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(54) **JEWELRY WITH STONE**

(57) Jewelry with stone (20) comprising a bezel (10) and an annular band (1) that is provided on its convex external side with a cavity (2) disposed in central position with respect to its longitudinal axis and has a profile that corresponds to the one of the apex (20b) of said stone (20); said bezel (10) being provided with a passage (13) for the guided insertion of said bezel (10) on the band (1); said passage (13) being in communication with the space where the stone (20) is to be positioned and fixed.

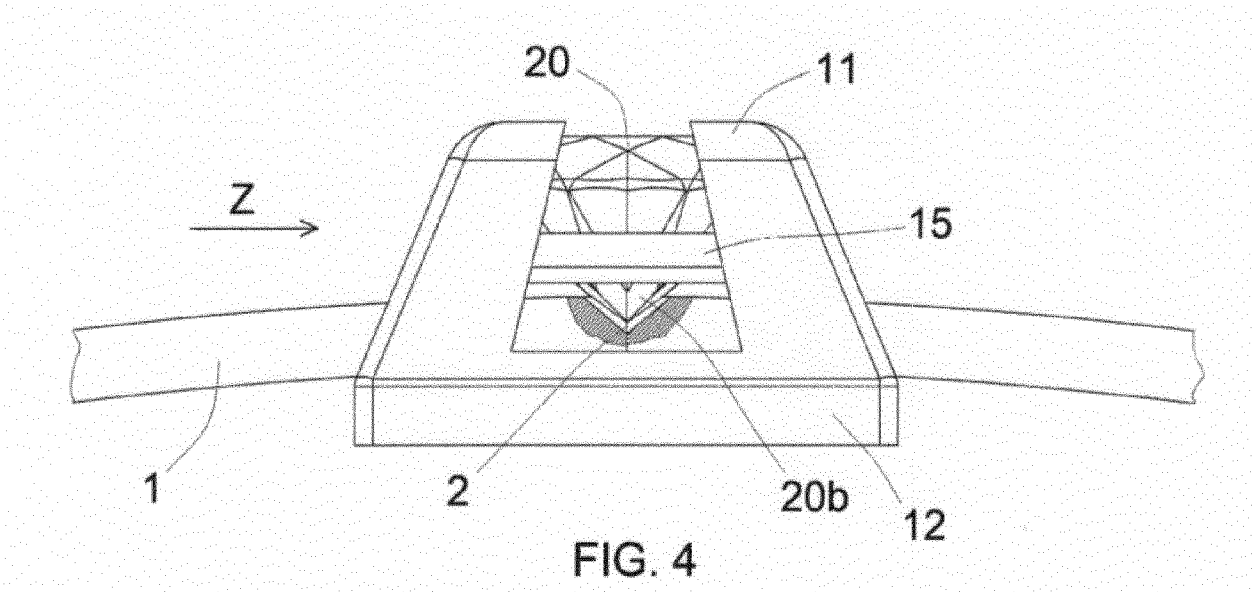

FIG. 4

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Description

[0001] The present invention relates to a jewelry with diamond-cut stone, that is to say with a pavilion with tapered profile, preferably with conical shape.

[0002] Hereinafter reference will be made to a conical stone.

[0003] As it is known, the fixing of a stone in a jewel is usually obtained by means of a bezel, whose structural configuration comprises a crowned cavity that is suitable for accommodating the pavilion of the stone, which is held and fitted in the cavity by means of small claws that are plastically deformable and fasten the belt of the stone.

[0004] According to the prior art, if the jewelry is a necklace, or a bracelet made of a metal annular band, the fixing of the bezel to the band is obtained by means of soldering or gluing.

[0005] Evidently, soldering or gluing ensures the firm fixing of the bezel to the band. However, when a repair or replacement is necessary, the removal of the bezel is quite difficult and time-consuming and requires fine operations that can only be performed by a goldsmith.

[0006] US4237702 discloses a necklace according to the preamble of claim 1.

[0007] IT20170015156 discloses a jewelry, such as a bracelet or a necklace, comprising a filiform support structure provided with a central groove wherein the points of the stone are disposed in such a way to prevent the bezel from rotating.

[0008] The object of the present invention is to devise a jewelry suitable for avoiding the provision of means used for holding the stone permanently, such as adhesives and soldering, and capable of facilitating the mounting and dismounting of the stone in such a way that such an operation can be performed by the person wearing the jewelry, for personalization purposes.

[0009] Another purpose of the invention is to devise a jewelry provided with means for holding the bezel of the stone temporarily on the band, which are simple and inexpensive to make.

[0010] These purposes are achieved by the jewelry with stone according to the present invention with the characteristics of the independent claim.

[0011] Advantageous embodiments of the invention appear from the dependent claims.

[0012] For the sake of clarity, the description of the jewelry according to the invention continues with reference to the appended drawings, which have a merely illustrative, not limiting value, wherein:

Fig. 1 is a perspective view of the jewelry according to the invention;

Fig. 1A is an enlarged view of a detail of Fig. 1, which refers to the stone and the bezel;

Fig. 3 is a side view of the jewelry of Fig. 2, along the direction X indicated in Fig. 2, which shows the bezel and the stone in a position wherein they are free to slide with respect to the annular band;

Fig. 4 is the same as Fig. 3, except for it shows the bezel and the stone in a position wherein they are firmly held with respect to the annular band;

Fig. 5 is a side view of the jewelry of Fig. 3, along the direction Y indicated in Fig. 3;

Fig. 6 is a side view of the jewelry of Fig. 4, along the direction Z indicated in Fig. 4;

Fig. 7 is a perspective view of the annular band of the jewelry according to the invention;

Fig. 8 is a perspective view of the bezel detached from the annular band;

Fig. 9 is a perspective view of a constructive variant of the jewelry according to the invention;

Fig. 10 is a perspective view of another constructive variant of the jewelry according to the invention.

[0013] With reference to the Figures, a jewelry (M) is described according to the invention.

[0014] The jewelry (M) comprises a band (1) with annular shape made of metallic material. The band (1) has a rectangular cross-section, but a different cross-section, such as a circular, elliptical or square cross-section, is also possible, leaving the assembly method and the peculiarities of the jewel (M) unchanged.

[0015] The jewelry (M) comprises a bezel (10). The bezel (10) comprises four claws (11) that are regularly spaced and are suitable for fixing a stone (20) to the bezel (10) according to the operating procedures of the prior art.

[0016] The claws (11) are positioned, two by two, on opposite sides with respect to a longitudinal axis of the band (1), so that a first pair of claws (11') disposed on either side of the band, and a second pair of claws (11") disposed on either side of the band can be identified.

[0017] The claws (11) project from a base (12) disposed under the band (1). A passage (13) is provided between the claws (11) and the base (12) for slidingly inserting the band (1).

[0018] Each claw (11) has an internal side (11a) facing the longitudinal axis of the band (1). A notch (14) that starts from the base (12) is provided on the internal side (11a) of each claw.

[0019] The band (1) has two longitudinal edges (1a). The height of the notch (14) is sufficient for the insertion of the longitudinal edge (1a) of the band (1).

[0020] Considering that the band (1) has a rectangular cross-section, the notch (14) of the claw has an inverted "L" profile. Therefore, the notch (14) comprises:

- a first side (14a) in horizontal parallel position with respect to an upper surface (12a) of the base (12);
- a second side (14b) in vertical perpendicular position with respect to the upper surface (12a) of the base (12).

[0021] The height of the first side (14a) is higher by a few tenths of a millimeter or fractions of a tenth than the thickness of the band (1), whereas the distance between the second side (14b) of each pair of opposing claws

(11', 11") is equal to the width of the band (1), as shown in Fig. 5.

[0022] In view of the above, the bezel (10) is free to slide along the band (1) perfectly guided by the passage (13), which slides against the two longitudinal edges (1a) of the band (1), without touching the upper and lower side of the band (1).

[0023] The passage (13) has an inlet that is defined by the notches (14) of the first pair of claws (11'), and an outlet that is defined by the notches (14) of the second pair of claws (11").

[0024] The passage (13) communicates with a compartment suitable for accommodating the stone (20), which is arranged between the claws (11). The stone (20) has a pavilion (20a) and an apex (20b). Thus, the apex (20b) of the stone can interfere with the band (1).

[0025] The bezel (10) also includes a dish (15) supported by the four claws (11) at a height that is approximately equal to half the height of the claws (11). The dish (15) is provided with a slot (15a) in central position to accommodate the pavilion (20a) of the stone (20).

[0026] If the stone (20) has a conical pavilion, the slot (15a) of the dish of the bezel will have a circular profile, whereas if the pavilion of the stone has the shape of a four-sided trapezium, the slot of the dish of the bezel will have a quadrangular profile.

[0027] When it is closed in ring configuration, the band (1) has a convex external side and a concave internal side.

[0028] The band comprises at least one cavity (2) on its external ide. A cavity is a recessed seat having a center.

[0029] The cavity (2) is positioned in such a way that its center is aligned with the longitudinal axis of the band (1).

[0030] The cavity (2) is suitably shaped to accommodate the apex (20b) of the pavilion (20a) of the stone, which must be exactly housed in the cavity (2)

[0031] For illustrative purposes, if the pavilion (20a) of the stone has the shape of a four-sided pyramid, then the cavity (2) must also have the shape of a four-sided pyramid, whereas, in the case of a conical pavilion (20a), also the cavity (2) must have a conical profile.

[0032] Following is a description of the procedure used to hold the bezel (10) on the band (1).

[0033] Once the band (1) has been inserted through the passage (13) of the bezel (10), the bezel (10) slides along the band (1) until it is centrally positioned above the cavity (2) provided on the band (1).

[0034] Once the bezel (10) has been centered in relation to the center of the cavity (2), pressure is applied on the four claws (11)with sufficient intensity to determine a plastic deformation by means of compression of the claws (11), so that the apex (20b) of the pavilion (20a) of the stone (20) enters the cavity (2) of the band (1).

[0035] The plastic deformation by means of compression of the claws (11) is possible because of the aforementioned dimensional configuration, i.e. the fact that the height of the first side (14a) of the notch (14) is only a few tenths of a millimeter higher than the thickness of the band (1).

[0036] Fig. 5 shows an empty space (L) between the first side (14a) of the notch of the claw and the band (1).

[0037] As shown in Fig. 6, such an empty space (L) is reduced until it disappears as a result of the plastic deformation by means of compression of the claws (11).

[0038] Once the apex (20b) of the stone has been settled in the cavity (2), the bezel (10) cannot slide along the band (1), said sliding being hindered by the interference between the apex (20b) of the stone and the cavity (2) of the band.

[0039] In order to remove the bezel (10) from the band (1), it is sufficient to deform the claws (11) again, extending them just enough to create an empty space (L) between the first side (14a) of the notch of the claw and the band (1). In this way, the apex (20b) of the stone is disengaged from the cavity (2).

[0040] Obviously, such a disengagement of the bezel from the band is necessary in order to repair or replace the jewelry (M).

[0041] From an operational point of view, the mounting of the jewelry (M) can be also performed in an alternative way, leaving the peculiarities and advantages of the present invention unchanged.

[0042] The bezel (10) can be inserted along the band (1) without the stone (20), placing the stone (20) inside the claws (11) at a later time after the centering of the bezel (10) with respect to the cavity (2). In such a case, the apex (20b) of the stone is inserted into the cavity (2) when the stone is inserted between the claws (11) of the bezel. The successive plastic deformation of the claws will only serve to permanently and firmly hold the stone (20) in the bezel (10).

[0043] Figs. 9 and 10 illustrate two possible constructive variants of the jewelry (M) according to the invention, which differ from the one described above only in the external configuration of the bezel (10), which, however, maintains its primary peculiarity, namely that of being provided with a passage (13) in communication with the compartment that accommodates the stone (20), which is fixed by means of claws (11).

Claims

1. Jewelry (M) comprising:

- a band (1) having an annular shape, with a convex external side,
- a stone (20) provided with a pavilion (20a) that ends with an apex (20b),
- a bezel (10) comprising a space used to accommodate and fix the stone (20) and claws (11) that can be plastically deformed by means of compression in order to fix the stone (20) in the

bezel (10); wherein said bezel (10) has a passage (13) suitable for housing the band (1), in such a way that said bezel (10) can be slidably inserted and guided on the band (1); said passage (13) of the bezel (10) being in communication with said space where the stone (20) is to be accommodated and fixed;

characterized in that
the convex external side of said band (1) is provided with a cavity (2) having a profile that corresponds to the one of said apex (20b) of the stone, in order to prevent the bezel from sliding on the band.

2. The jewelry (M) of claim 1, wherein said bezel (10) comprises a base (12) and four claws (11) that protrude from the base; the claws (11) being disposed two by two on opposite sides with respect to said band (1), wherein said passage (13) of the bezel is arranged between the base and the claws (11).

3. The jewelry (M) of claim 2, wherein each claw (11) is provided with a notch (14) faced towards the band and having a profile that corresponds to the one of a longitudinal edge (1a) of the band (1).

4. The jewelry (M) of claim 3, wherein

said band (1) has a rectangular section;
said notch (14) has an inverted L-shaped profile having a first side (14a) disposed in a horizontal parallel position relative to an upper surface (12a) of the base (12), and a second side (14b) disposed in a vertical perpendicular position relative to the upper surface (12a) of the base (12);
the height of said first side (14a) of the notch of the claw is higher than the thickness of the band (1),
the distance between the second sides (14b) of two claws (11), arranged in opposed position with respect to the band is equal to the width of the band (1).

5. The jewelry (M) according to any one of the preceding claims, wherein said bezel (10) comprises a dish (15) supported by said claws (11) and provided with a slot (15a) that accommodates the pavilion (20a) of the stone (20).

6. The jewelry (M) of claim 5, wherein said dish (15) of the bezel is arranged at a height that is equal to half the height of the claws (11).

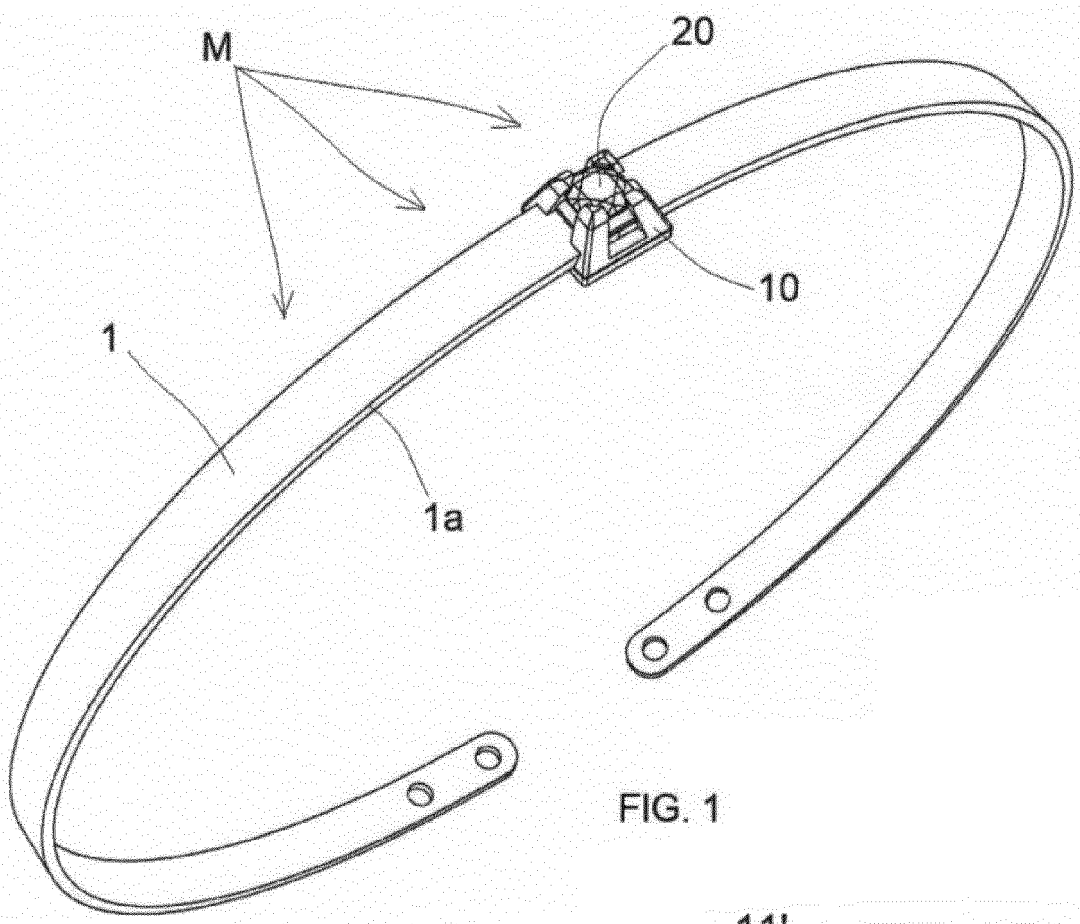

FIG. 1

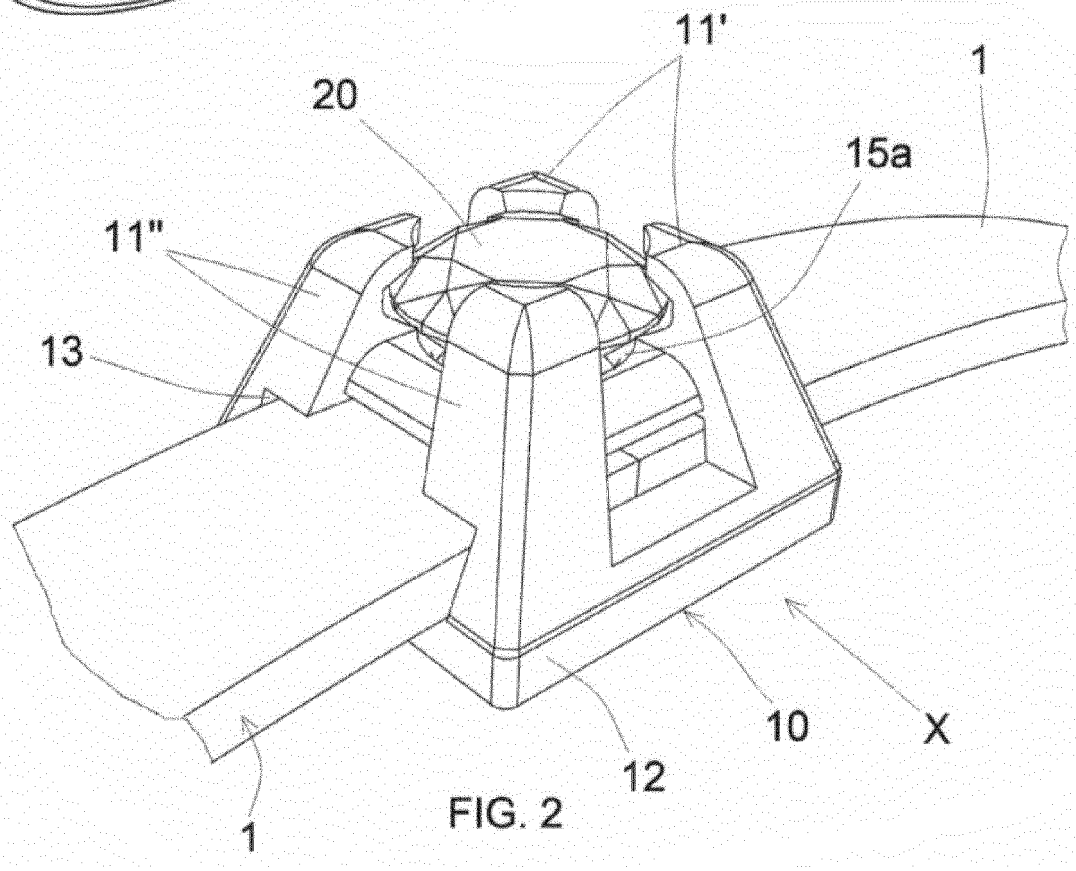

FIG. 2

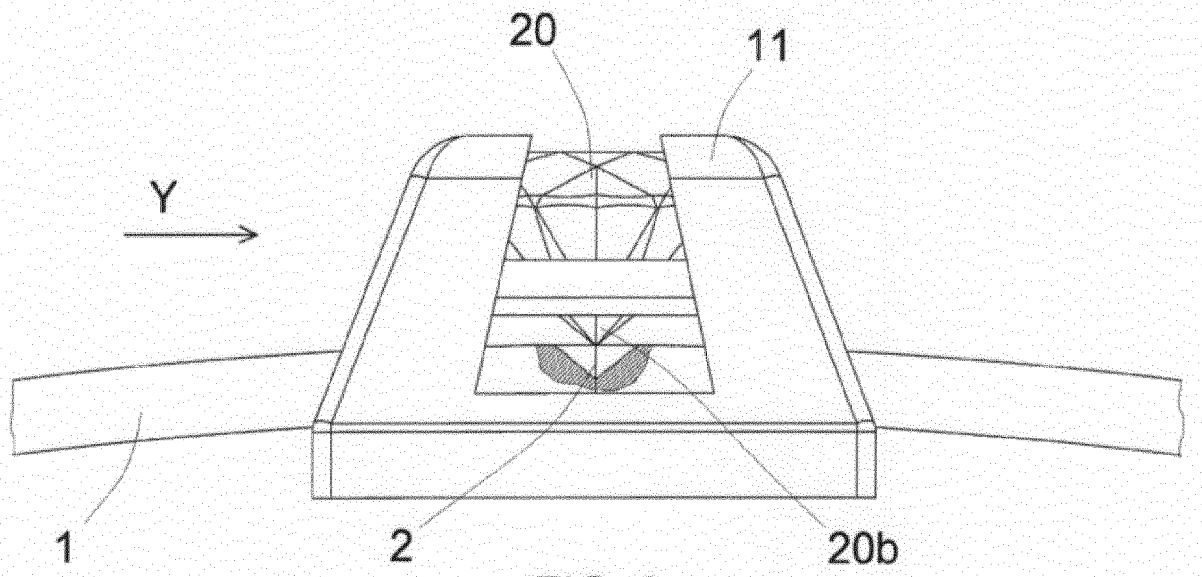

FIG. 3

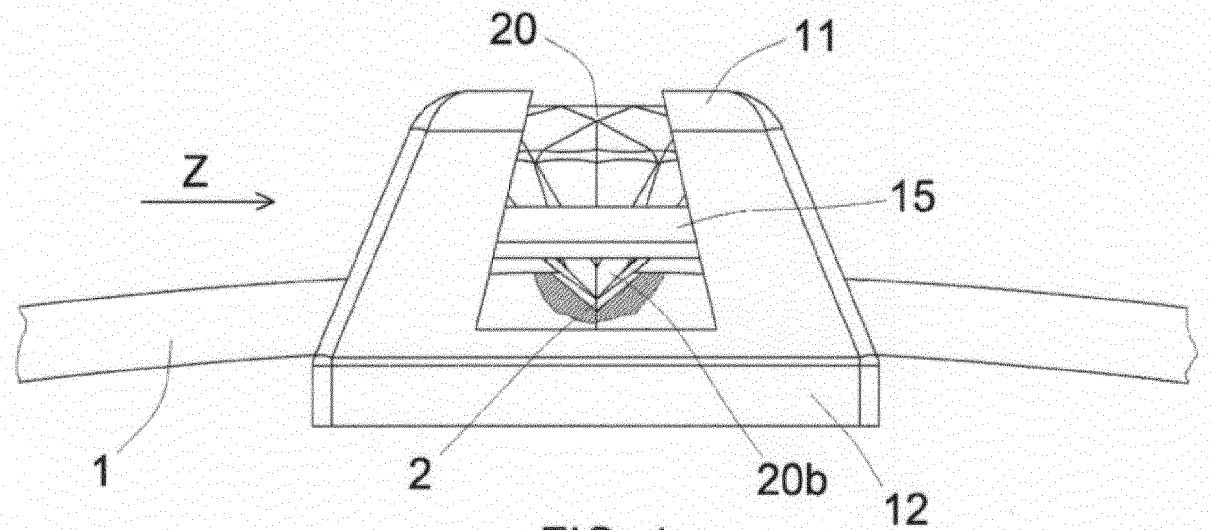

FIG. 4

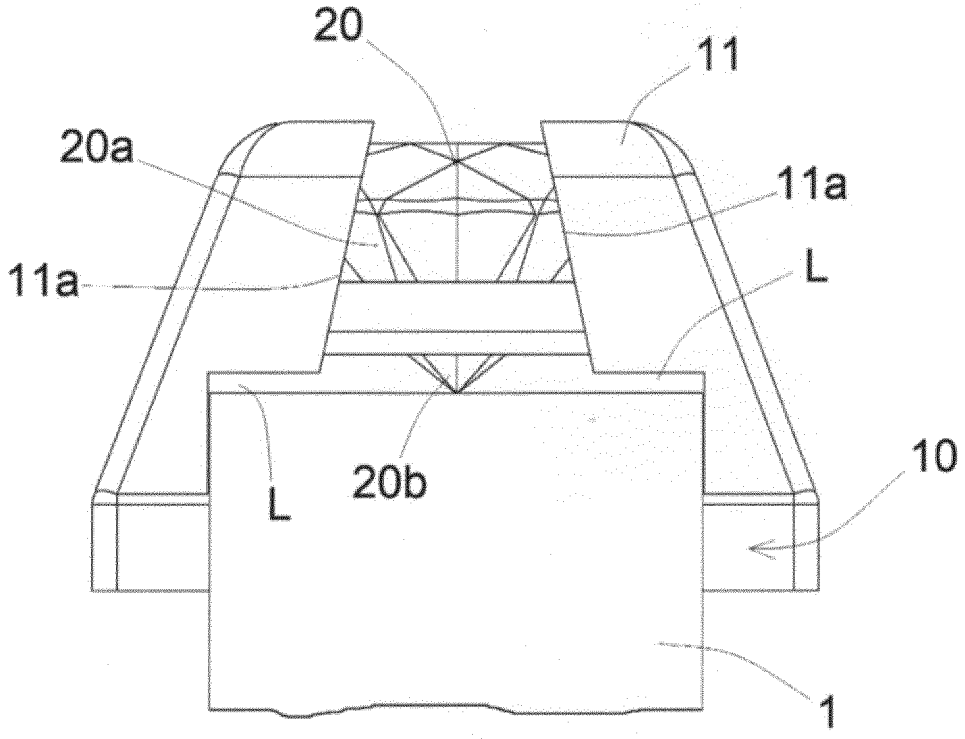

FIG. 5

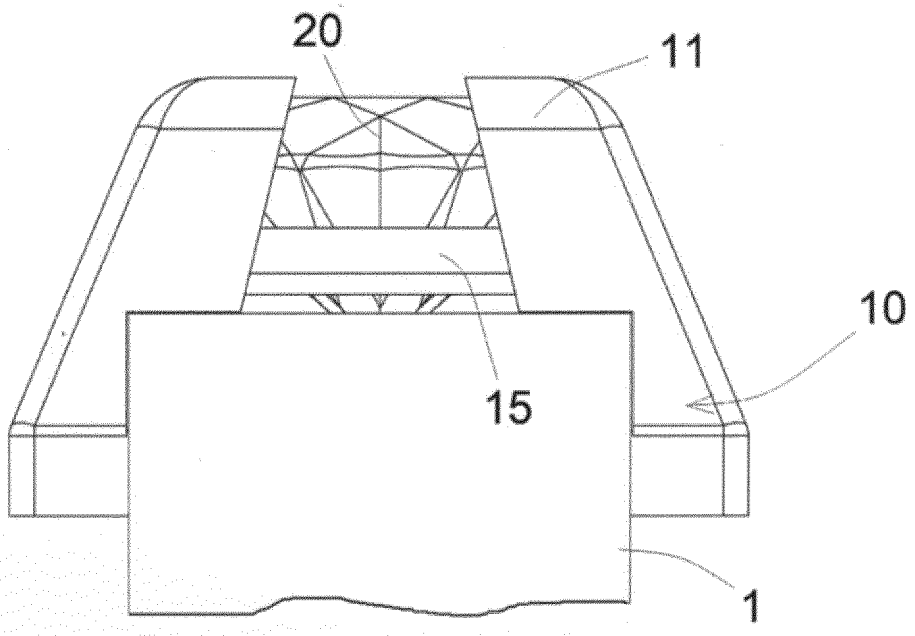

FIG. 6

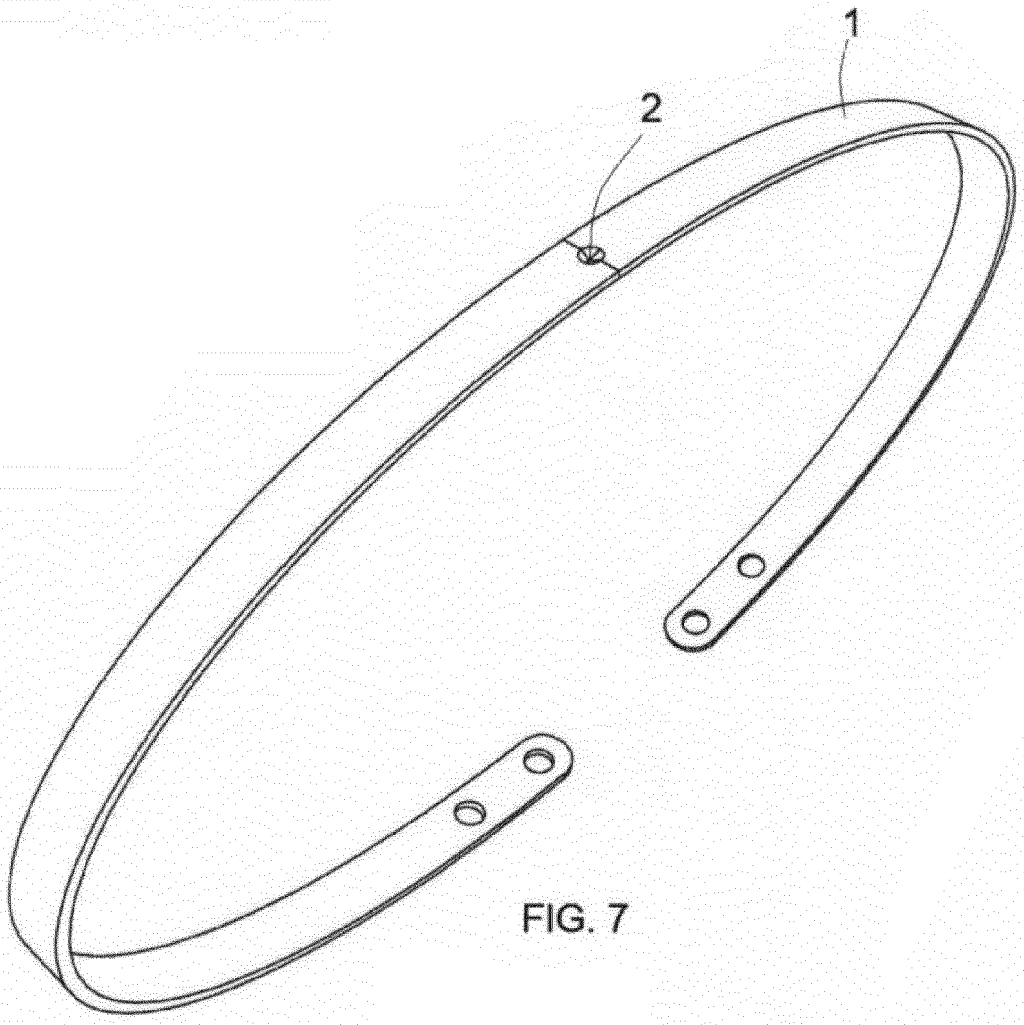

FIG. 7

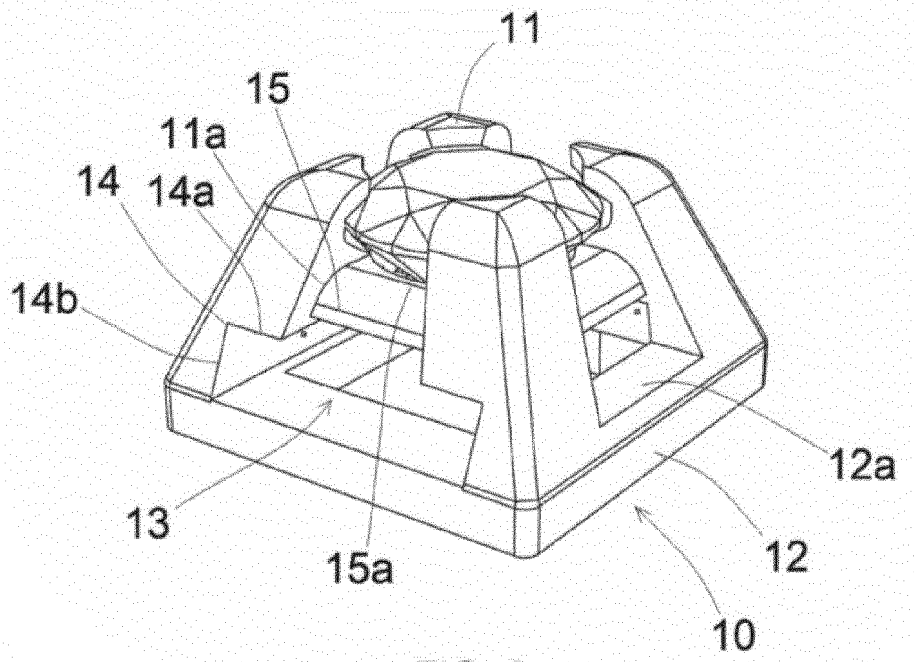

FIG. 8

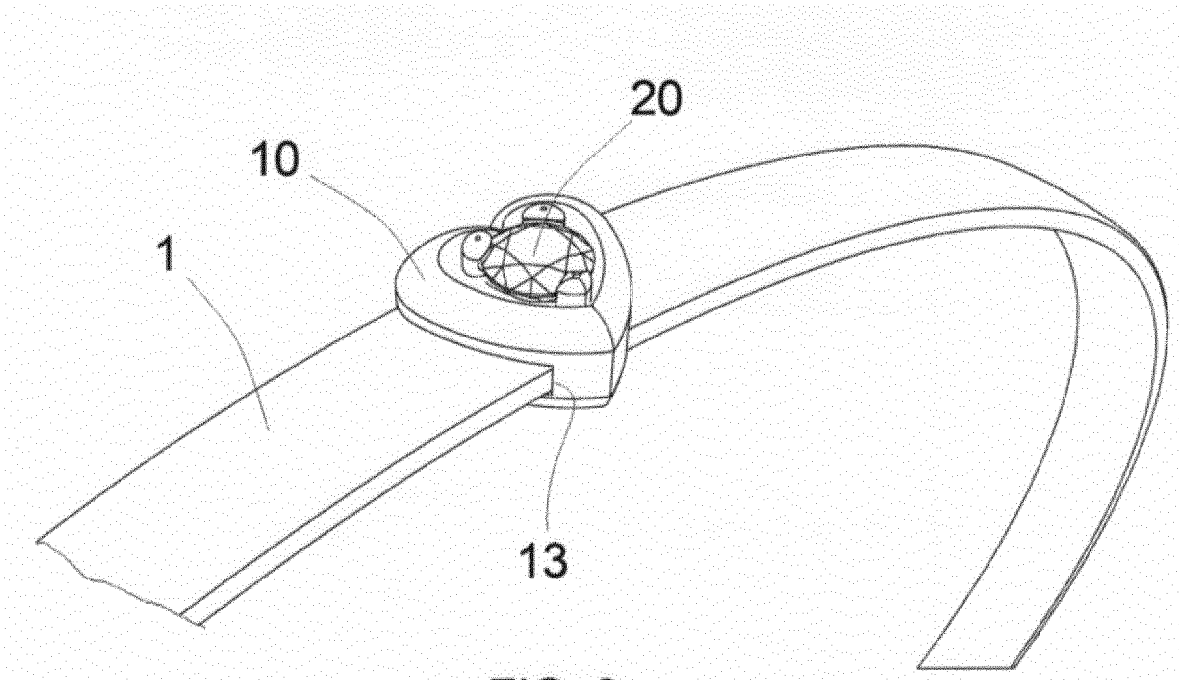

FIG. 9

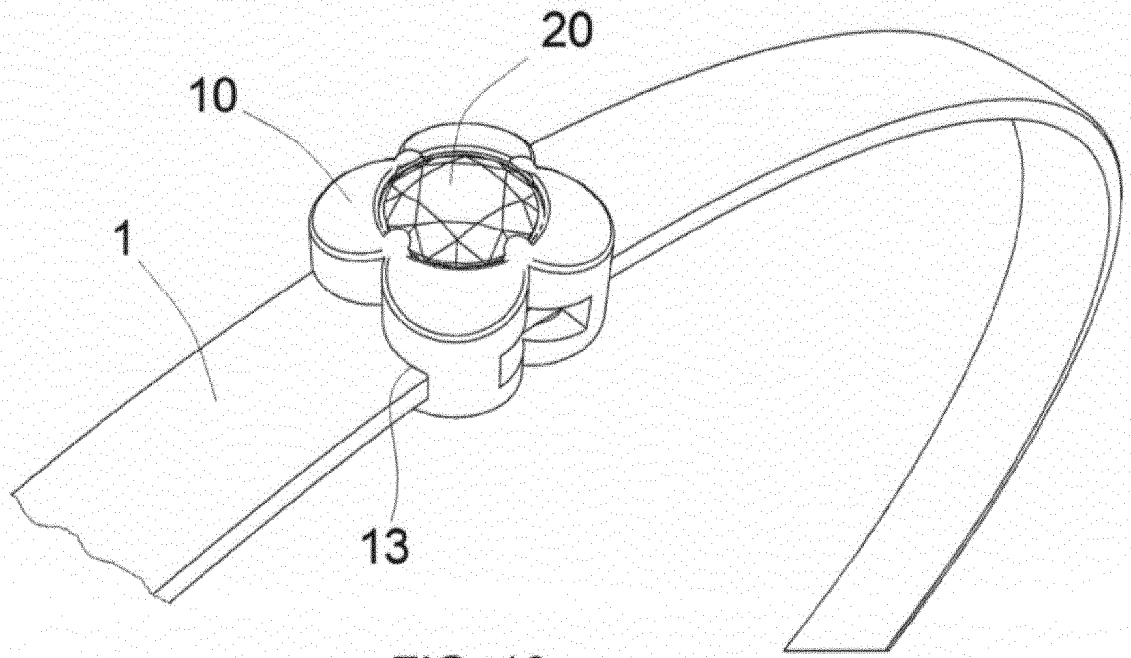

FIG. 10

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EUROPEAN SEARCH REPORT

Application Number
EP 21 18 2171

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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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	11 November 2021	da Silva, José

CATEGORY OF CITED DOCUMENTS

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11-11-2021

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

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- IT 20170015156 **[0007]**