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(54) **Device for connecting precious elements or the like to finger rings**

(57) A device for connecting precious elements to finger rings, comprising a substantially annular body (11) (known in the specific field as a shank), to be worn on a finger, and a gem holder (12), which is connected to the

substantially annular body (11) in an upper region. The substantially annular body has at one point thereof a head (13), which is integral therewith and is inserted in and mated with a lower portion (14) of the gem holder by way of a bayonet coupling.

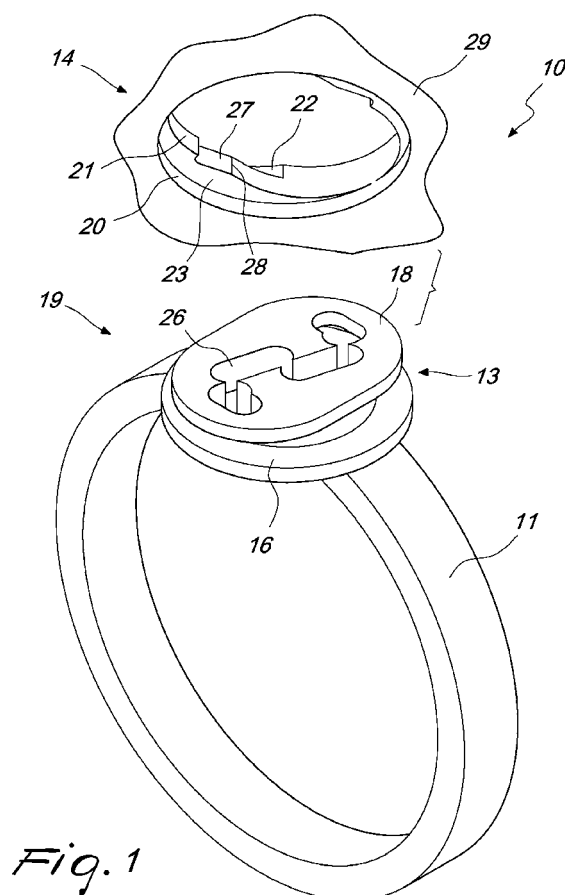


Fig. 1

Description

[0001] The present invention relates to a device for connecting precious elements or the like to finger rings.

[0002] It is known that the production of rings fitted with precious gems, or other similar stones, typically requires the gems to be set in a seat made of the same material as the shank (name by which the annular portion is known in the specific field).

[0003] The diameter of the shank is established before the setting operation and therefore, in order to meet the requirements of customers, the merchant should have several different types of rings in all sizes available.

[0004] This method however exhibits the main drawback of requiring a particularly high economic commitment, as well as the risk of not selling the rings in all the sizes.

[0005] In order to clear unsold stock the jeweller resorts to adapting the ring, enlarging or reducing the diameter of the shank according to the needs of the customer.

[0006] This method however is not devoid of drawbacks, either.

[0007] In fact, since the adaptation operation is laborious and expensive, very often the merchant does not do it unless it can be justified by the high value of the ring.

[0008] Another drawback is linked to the fact that such type of operation can be carried out only by a master jeweller, and therefore at a suitably equipped goldsmith's workshop and not at a standard sales point.

[0009] Moreover, the type of stone set is not always adapted to withstand the operation to adapt the shank, and may break or be damaged.

[0010] The aim of the present invention is to provide a device for connecting precious elements or the like to finger rings which enables the merchant, be he a jeweller or a retailer, to make several different types of rings in different sizes available to their clientele.

[0011] Within this aim, an object of the invention is to reduce the economic commitment of the merchant owing to the purchase or production of each type of ring in many sizes of the shank.

[0012] Another object of the invention is to prevent the jeweller from having to resort to adapting the shank, according to the needs of the customer, in order to sell the ring.

[0013] Another object is to enable the sale of rings, in different sizes, by merchants who are not equipped with an adequate goldsmith workshop and who are not expert in working with jewelry.

[0014] Another object consists in providing a device that can be easily used by people with no expert knowledge of jewelry, including sales staff.

[0015] This aim and these and other objects which will become more apparent hereinafter are achieved by a device for connecting precious elements or the like to finger rings, comprising a substantially annular body (known in the specific field as a shank), to be worn on a finger, and a gem holder, which is connected to said sub-

stantially annular body in an upper region, **characterized in that** said substantially annular body has at one point thereof a head, which is integral therewith and is inserted in and mated with a lower portion of said gem holder by way of a bayonet coupling.

[0016] Further characteristics and advantages of the invention will become more apparent from the description of a preferred, but not exclusive, embodiment of the device according to the invention, which is illustrated by way of non-limiting example in the accompanying drawings wherein:

Figure 1 is an exploded perspective view of the device according to the invention;

Figure 2 is an exploded axially sectional view of the device according to the invention;

Figure 3 is a plan view from above of the device according to the invention, with head and lower portion of the gem holder dissociated;

Figure 4 is a plan view from above of the device according to the invention in a first configuration;

Figure 5 is a plan view from above of the device according to the invention in a second configuration;

Figure 6 is a view of a second embodiment of the lower portion of the gem holder.

[0017] With reference to the figures, a device according to the invention, generally designated with the reference numeral 10, comprises a substantially annular body 11 and a gem holder 12, which is connected to the annular body 11 in an upper region. Such annular body 11 has at one point thereof a head 13, which is integral therewith and is inserted in and mated with a lower portion 14 of the gem holder 12 by way of a bayonet coupling.

[0018] The head 13, after insertion in the lower portion 14 of the gem holder 12, is rotatable about a rotation axis 15 which is substantially parallel to their direction of mating. Moreover, it comprises three portions in succession, i.e. a lower portion 16 which is substantially disk-like in shape, an intermediate portion 17, the shape and dimensions of which are such as to cooperate to define parts of the bayonet coupling, to which, in an upper region, the upper portion 18 is connected, which is substantially oval-shaped and plate-like.

[0019] These three portions 16, 17 and 18 are monolithic with the annular body 11, constituting a monolithic body 19 with each other and with the annular body 11.

[0020] The lower portion 14 of the gem holder is hollow and comprises three regions 20, 21 and 22, at which the three portions 16, 17 and 18 of the head 13 are arranged. The lower region 20 has a circular opening through which the upper portion 18 passes during the insertion and which accommodates the lower portion 16 during the mating of the head with the lower portion 14 of the gem holder 12. The intermediate region 21 has an opening, also for the passage of the upper portion 18 during insertion, with two protrusions 23 and 23a which are diametrically opposite and which prevent the escape of the

head 13 from the gem holder 12 when the head is rotated about the axis 15 with respect to the position of insertion. The third region, i.e. the upper region 22, has a circular opening with two recessed shoulders 24 and 24a which define the stroke limit of the rotation of the head 13 after insertion.

[0021] Advantageously, there are means of locking the rotation. The upper portion 18 of the head 13 has a through cavity 26, which is shaped conveniently to accommodate a plate-like elastic element 25 folded substantially in a Z-like shape. The elastic element 25 protrudes from the through cavity 26 up to the intermediate region 21 at its two ends which, at the end of rotation, interlock in two slots 27 and 27a which are defined on the riser 28 of the intermediate region 21.

[0022] The gem holder 12 is provided, in an upper region, with a seat 29 that is intended to accommodate the stone, or the like.

[0023] The use of the device according to the invention is as follows.

[0024] The head 13 is inserted in the lower portion 14 of the gem holder 12 along the direction of the axis 15. When the lower portion 16 of the head 13 is accommodated in the lower region 20, the head 13 is rotated by approximately 90 degrees, until the upper portion 18 of the head reaches the stroke limit defined by the shoulders 24 and 24a.

[0025] The locking means ensure the stable and irreversible mating of the head 13 with the gem holder 12. In fact, during the rotation, the ends of the elastic element 25, which protrudes from the through cavity 26, scrape on the wall of the intermediate region 21 until they meet the two slots 27 and 27a, with which they interlock, thus preventing the opposite rotation of the head 13.

[0026] Advantageously, the elastic element 25 can be fixed in the through cavity 26 by way of the application of adhesive.

[0027] It should be noted that the mounting of the gem holder occurs exclusively by hand and does not require the use of specific tools nor does it require any particular experience in the art. At the time of sale it is sufficient for the assistant to determine the size of the customer's finger and, subsequently, mount the shank, of measured size, on the gem holder.

[0028] Moreover it should be noted that for the merchant, in order to meet the needs of the customers, it is sufficient to have at least one gem holder available for each type of ring and a store of shanks of various sizes, to be mounted on the gem holder at the time of sale.

[0029] Such shanks, being of standard shape and size, can simply be reordered when necessary, being readily available at the supplier.

[0030] The device is preferably made of precious metals, but it should be understood that it can also be made of other metallic materials or of plastic material.

[0031] In practice it has been found that the invention fully achieves the intended aim and objects since it enables a merchant to offer a wide range of rings with a

reduced economic commitment and avoid having to resort to laborious and expensive adaptation operations.

[0032] The invention, thus conceived, is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims. Moreover, all the details may be substituted by other, technically equivalent elements.

[0033] In practice the materials employed, provided they are compatible with the specific use, and the contingent dimensions and shapes, may be any according to requirements and to the state of the art.

[0034] The disclosures in Italian Patent Application No. PD2011A000158 from which this application claims priority are incorporated herein by reference.

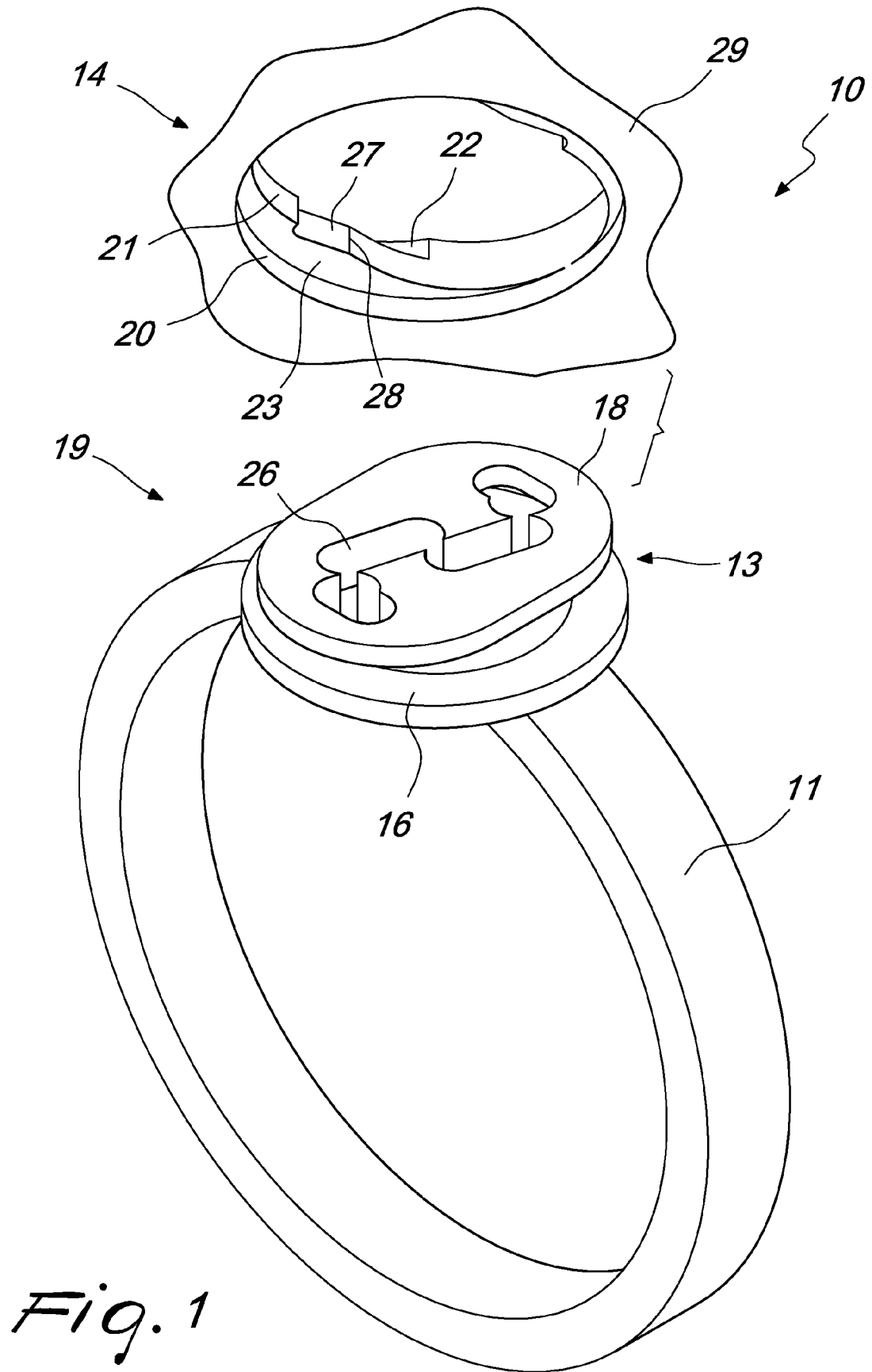
[0035] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

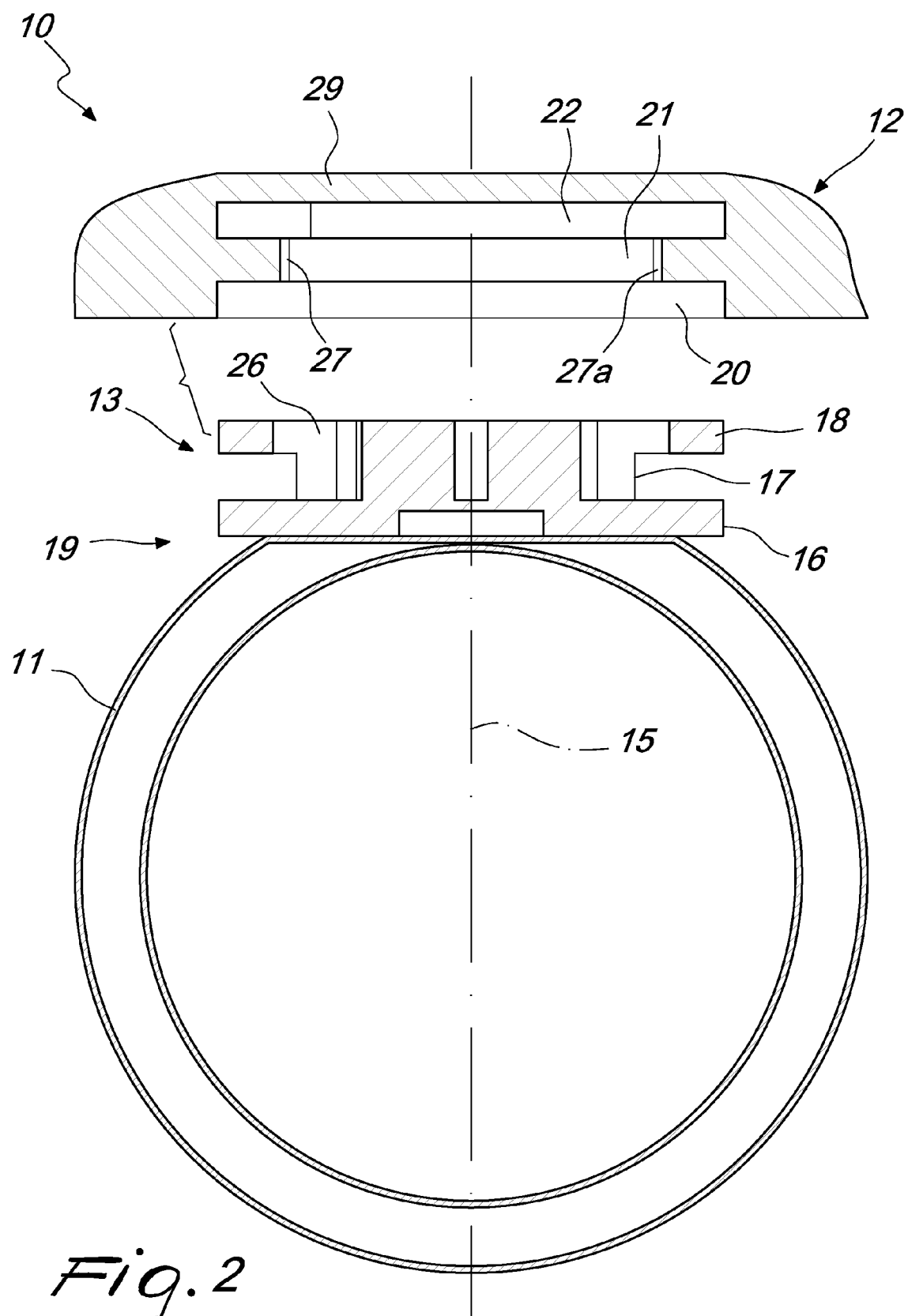
Claims

1. A device for connecting precious elements or the like to finger rings, comprising a substantially annular body (11) (known in the specific field as a shank), to be worn on a finger, and a gem holder (12), which is connected to said substantially annular body (11) in an upper region, **characterized in that** said substantially annular body (11) has at one point thereof a head (13), which is integral therewith and is inserted in and mated with a lower portion (14) of said gem holder (12) by way of a bayonet coupling.
2. The device according to claim 1, **characterized in that** said head (13), once inserted, is rotatable about a rotation axis (15) which is substantially parallel to the mating direction, and **in that** said head (13) comprises three portions in succession:
 - a lower portion (16), which is substantially disk-like and forms an upper surface for mating with a part of said lower portion (14) of said gem holder (12),
 - an intermediate portion (17) the shape and dimensions of which are such that it cooperates to define parts of the bayonet coupling,
 - an upper portion (18) which is plate-like and substantially oval.
3. The device according to claim 2, **characterized in that** said three portions constitute a monolithic body (19) with each other and with said substantially annular body (11).
4. The device according to claim 2, **characterized in**

that said lower portion (14) of said gem holder (12) is hollow for the insertion of said head (13) and comprises three regions:

- a lower region (20), which has a circular opening for the passage of said upper portion (18) of said head (13) and is adapted to accommodate the lower portion (16) of said head (13) during the mating of said head (13) with said lower portion (14) of said gem holder (12),
 - an intermediate region (21), which has an opening, also for the passage of said upper portion (18) of said head (13), which is reduced with respect to said circular opening of said lower region (20), defining two protrusions (23 and 23a) which are diametrically opposite for preventing the escape of said head (13) from said gem holder (12) when said head is rotated with respect to the insertion,
 - an upper region (22), which has a circular opening with two recessed shoulders (24 and 24a), said shoulders (24 and 24a) defining in the receptacle of said upper portion (18) of said head (13) the stroke limit of the rotation of said head (13) with respect to said gem holder (12).
5. The device according to claim 4, **characterized in that** it comprises locking means which are adapted to prevent the opposite rotation of said head (13) in relation to said gem holder (12).
6. The device according to claim 5, **characterized in that** said locking means comprise a plate-like elastic element (25), which is folded substantially in a Z-like shape and is accommodated in a through cavity (26) which is shaped conveniently to accommodate said elastic element (25) and is defined in said upper portion (18) of said head (13), said elastic element (25) protruding from the through cavity (26) up to said intermediate region (21) at its two ends, for the interlocking coupling of each one of said two ends thereof within recesses (27 and 27a) formed on the riser (28) of said opening of said intermediate region (21) at the end of rotation.
7. The device according to claim 1, **characterized in that** said gem holder is provided, in an upper region, with a seat (29) for gems or the like.
8. The device according to claim 4, **characterized in that** said regions (20, 21 and 22) of said lower portion (14) of said gem holder (12) are obtained from a same element.





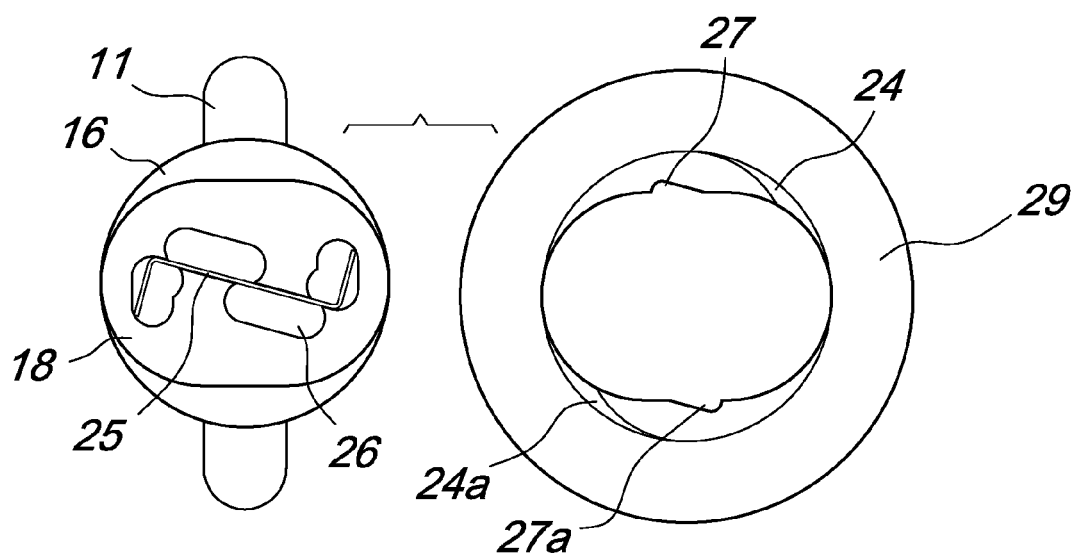


Fig. 3

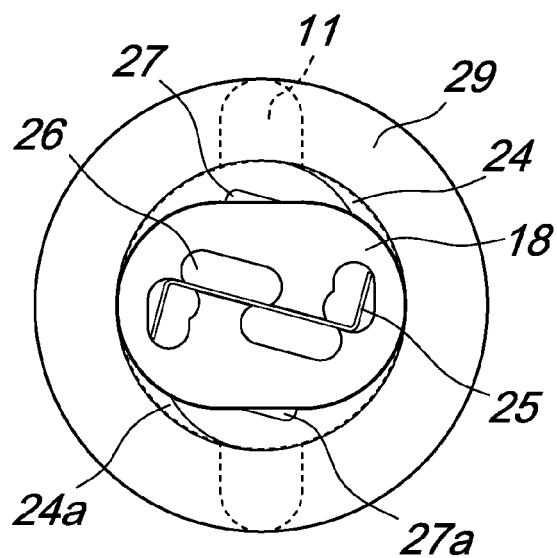


Fig. 4

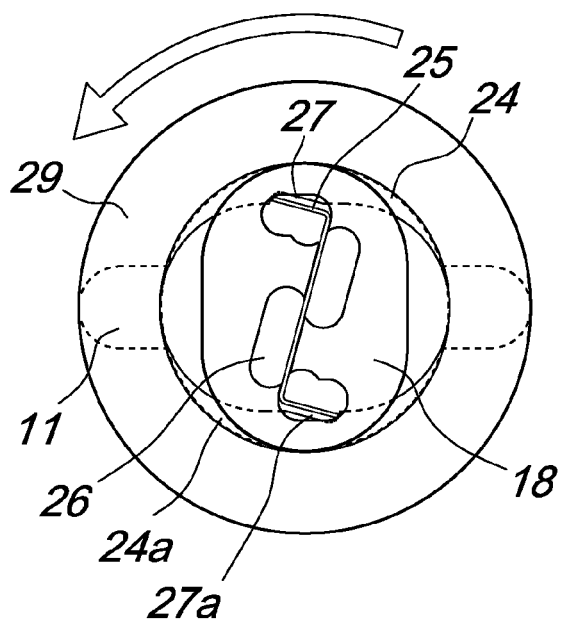


Fig. 5

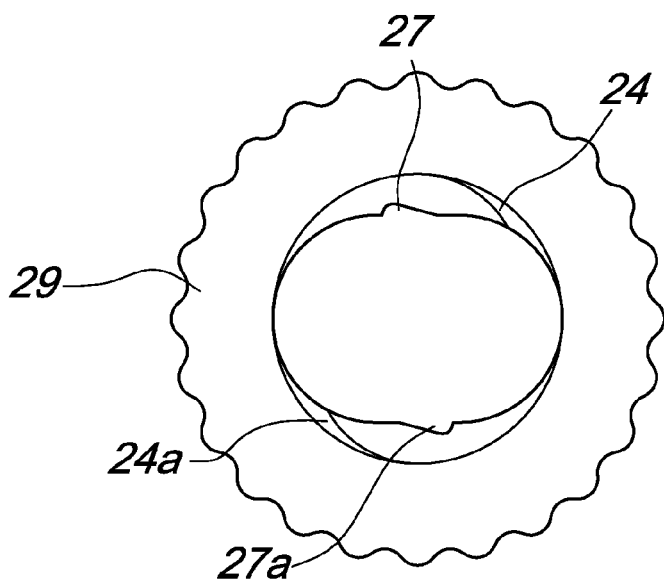


Fig. 6



EUROPEAN SEARCH REPORT

Application Number
EP 12 16 8193

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	CH 571 840 A5 (DEGARRY SOCIETE) 30 January 1976 (1976-01-30) * column 1, lines 35-48; claim 1; figure 4 *	1-5,7,8	INV. A44C17/02
X	DE 20 2006 012410 U1 (KOBRIK & WAGNER GMBH [DE]) 26 October 2006 (2006-10-26) * claims 1-3,6-8; figure 1 *	1,5,7,8	
X	FR 2 933 275 A1 (BENCHABATT ELIAS [FR]) 8 January 2010 (2010-01-08) * page 5, paragraph 3; claim 7; figure 13 *	1,5,7,8	
X	US 4 982 581 A (FURUYAMA KAZUO [JP]) 8 January 1991 (1991-01-08) * abstract; figures 1,5 *	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			A44C
Place of search		Date of completion of the search	Examiner
The Hague		16 November 2012	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 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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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 16 8193

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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16-11-2012

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REFERENCES CITED IN THE DESCRIPTION

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