(19) Europäisches Patentamt
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(11) **EP 2 277 404 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
26.01.2011 Bulletin 2011/04

(51) Int Cl.:
A44C 5/02 *(2006.01)* ***A44C 5/12*** *(2006.01)*
A44C 17/02 *(2006.01)*

(21) Application number: **10165340.0**

(22) Date of filing: **09.06.2010**

(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 SE SI SK SM TR
Designated Extension States:
BA ME RS

(30) Priority: **20.07.2009 IT TO20090545**

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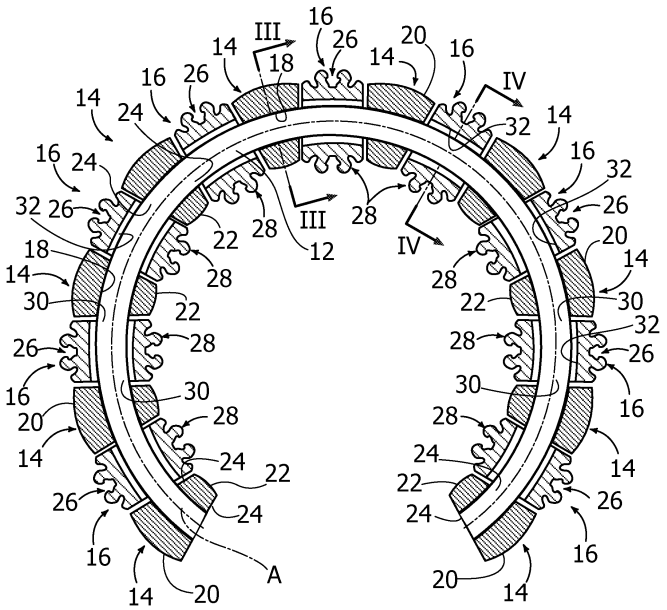
(54) **Ornamental article of annular shape**

(57) An ornamental article of annular shape, comprising:
- an internal support (12) having a longitudinal axis (A) of circular shape;
- a plurality of fixed ornamental elements (14) coupled in a non-rotatable way to said internal support (12) in positions set apart from one another along said longitudinal axis (A); and
- a plurality of rotatable ornamental elements (16), each of which is free to rotate with respect to the internal support (12) about said longitudinal axis (A), wherein each rotatable ornamental element (16) is set between two fixed ornamental elements (14) and has at least one first ornamental face (26) and one second ornamental face (28) with different ornament and is rotatable about said longitudinal axis (A) to set one of said ornamental faces (26, 28) alternatively in a visible position.

FIG. 2



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Description

Field of the invention

[0001] The present invention relates in general to ornamental articles for personal use and regards an ornamental article of annular shape, such as for example a ring, a bracelet, a necklace, a pendant, or the like.

[0002] Ornamental articles of annular shape generally have a unique appearance and usually the modification of the ornamental appearance is not possible without interventions of replacement of parts.

Object and summary of the invention

[0003] The object of the present invention is to provide an ornamental article of annular shape that will enable variation of own ornamental appearance in a simple and fast way and without the need to carry out replacement of parts.

[0004] According to the present invention, the above object is achieved by an ornamental article having the characteristics forming the subject of Claim 1.

Brief description of the drawings

[0005] The present invention will now be described in detail with reference to the attached drawings, which are provided purely by way of non-limiting example and in which:

- Figure 1 is a top plan view of an ornamental article according to the present invention;
- Figure 2 is a cross section according to the line II-II of Figure 1;
- Figures 3 and 4 are schematic cross sections respectively according to the lines III-III and IV-IV of Figure 2; and
- Figure 5 is a schematic cross section illustrating a variant of Figure 4.

Detailed description of a preferred embodiment

[0006] With reference to Figures 1 and 2, designated by 10 is an ornamental article of annular shape according to the present invention. The ornamental article 10 can be a ring, a bracelet, a necklace, a pendant, or any one other article of ornament for personal use with a substantially annular shape.

[0007] With reference to Figure 2, the ornamental article 10 comprises an internal support 12 having a longitudinal axis A of circular shape. The internal support 12 is, for example, formed by a metal bar bent according to a circular profile and having a cross section, in a plane orthogonal to the longitudinal axis A, of a polygonal, for example square, shape.

[0008] The ornamental article 10 according to the present invention comprises a plurality of fixed ornamental elements 14 and a plurality of rotatable ornamental elements 16.

[0009] The fixed ornamental elements 14 are connected in a non-rotatable way to the internal support 12 in positions set apart from one another along the longitudinal axis A. Each fixed ornamental element 14 has a hole 18 that couples in a non-rotatable way with the internal support 12. As is illustrated in Figure 3, the hole 18 of each fixed ornamental element 14 preferably has the same polygonal shape as the internal support 12. Each fixed ornamental element 14 has an outer surface 20 oriented on the visible side of the ornamental article 10 when said article is worn, an internal surface 22, and two plane side surfaces 24 inclined with respect to one another and converging towards the inside of the ornamental article 10. The fixed ornamental elements 14 can be interference fitted on the internal support 12 or else can be coupled to the internal support 12 with slight play.

[0010] Each of the rotatable ornamental elements 16 has at least one first ornamental face 26 and one second ornamental face 28. Each rotatable ornamental element 16 moreover has two side surfaces 30 parallel to one another.

[0011] Each rotatable ornamental element 16 has a through hole 32 that engages the internal support 12 in a rotatable way. As may be seen in Figure 4, the through hole 32 has a circular cross section with a diameter larger than the diagonal of the internal support 12 in such a way that each rotatable ornamental element 16 is free to rotate with respect to the internal support 12 about the longitudinal axis A.

[0012] With reference to Figure 2, each rotatable ornamental element 16 is set between two fixed ornamental elements 14. The side surfaces 30 of each rotatable ornamental element 16 are set facing and parallel to corresponding side surfaces 24 of the fixed ornamental elements 14. The side surfaces 24 of the fixed ornamental elements 14 form side containment walls for the rotatable ornamental elements 16. Each rotatable ornamental element 26 can be rotated about the axis A independently of the other rotatable ornamental elements 16. Each rotatable ornamental element 16 can be set alternatively with the first ornamental surface 26 or with the second ornamental surface 28 facing the outside of the ornamental article 10 and in a visible position when the ornamental article 10 is worn.

[0013] The ornamental surfaces 26, 28 have different ornaments. For example, the ornamental surfaces 26, 28 could be provided with gems of different type. The user can choose to configure the ornamental article 10 as he or she wishes. For instance, the user may orient in a visible position all the first ornamental faces 26 or all the second ornamental faces 28 or else may orient to his or her taste in a visible position the first ornamental surfaces of some rotatable ornamental elements 16 and the second ornamental surfaces 28 of the remaining rotatable ornamental elements 16. There is a wide range of possible configurations and to each configuration there

corresponds a different ornamental effect of the article 10.

[0014] Each rotatable ornamental element 16 could also be provided with three or more ornamental faces so as to increase further the possibilities of personalization of the ornamental article 10.

[0015] Figure 5 shows a possible variant embodiment of the rotatable ornamental element. In this variant, the rotatable ornamental element has a cavity 40, formed in which is a semicircular seat 42, resting on which is the internal support 12. A leaf spring 44 presses on the side of the internal support 12 opposite to the semicircular seat 42. The leaf spring 44 withholds the ornamental element 16 stably in each of its positions.

[0016] Of course, without prejudice to the principle of the invention, the details of construction and the embodiments may vary widely with respect to what is described and illustrated herein, without thereby departing from the scope of the invention as defined by the ensuing claims.

Claims

1. An ornamental article of annular shape, comprising:

- an internal support (12) having a longitudinal axis (A) of circular shape;
- a plurality of fixed ornamental elements (14) coupled in a non-rotatable way to said internal support (12) in positions set apart from one another along said longitudinal axis (A); and
- a plurality of rotatable ornamental elements (16), each of which is free to rotate with respect to the internal support (12) about said longitudinal axis (A), wherein each rotatable ornamental element (16) is set between two fixed ornamental elements (14) and has at least one first ornamental face (26) and one second ornamental face (28) with different ornament and is rotatable about said longitudinal axis (A) to set one of said ornamental faces (26, 28) alternatively in a visible position.

2. The ornamental article according to Claim 1, wherein each fixed ornamental element (12) has two side surfaces (24) inclined with respect to one another and converging towards the inside of the ornamental article (10), and wherein each rotatable ornamental element (16) has two side surfaces (30) parallel to one another, each of which is set facing and parallel to a corresponding side surface (24) of an adjacent fixed ornamental element (14).

3. The ornamental article according to Claim 1 or Claim 2, wherein said internal support (12) is formed by a bar with polygonal cross section bent according to a circular profile.

4. The ornamental article according to Claim 3, wherein each rotatable ornamental element (16) has a through hole (32) that engages said internal support (12) in a rotatable way.

5. The ornamental article according to Claim 1, wherein the fixed ornamental elements (14) and the rotatable ornamental elements (16) alternate with respect to one another along said longitudinal axis (A).

6. The ornamental article according to Claim 4, wherein each fixed ornamental element (14) has a hole (18) with polygonal cross section that engages said internal support (12) in a non-rotatable way.

7. The ornamental article according to Claim 2, wherein each rotatable ornamental element (16) has a semicircular seat (42), resting on which is said internal support (12), and a leaf spring (44), which presses on the side of the internal support (12) opposite to the semicircular seat (42).

FIG. 1

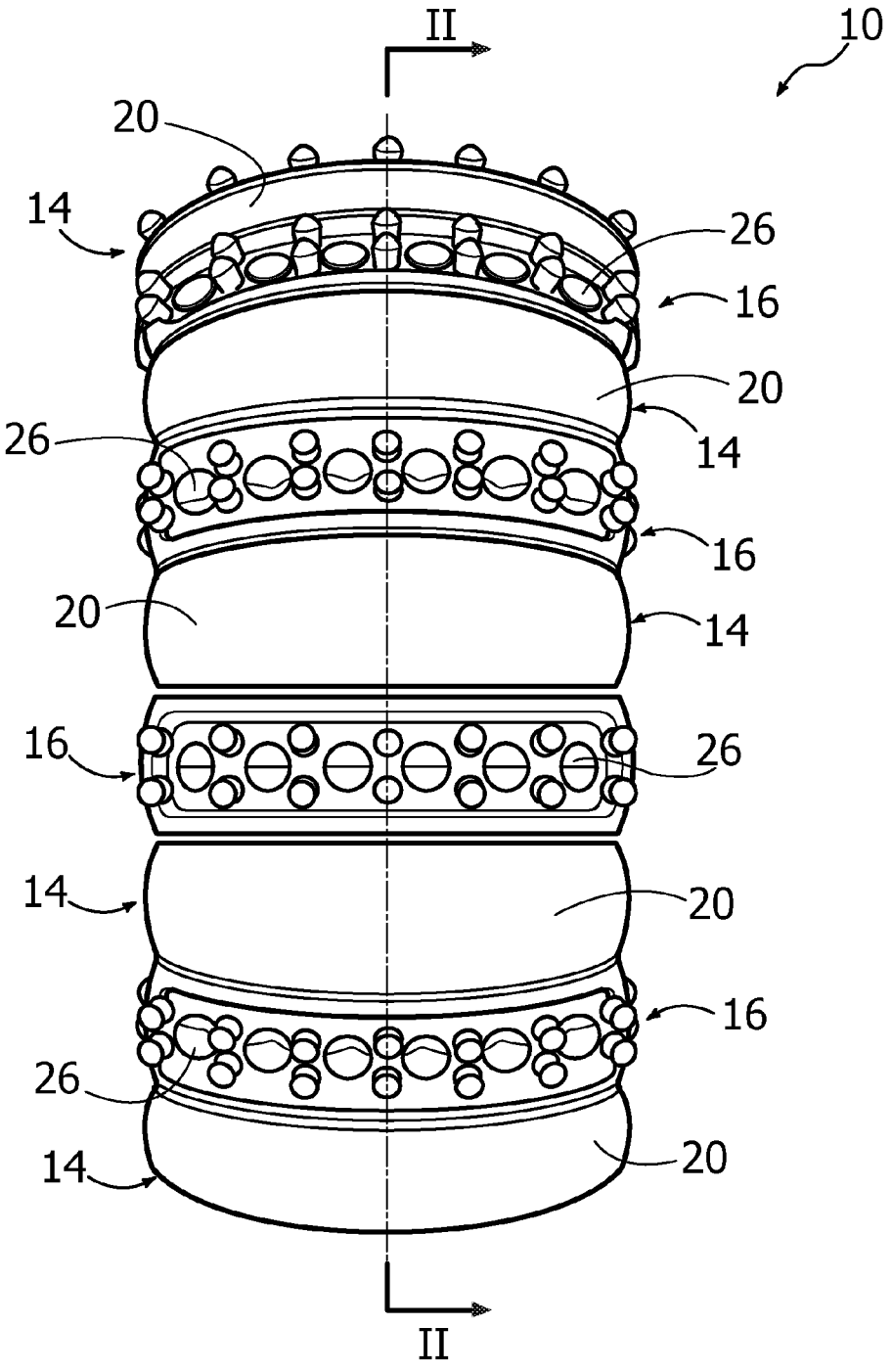

FIG. 2

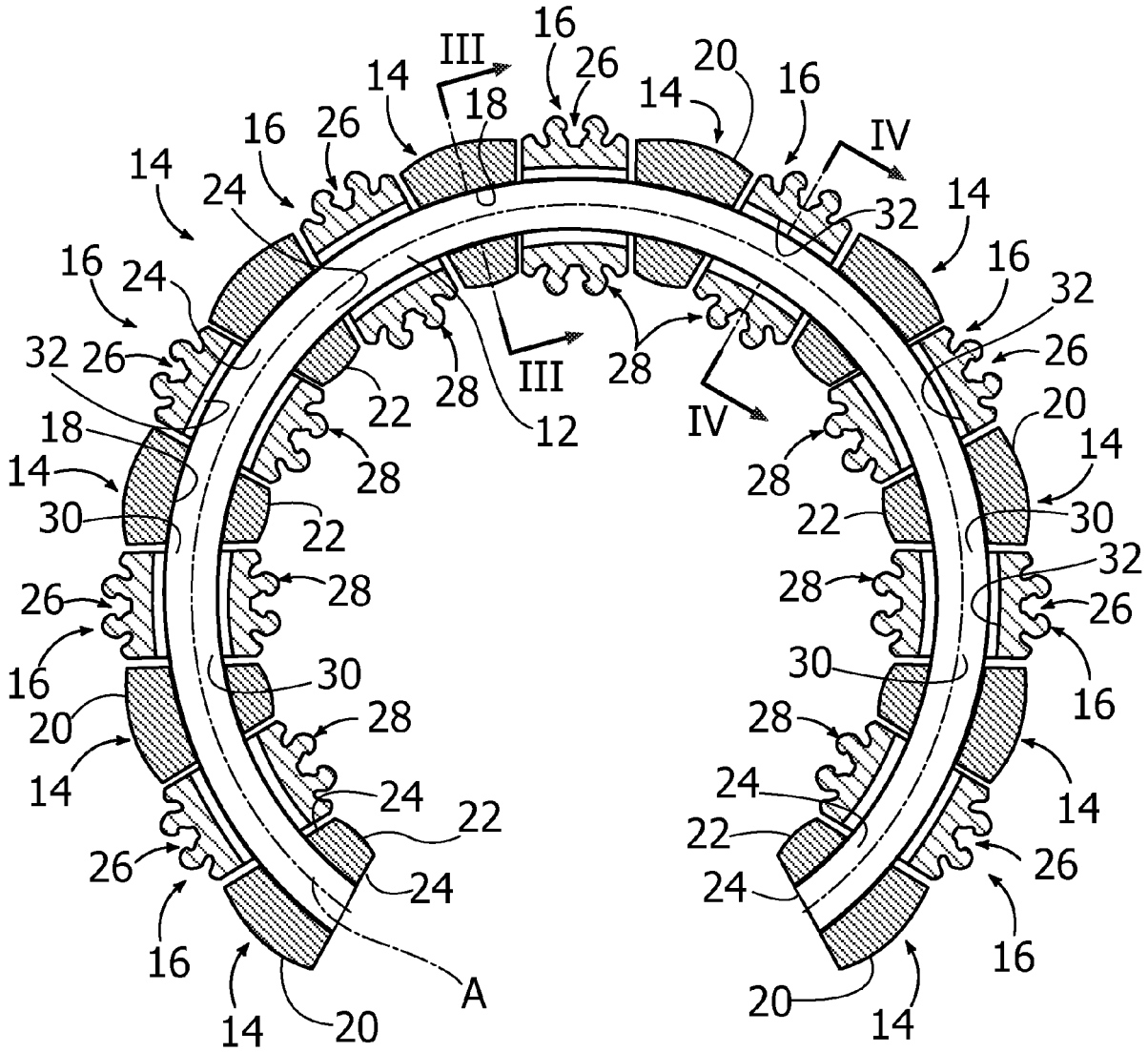
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FIG. 3

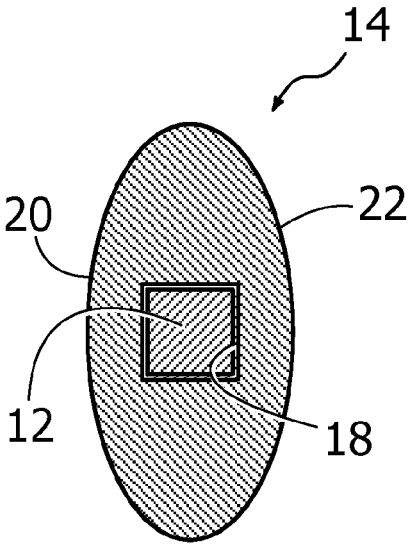


FIG. 4

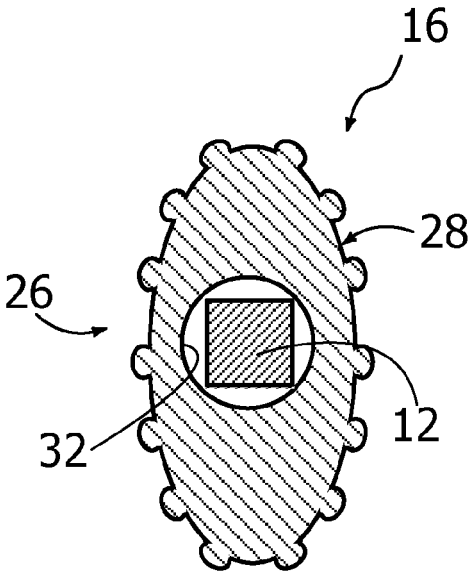
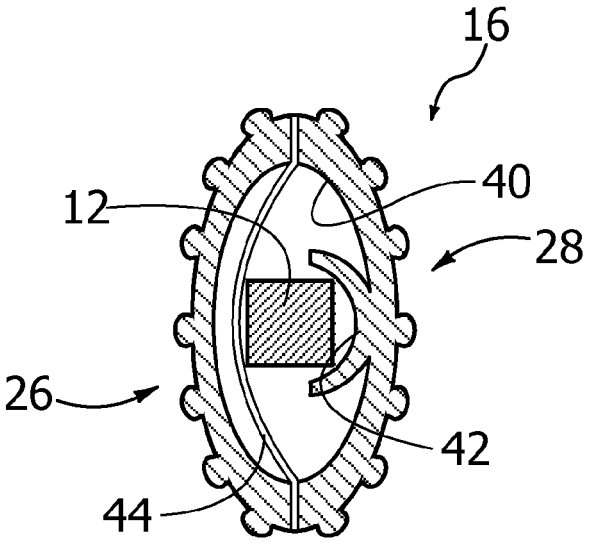


FIG. 5



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EUROPEAN SEARCH REPORT

Application Number
EP 10 16 5340

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 4 977 757 A (MESICA ZURI [US] ET AL) 18 December 1990 (1990-12-18) * the whole document *	1,2	INV. A44C5/02 A44C5/12 A44C17/02
A	US 2005/252240 A1 (JUNOD PAUL [CH]) 17 November 2005 (2005-11-17) * figures *	1	
A	US 6 880 364 B1 (VIDOLIN MICHAEL F [US] ET AL) 19 April 2005 (2005-04-19) * figures 1-6 *	1	
A	US 5 682 768 A (NISSENBAUM CHAIM [US]) 4 November 1997 (1997-11-04) * abstract; figures *	1	
A	US 5 787 731 A (EBARA ISAO [JP]) 4 August 1998 (1998-08-04) * figures *	1	
A	US 5 873 265 A (SIMONNET FRANCIS [FR]) 23 February 1999 (1999-02-23) * figures *	1	TECHNICAL FIELDS SEARCHED (IPC) A44C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	4 November 2010	Fonseca Fernandez, H

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04-11-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4977757 A	18-12-1990	NONE	
US 2005252240 A1	17-11-2005	AT 367105 T	15-08-2007
		CN 1689476 A	02-11-2005
		EP 1591034 A1	02-11-2005
		ES 2290582 T3	16-02-2008
		JP 2005312963 A	10-11-2005
US 6880364 B1	19-04-2005	NONE	
US 5682768 A	04-11-1997	NONE	
US 5787731 A	04-08-1998	NONE	
US 5873265 A	23-02-1999	AU 2703197 A	07-11-1997
		FR 2747548 A1	24-10-1997
		WO 9738609 A1	23-10-1997

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