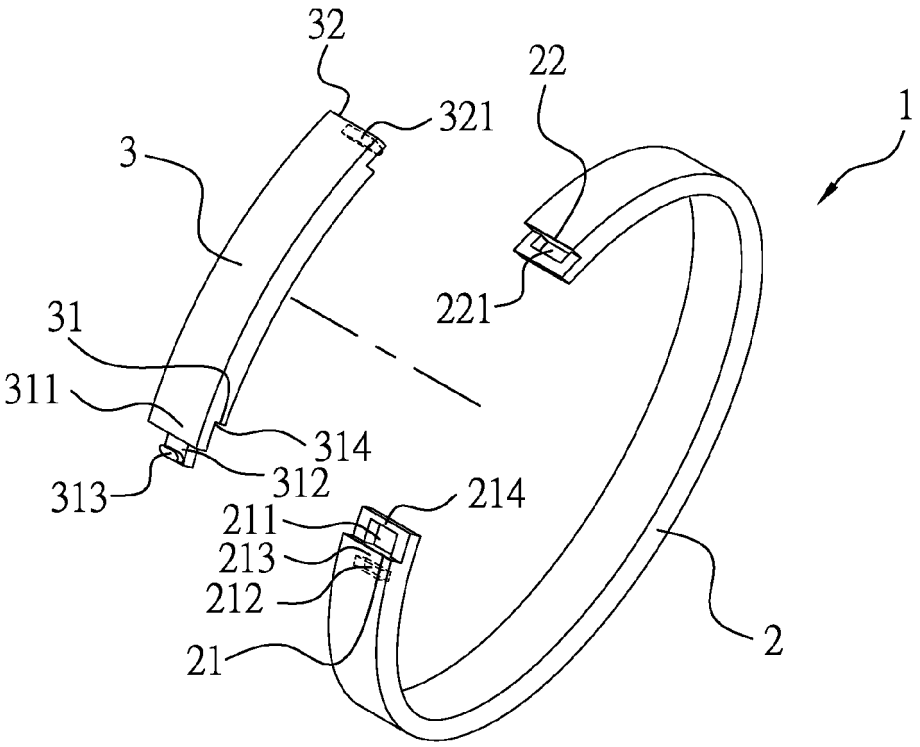

FIG.16

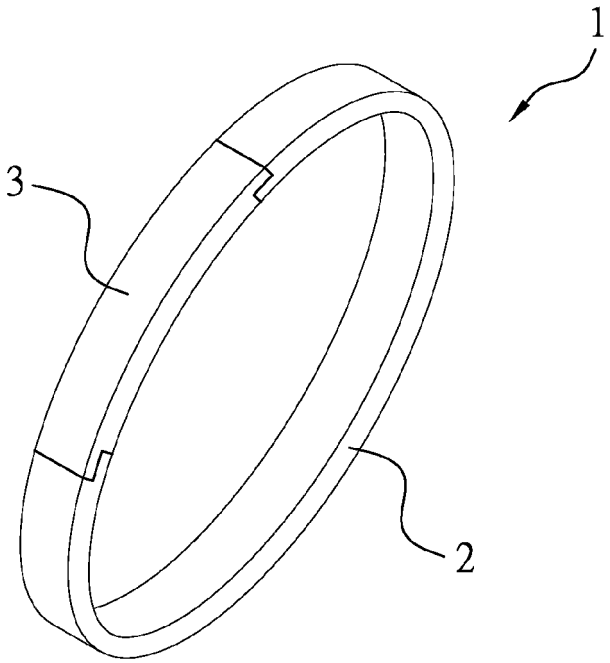

FIG.17

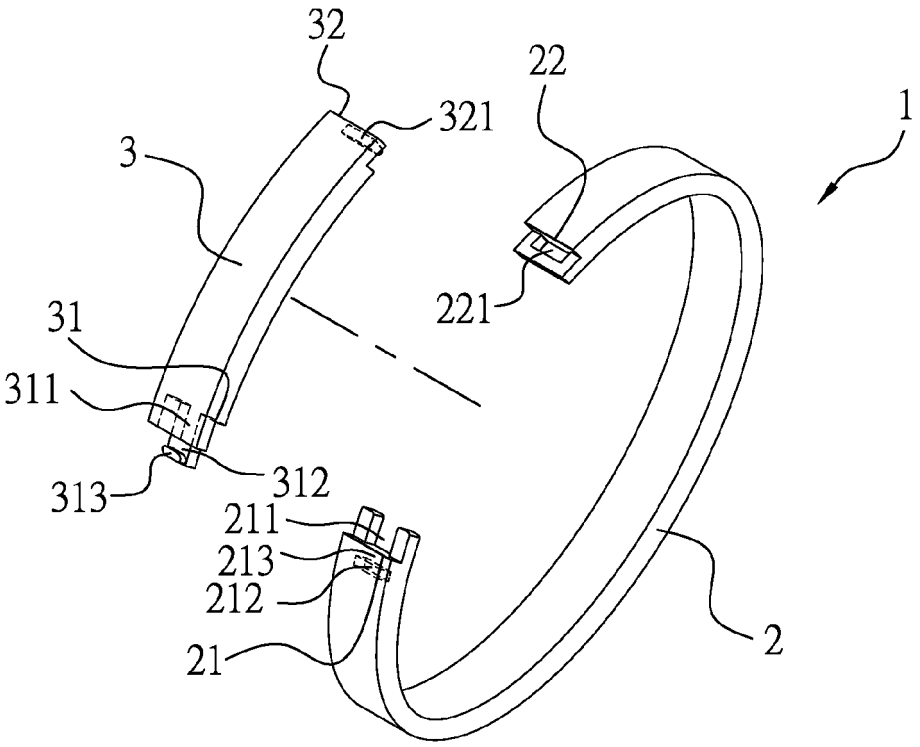

FIG.18

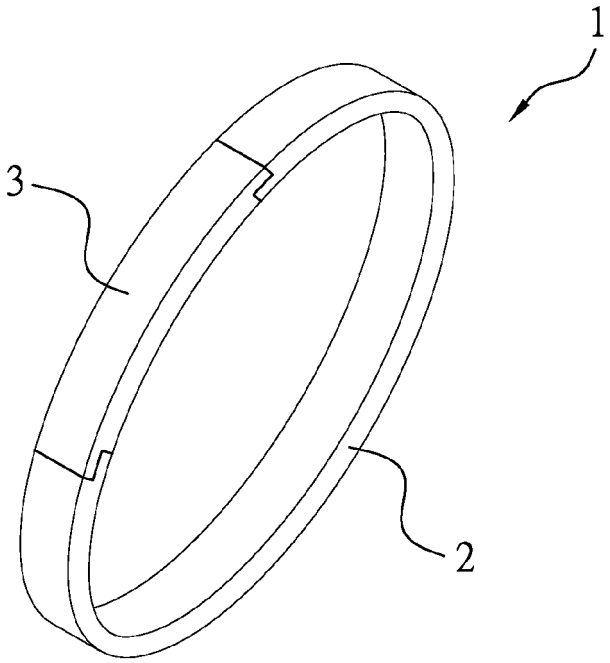

FIG.19

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EUROPEAN SEARCH REPORT

Application Number
EP 17 20 7529

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	FR 2 448 874 A1 (BOUILLIER PATRICK) 12 September 1980 (1980-09-12)	1-5,8,9	INV.
A	* abstract; claims 1, 4-8; figure 10 *	6,7	A44C5/00
	---		A44C17/02
X	US 2 146 272 A (SKOOG JOSEPH E) 7 February 1939 (1939-02-07)	1-5,8,9	G04B47/04
	* abstract; claims 1,2; figure 2 *		

X	US 2017/231335 A1 (MONTAQUILA ROBERT A [US]) 17 August 2017 (2017-08-17)	1	
	* abstract; figures 5, 6 *		

A	EP 0 670 122 A1 (ROVENTA HENEX SA [CH]) 6 September 1995 (1995-09-06)	1-9	
	* abstract; figures 1A-3 *		

TECHNICAL FIELDS SEARCHED (IPC)

A44C
G04B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	26 April 2018	Monné, Eric

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
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E : earlier patent document, but published on, or after the filing date
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L : document cited for other reasons

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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 17 20 7529

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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26-04-2018

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2448874 A1	12-09-1980	NONE	
US 2146272 A	07-02-1939	NONE	
US 2017231335 A1	17-08-2017	NONE	
EP 0670122 A1	06-09-1995	DE 69423878 D1	11-05-2000
		DE 69423878 T2	07-12-2000
		EP 0670122 A1	06-09-1995

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82