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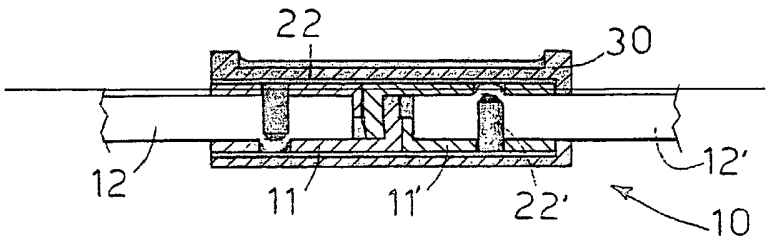
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(54) Title: CLOSING DEVICE FOR JEWELS OR SIMILAR ARTICLES, AND ARTICLES COMPRISING SAID DEVICE



(57) Abstract: A device for closing jewels, costume jewels or other ornamental articles, as bracelets, necklaces or similar articles made of resin, polymeric or other material with deformation properties, more or less precious, comprises two components fixable, in a removable way, to the ends of the article, said components being grappled together in order to fasten the above ends in a traction safe way. A further component, capable of sliding along said article, is provide to guarantee the proper locking of the closing mechanism, said further component providing an internal volume shaped in such a way to exactly house the above two components grappled together.

CLOSING DEVICE FOR JEWELS OR SIMILAR ARTICLES, AND ARTICLES COMPRISING SAID DEVICE

Field of the Invention

This invention relates to a closing device for personal ornamental articles, such as bracelets, necklaces or similar.

The invention also refers to jewels, costume jewels, or similar ornamental articles provided with a specific closing device.

Background of the Invention

In the jewellery sector, or in general in the ornamental articles sector, are used, as known, devices with different shapes and operating principles for fastening the articles by jointing together the respective end sections, as it occurs, for instance, for bracelets, necklaces or similar articles.

The device production technique in this sector takes into account, as easily understandable, not only the specific functionality, but also, in large amount, the aesthetic factor; especially in connection of the new combined use of traditional precious materials and new materials, new solutions, reliable and harmonious with the aesthetic style of the article to be made, are continuously searched.

Summary of the Invention

It is the object of the present invention to provide a closing device for ornamental articles which, together with the functionality of the device itself, apt to assure the

perfect connection of the two ends of the article, offers great simplicity and general aesthetic value.

Further object is to propose a personal ornamental article provided with a closing device very effective, simple and aesthetically suitable.

Said aims, and other more which will be clear to the people skilled in the sector from what described in the following, are attained by a closing device for jewels, costume jewels or other ornamental articles such as bracelets, necklaces or similar, comprising:

- a first component which can be fixed, in a removable way, to one of the ends to be connected, said component comprising a main hollow body, in which said end inserts, means apt to fasten said end to the component and a longitudinal appendage shaped as a hook;
- a second component which can be fixed, in a removable way, to the other end to be connected, said second component being structurally similar to said first component and being fastened to said other end in mirror position with respect to the first component, so that the hook appendage of the first component exactly match the hook appendage of the second component;
- a cylindrical, or pseudo-cylindrical locking part provided with a bottom surface having an aperture whose shape corresponds to the shape of the transversal section of said article, said part being fixed, in a sliding way, to said article, the internal volume of said locking part being shaped to suitably house said first component and said second component coupled together.

The described arrangement allows obtaining a closing device to connect the end parts of bracelets or necklaces or similar articles, in which the final appearance is exactly defined by just one element, in a way that is independent from the locking

mechanisms used to fasten the article. That provides the article with a high linear and fine appearance and with a high grade of safeness, avoiding prominences or edges which could be dangerous.

Besides, the device results particularly suitable for articles made of technical innovative materials, such as resin or polymer composite materials, thanks to the easy and immediate system used for fixing the components of the device to the ends to be connected.

According to a practical embodiment of the device, the components of the device to be fixed to the ends of the article are provided with pins transversally sliding in slots of the main body of the component, the anchoring of said components to the ends of the ornamental article being obtained by simply pressing said pins against the ends, so producing in said ends, thanks to the deformability of the material, housings for said pins. The pins, moreover, can be extracted by simply pressing them in the opposite direction, so allowing easily disengaging the device from the bracelet when needed.

Advantageously, the locking part of the closing device is provided with ornamental hollows in which decorative plates, made of more or less precious material, can be inserted.

A bracelet, or necklace, or similar ornamental article according to the present invention comprises a closing device as in the above.

Said ornamental article is easily adjustable in length thanks to the simplicity and immediacy in assembling and disassembling the device itself.

More advantageous features of the closing device for ornamental articles according to the invention are shown in the following claims.

Brief Description of the Drawings

For a better understanding of the characteristics and the advantages of the present invention, various embodiments will now be described by way of examples with reference to the accompanying drawings, in which:

-Figure 1 shows a schematic side view of a component of the device of the invention;

- Figures 2, and 3 show schematic views, respectively from top and from bottom, of the component of fig.1;

- Figures 4, and 5 show schematic views, respectively from right side and from left side, of the component of fig.1;

- Figure 6 shows a section view, through the section plane I-I of fig.5, of the component of fig.1;

- Figure 7 shows a schematic side view of a further component of the device of the invention;

- Figure 8 shows a top view of the component of fig.7;

- Figures 9 and 10 show schematic view, respectively from right side and from left side, of the component of fig.7;

- Figure 11 shows a section view, through the section plane II-II of fig.9, of the component of fig.7;

- Figure 12 shows a top and exploded section view relating to the connection of two components of fig.1;

- Figure 13 shows a top and section view relating to an assembly of the components of a device according to the invention on a bracelet, or similar article;

- Figure 14 shows a top view, in partial section, of a device according to the

invention mounted on a bracelet or similar article;

- Figure 15 shows a section overview of a device according to the invention mounted on a bracelet or similar article.

Description of Preferred Embodiments

Referring firstly to figs. 14 and 15, the closing device, marked as a whole with 10, comprises, as we can see in fig.13, a first and a second component, 11, 11', exactly identical, mounted in mirror position at the ends, 12, 12', of an ornamental article which, in this embodiment, is a bracelet.

The component 11 is shown in detail in figures from 1 to 6. It is composed of a main hollow body, 14, having elliptical transversal section, said body being open on one side to allow inserting an end, 12, of the ornamental article, while, on the other side, it provides a semi-elliptical surface, 15, acting as a stop element of said end 12, and a hook shaped longitudinal appendage 16.

Said appendage 16 is composed by an extension, 17, of a portion of the lateral surface of said main body, 14, and by a terminal section, 18, curved towards the main body of the component 11. As we can notice in fig.1, the upper part, 18', of said terminal section 18 is sloped at an angle, α, with respect to the transversal plane of the component, and this promotes the stable grappling of the component 11 to the analogue component 11', as shown in figs. 13 and 15.

In the main body 14 of the component 11 are also provided two coaxial circular holes 20, 21, transversally placed in the lateral surface of said body; one of said holes, 20, is dedicated to house the pin, 22, acting as transversal constrain between the component 11 and the end 12 of the bracelet; the other hole, 21, is dedicated to allow the material of the bracelet expanding under compression and deformation forces which arise when said pin is inserted in the direction of the

arrow F. Said second hole, 21, also allows pushing the pin 22 in the opposite direction when the component 11 has to be disengaged from the bracelet.

It has to be noticed that in this embodiment of the invention the bracelet is made of resin. It can obviously be made of an analogue polymeric material or a different material having good elastic and elongation properties.

The device 10 also comprises a locking element 30 apt to keep in stable grappled position the two components 11, 11', fixed to the ends of the bracelet, and, moreover, it is the only element which defines the overall aesthetic appearance of the closing device of the invention. It is pseudo-cylinder shaped with a single bottom surface, 31, provided with an aperture, 32, exactly corresponding to the contour of the transversal section of the bracelet, on which, therefore, said element, 30, is able to slide, up to completely contain the two components 11, 11', grappled together, exactly as shown in figs. 14 and 15.

In this embodiment, the locking element 30 is also provided with a rectangular hollow, 33, in which a decorative plate, 34, in precious material, is housed. The plate is fixed indifferently by gluing, pressure imbedding, or other means.

The operating way of the closing device according to the present invention is easily understandable from what above disclosed.

Once the bracelet, or ornamental article, has been regulated at the desired length, by simply cutting away the part in excess if it is made of resin or equivalent materials, or by removing or adding elements if it is made of chains of elements, at the ends of the same bracelet are fixed, in mirror position, the two components 11, 11', by inserting said ends in the main bodies of said components and then pressing the pins, 22, towards the inner section of said components, as far as they get the positions shown in fig.15.

It has to be noticed that one of the components, 11, of the device can be fixed to one end of the bracelet in a previous phase, for instance directly in the production line, while the adjustment of the length of the ornamental article and the anchorage of the other component, 11', at the other end, 12', may take place in a second phase, for instance in the selling point.

After that the components 11, 11', have been fixed to the ends of the bracelet, they are grappled together by simply placing them in the relative position of fig.12 and moving them according to the directions of the arrows D, D', in order to grapple the hook appendages 16, 16'. Then the locking element 30, overlaps said grappled components, by sliding along the bracelet up to the position of fig.15. Said element 30 had been inserted in the bracelet before fixing said second component, 11', together with other possible ornamental elements of any length and shape.

The bracelet opens by sliding the element 30 in the opposite direction with respect to the B direction of fig.13 and than disengaging the two components 11, 11'.

The disassembly of the closing device of the present invention can be simply performed by uncoupling the terminal components 11, 11', from the ends 12, 12', by removing the respective pins 22, 22', from their constrain positions. It happens, as previously seen, by properly pushing said pins through the holes 21, 21'.

The advantages concerning functionality, safeness and structural linearity of the closing device according to the invention and of the ornamental article comprising said device are clear from what above disclosed.

Besides, it is clear that said features keep valid also carrying out changes or

modifications to the described embodiment.

As a function of the different applications, for example, the dimensions and the shape of the device and of the article comprising said device may vary.

For instance, the shape of the transversal section of the ornamental article and of the various parts, 11, 11', 30, of the relating closing device could vary.

The closing device and the ornamental article comprising said device are preferably made of resin material, but, obviously they could be made of a different material such as leather, polymeric material or other material, more or less precious, having good elastic and elongation properties.

The shape of the decorative plate 34 fixed on the locking element 30 could obviously be different from the one shown, as an example, in the appended drawings; the number of the plates as well as the shape of the locking element may vary, even though the internal volume of the housing of the components 11, 11' remain unchanged.

The constrain means for fixing the ends of the ornamental article to the components 11, 11', could comprise screws, housings or other fixing facilities.

These and other modifications can be carried out to what above disclosed, within the limits of the invention as defined in the appended claims .

CLAIMS

1- Closing device for jewels, costume jewels or other ornamental articles, as bracelets, necklaces or similar, characterized in that it comprises:

- a first component (11) which can be fixed to one of the ends (12) of the ornamental article, said component comprising a main hollow body (14) in which said end (12) inserts, means apt to fix said end (12) to the component (11) and a longitudinal appendage (16) shaped as a hook;
- a second component (11') which can be fixed to other end of said ornamental article, said second component being structurally similar to said first component and being fixed to said other end in mirror position with respect to the first component, so that the hook appendages (16, 16') of said first and said second component can exactly couple and grapple each other;
- a cylindrical, or pseudo-cylindrical locking part (30) provided with a bottom surface (31) having an aperture (32) whose shape corresponds to the shape of the transversal section of said article, said part being fixed, in a sliding way, to said article, the internal volume of said locking part being shaped to suitably house said first component and said second component (11, 11') coupled together.

2- Closing device for jewels, costume jewels or other ornamental articles according to the previous claim characterized in that said first and said second component (11, 11') are fixed to said ends (12, 12') in a removable way.

3- Device according to claim 1 or 2 characterized in that the constrain means for fixing said end (12) to the component (11) comprise at least one pin (22) transversally sliding in holes (20) cut in said main body (14) of said component.

4- Device according to the previous claim characterized in that said component

(11) is fixed to the end (12) of said ornamental article by pressing said at least one pin (22) against said end, so producing in said end, thanks to the deformability of the material, a housing for said pin.

5- Device according to one of the previous claims characterized in that said main hollow body (14) is open on one side to allow inserting said end (12) of the ornamental article, and, on the other side, it provides a surface (15) acting as a stop element for said end (12).

6- Device according to one of the previous claims characterized in that said appendage (16) is composed by an extension (17) of a portion of the lateral surface of said main body (14) and by a terminal section (18) curved towards said main body.

7- Device according to the previous claim characterized in that at least one part (18') of said terminal section (18) is sloped with respect to the longitudinal axle of said component (11).

8- Device according to the claim 4 characterized in that said first component (11) comprises two coaxial circular holes (20, 21), transversally placed in the lateral surface of the main body (14) of said component, one of said holes (20) being dedicated to house a pin (22) acting as transversal constrain connecting the component (11) and the end (12) of the ornamental article, the other hole (21) being dedicated to allow the material of said article expanding under the action of the forces which arise in said material when said pin (22) is inserted in said end (12).

9- Device according to the previous claim characterized in that said hole (21) allows also pushing the pin (22) in the opposite direction when a disengage of the component (11) from said end (12) is requested.

10- Device according to one of the previous claims characterized in that said locking part (30) comprises at least one hollow (33) on its external surface, said hollow being dedicated to house at least one decorative plate (34).

11- Ornamental article comprising a closing device acting by connecting the ends of said article characterized in that said device is made according to one or more of the previous claims.

12- Ornamental article according to the previous claim characterized in that the transversal section of said article is elliptical shaped.

13- Ornamental article according to claim 11 or 12 characterized in that it is a bracelet.

14- Ornamental article according to claim 11 or followings and relating closing device characterized in that they are made of resin or analogue material.

15- Closing device for jewels, costume jewels or other ornamental articles, as bracelets, necklaces or similar, and ornamental articles comprising said device, according to the previous claim and to what disclosed and described with refers to the figures of the appended drawings and for the mentioned aims.

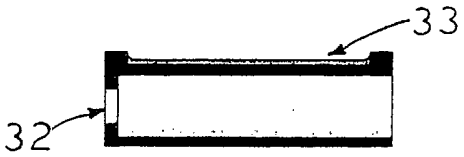


FIG.11

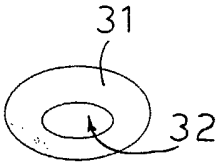


FIG.10

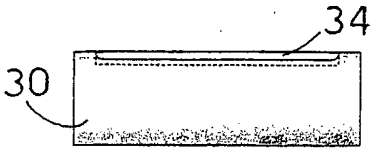


FIG. 7

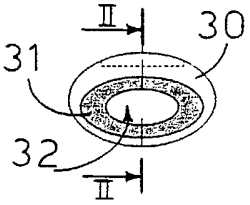


FIG. 9

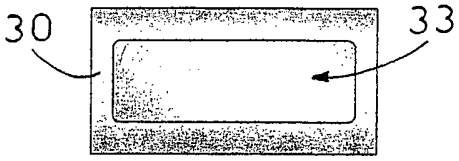


FIG. 8

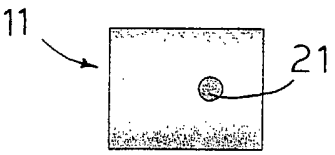


FIG. 3

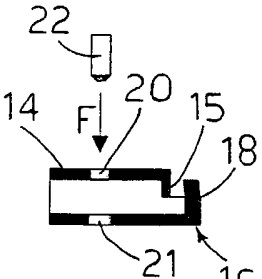


FIG. 6

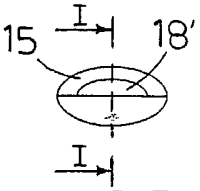


FIG. 5

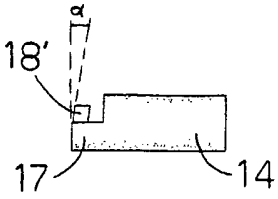


FIG. 1

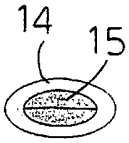


FIG. 4

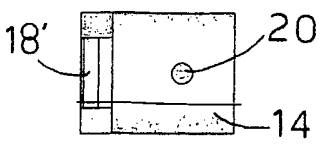


FIG. 2

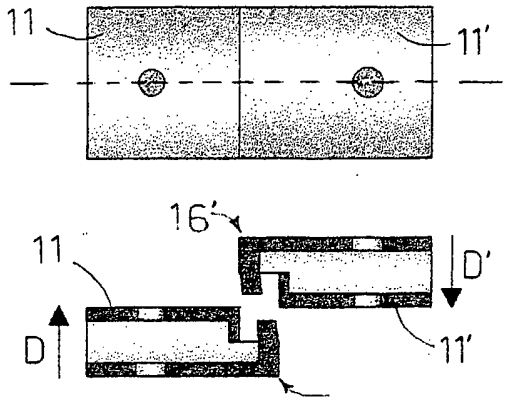


FIG.12

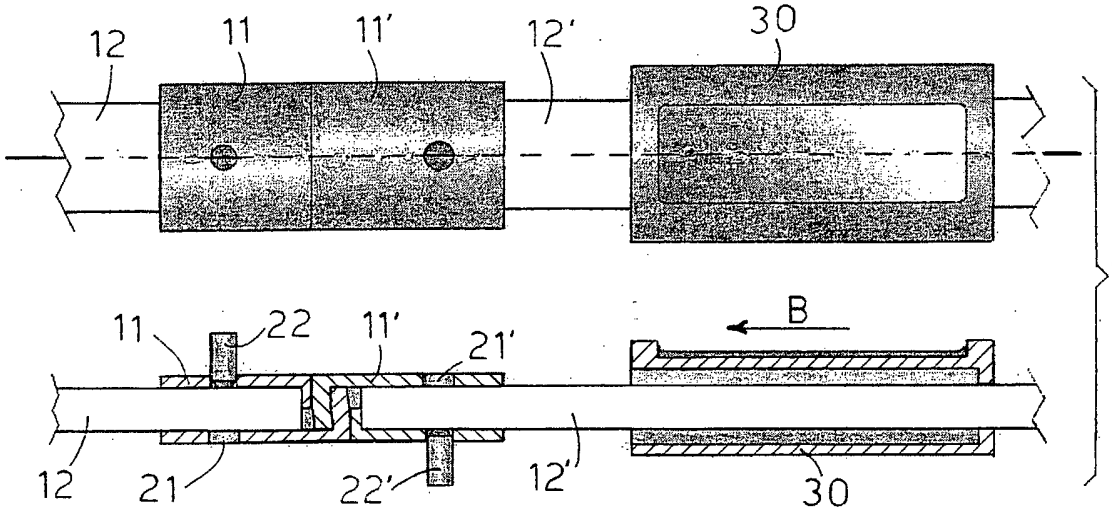


FIG.13

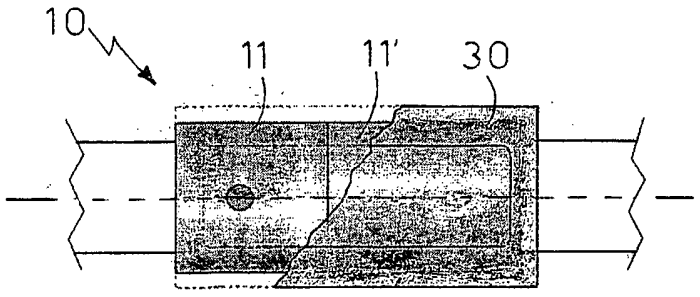


FIG.14

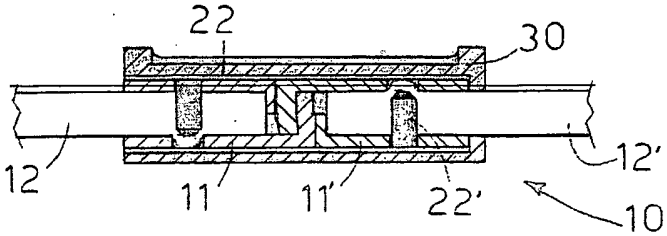


FIG.15